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SELLING WEALTH TO BUY POVERTY

THE PROCESS OF THE INDIVIDUALIZATION OF LANDOWNERSHIP
AMONG THE MAASAI PASTORALISTS OF
KAJIADO DISTRICT, KENYA, 1890-1990

EEN WETENSCHAPPELIJKE PROEVE OP HET GEBIED VAN
DE BELEIDSWETENSCHAPPEN

PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Katholieke Universiteit Nijmegen,
volgens besluit van het College van Decanen
in het openbaar te verdedigen
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door

Marinus Mattheus Eduard Maria Rutten

geboren op 1 december 1957
te 's-Hertogenbosch

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PREFACE AND ACKNOWLEDGEMENTS

This thesis is intended as being a contribution to the debate on the loss of land, the causes, the characteristics of the problem and possible measures that can be enacted to deal with it, particularly in the case of pastoralists. The research was conducted as part of the "Access to Land for Low Income Groups in the Third World" programme begun in the mid-1980s by the "Department for the Human Geography of Developing Regions" of the Faculty of Policy Sciences of the Catholic University of Nijmegen. This survey later became part of the research programme of the "Nijmegen Institute for Comparative Studies in Development and Cultural Change' (NICCOS) of that same University.

Since the beginning of the 1980s the loss of land suffered by pastoralists became the focus of several studies (see Campbell 1979a, Weicker 1982, Little 1987 and others). The afore-mentioned studies concentrated on the conflicts about and the competition for land between nomadic pastoralism and other types of land use such as cultivation and wildlife parks. Other researchers have studied groups such as indians, inuit, aboriginals, landless agricultural labourers, small farmers or squatters in urban areas who are all fighting for their rights to land (e.g Dorner & Saliba 1981, Mbithi & Barnes 1973, Sinha 1984, Kleinpenning 1986, Maas 1986). The struggle for land has become a world-wide phenomenon, not restricted to a particular society, place or time. Moreover, considering the doubling of the world's population within the next 30 years and the limited area of land available an increase in the number of landless agricultural workers and marginal farmers seems inevitable in the near future.

This concern was reflected in the deliberations of the World Conference on Agrarian Reform and Rural Development of 1979 which stressed the importance of access to land and other productive resources as a key determinant for rural development and the improvement of rural incomes and living standards (see Moreno 1984:v).

The research presented in this book began in January 1987 and was initially meant to be a continuation of fieldwork conducted among the Turkana pastoralists of north-western Kenya. Already having lost many of their cattle large numbers of these pastoralists had become destitute and dependent on the "Food-for-Work" programmes offered by several international organizations. It was intended to follow-up the pastoralists who had been able to rebuild their herds and flocks once again. New developments such as an increase in the areas cultivated alongside the seasonal rivers and because of tensions with neighbouring pastoral groups from Uganda and the Sudan in particular (e.g. Toposa) interfered with this.

However, reports from Turkana in mid-1987 indicated that conducting a survey in the border zone with Uganda and Sudan would have been too dangerous at that time because of political unrest and civil wars going on in both northern Uganda and southern Sudan. As a result, and after much

consideration, it was decided to chose another area in which to conduct the survey.

In 1982, during my stay in Kikelelwa, a small village at the foot of Mt. Kilimanjaro in the Kenyan Kajiado District, I had personally witnessed the rise in the struggle for land between Kikuyu and Kamba immigrants and Maasai pastoralists who had been the original inhabitants of the area. This experience together with hearing many reports from Kajiado of the growing importance of the influx of non-Maasai in the district finally made this alternative study the most interesting. Moreover an opportunity presented itself for assisting the University of Amsterdam in their supportive activities of a newly started integrated regional development project. The Arid and Semi-Arid Development Programme (ASAL) of Kajiado District, funded by the Netherlands Ministry of Development Co-operation (DGIS), requested assistance in the collection of Maasai literature and in the conducting of surveys.

In the preparation, conduction and analysis of the research as in the final writing of this book I have been assisted by many people. In Kenya I owe a great debt to Mr. James Kipkan and Mr. Rinus van Klinken and all personnel of the ASAL programme for their useful co-operation and their logistic support. Thanks are also due to Emily Kimani for additional typing. Mr. A. Gutu, Mr. Gideon Kuluo and Mr. P. Ngari and all liaison officers of the ASAL-Programme, particularly those in the departments of Water, Livestock and Agriculture were of great help in the collection of background data and maps. My thanks also to staff members of SNV-Nairobi for logistic support, to Mike Mwangi who provided additional basic maps, to Agnes Kikaye for reviewing the livestock data, to Oliver Kantai for providing some literature and his co-operation in conducting additional fieldwork in Esokota and Nairobi, to Father Frans Mol of the Maasai Centre in Lemek for his hospitality, permission to copy meters of literature, his educating me in my understanding of some of the specific Maasai features and for commenting on earlier drafts of chapters 5 and 6, to Killian Holland of the McGill University of Montreal for interesting discussions, to Ruud van Dijck and Jaap van Woerden of the United Nations Environment Programme for providing literature and remote sensing data and to Peter de Leeuw of the International Livestock Centre for Africa for literature and discussion time.

Much gratitude is due to Mr. J. ole Seitah for the hospitality I enjoyed at his home and for his tireless answering of all my questions on the facts and figures of Maasai society. He also made a most fruitful contribution to the training of the research-assistants. These young Maasai performed a tremendous and tiring job while walking or biking many kilometres day and night in Maasailand looking for willing respondents. I want to express my deepest respect and appreciation to Lemaron Kaanto, Bernard Katitia, Alfred Kesheko, William Kereto, Abraham Koshopa, Paul Kunoni, John Leboo, Amos Lemayian, Stephen Masenke, Jean Masinde, Joseph Muyaa, Joseph Nkasikasi, Daniel Nkobei, Julius Paita, Anthony Sarorit, Siaka Seita, Jonathan Simel,

Peter Shungeya and Thomas Tipanko. I would also like to thank all those 543 respondents who spent so much of their time in listening to and answering our questions. Ashe Oleng.

Finally I would like to mention my gratitude to all those people who, over the years, opened their homes and gave me their friendship which made our stay in Kenya a most pleasant experience. First and foremost I would like to mention Jos Miesen who, since my first arrival, has always been a great help and a friend. Thanks also to Niels de Vos, Theo Winder, Jos Verhaak and Martin van Leeuwen and to Leonie and Rinus van Klinken for their hospitality, to the Catholic Church of Kajiado (particularly to Father Alexander Gollaz) for accommodation and a most interesting Christmas Day among the Maasai herders of Lenkism, to Kennedy Dulo, Luis Mutharia, John Kihiu Mwangi and Moses Mwangi for the best friday nights ever and to the families of Michael and Agnes Kikaye and Pauline Sairo for sharing their homes and meals with us while we were in Kajiado.

In the Netherlands a similar number of people deserve a word of thanks. Prof. Martin Doornbos, Prof. Jan Hinderink and Prof. Gerrit Huizer for reading the manuscript; Mrs. Angela Needham for helping with the correction of my Dutch-English; Ans Wilders for drawing the maps and figures; Huub Schlundt Bodien and Marie-José Rutten for additional figures and maps of Embolioi, Kitengela, Empuyiankat and Poka; Fred Muijrers for making the bar-diagrams; Monique Rutten for reviewing and cross-checking literature references; Paul Hendriks for valuable hints on the data analysis and for allowing me the use of his computer from time to time, Hans Korfage for information on Sua Pan-Botswana and Bert Toxopeus of the International Institute for Aerospace Survey and Earth Sciences (ITC/Enschede) for additional literature. For supplementary agro-climatic information I am grateful to Mr. R. van de Weg and Mr. L. Touber of DLO-Staring Centrum/Wageningen and Mr. H. Braun of ILRI/Wageningen. Thanks are also due to my previous colleagues of the Department of Human Geography of the Catholic University of Nijmegen and to Mrs. Rietje van Dalen for logistic support. I would like to express my particular thanks to my three supervisors, Prof. Jan Kleinpenning, Dr. Ton Dietz and Dr. Bart Peperkamp. They contributed much with their confidence and their careful reading of and valuable comments on the draft versions of the manuscript. Also, I am very grateful to Ton Dietz for the opportunity offered by him to join the ASAL-Kajiado backstopping activities.

Finally, the support and interest shown by friends and relatives is highly appreciated. Much gratitude to my mother and to my late father to whom this book is dedicated. A special word of thankfulness to my wife Jacqueline who, besides experiencing some of the "good times" in Kajiado more than anyone was confronted with the "bad times" in the writing of this book, and to our daughter Céline, who knows only the bad times. They deserve an apology.

Marcel Rutten Hastière-Lavaux/Nijmegen, September 1992

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INTRODUCTION

0.1 Nomadic Pastoralism Losing Ground

More than 30 per cent of the earth's land surface is arid or semi-arid, and covers large areas of Australia, North and South America, Asia and Africa. They mainly comprise of grazing lands with an annual rainfall below 500-700 mm and low carrying capacity. Estimates indicate that not less than half of Africa's total land area, some 1,300 to 1,600 million ha, is devoted to animal husbandry and that some 50 million Africans are either wholly or largely dependent upon it (see Bos & Peperkamp 1989:32). Some of these livestock keepers are nomadic pastoralists occupying tropical Africa's arid and semi-arid areas, totalling some 1,200 million hectares.[1] In Africa, approximately 120 different pastoralist ethnic groups can be distinguished, numbering between a mere few thousand to several millions (see Jahnke 1982:68). As such the majority of the world's pastoralists are to be found in Africa which accounts for some 50-60 per cent, with Asia 25-30 per cent, America 15 per cent and Australia having 1 per cent. The most important single countries in terms of absolute numbers of pastoralists are Sudan, USA, Somalia, Chad, Ethiopia, Kenya, Mali, Mauritania, India and China (see Sandford 1983a:2).

From the end of the second millennium B.C. African nomadic pastoralism has developed locally in an almost continuous band from the Atlantic to the Indian Oceans in African savanna and steppe zones (see Unesco/UNEP/FAO 1979:265). Figure 0.1 shows the geographical position of the three main pastoral groups of tropical Africa: Nilo-Saharan; Afro-Asiatic and Congo-Kordofanian. Each of these major groups is made up of some 12 subgroups composed of several clusters of related pastoral ethnic groups.[2]

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[1] An estimation of the extent of the arid and semi-arid areas and the number of people engaged in nomadic pastoralism depends, of course, on one's definition of these concepts. For example, Jahnke using a dry region classification based on precipitation and evaporation more or less congruent with a 1,000 mm rainfall line and 0-180 growing days (a day during which precipitation exceeds potential evaporation), gives a figure of over 90 million out of a total of 238 million agricultural people living in Africa's *tropical* dry regions, excluding the Western Sahara, Morocco, Algeria, Libya, Egypt and South Africa, by 1979 (see Jahnke 1982:17/235). Sandford (1983a:2 and 1983b:11) mentions a total of 30-40 million people living in the world's dry areas having 'animal-based' economies of which 15-25 million African pastoral people, representing 6-10 per cent of tropical Africa's total rural population. Durning and Brough (1992:67) speak of 30-43 million "pastoralists" scattered on the world's dry lands by the early 1990s. For 1990, the World Bank estimated for Sub-Saharan Africa alone a number of 495 million people 71 per cent of whom were living in the rural areas. Using Sandford's 6-10 per cent figure, this would mean some 21-35 million pastoralists living in Sub-Saharan Africa by 1990 (see World Bank 1992:219/279).

[2] For example, the Nilo-Saharan group is subdivided into the Saharan, Nubian, Beir, West Nilotic, East Nilotic and South Nilotic subgroups. The East Nilotic subgroup is composed of the Karimojong and the Maasai cluster. The Maasai pastoral people, together with the Samburu, the agro-pastoral Njemps and the (now) agricultural Arusha people belong to the Maasai cluster.

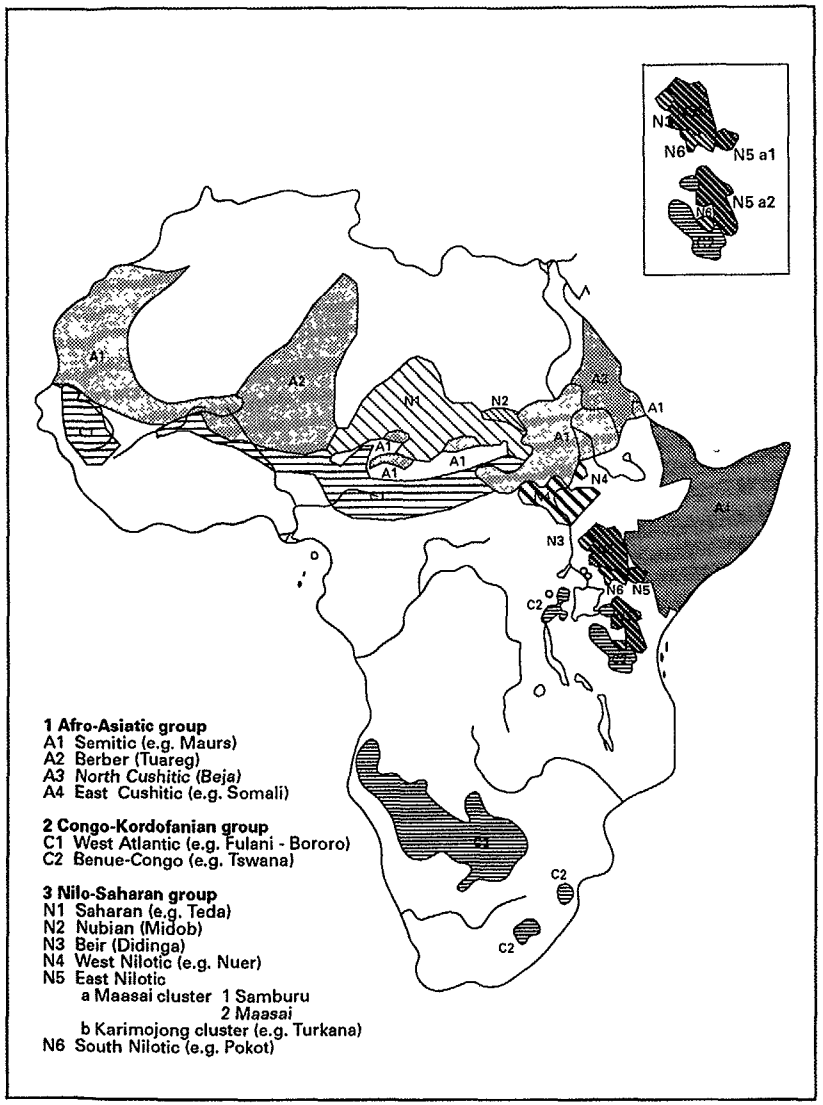

Figure 0.1 Pastoral Peoples of Tropical Africa
Source: simplified from Jahnke 1982:70

Nowadays, it appears that most of these pastoral societies are threatened in their very existence. Once called "the lords of the plains" roaming around with their large herds on extensive pastures the nomadic pastoral future now seems to have turned bleak. The processes of structural impoverishment and acute major crises of hunger and starvation of man and of animals, although not new phenomena, have seemed to become more frequent in recent times. The 1970s disaster in the Sahel is among the most well known examples of the breakdown of the pastoral way of life.

According to Jahnke (1982:89) the 'notion of pastoralism under pressure is on the whole more valid than the notion of a free-ranging husbandry man with an abundance of livestock and land resources at his disposal'. Schwartz and Schwartz (1985:5) state that it becomes more and more evident that nomadic societies 'show a decreasing selfreliance in terms of food production'. According to Hjort (1982:24) 'growing scores of people [are] being pushed out of the pastoral economy'. Dietz (1987:13) wonders 'whether there is any chance of survival of a pastoral way of life'. His question is most pessimistically answered by Neville and Rada Dyson-Hudson stating that 'The collective future of traditional pastoralists is (...) at risk in East Africa. By the end of the century they may belong merely to memory, as traditional African hunter-gatherer populations already do' (Dyson-Hudson & Dyson-Hudson 1982:213).

Sometimes not just the mode of existence, even the people themselves are thought to be on the road to extinction. As early as 1910 H. and S. Hinde published their book "The Last of the Masai".[3] In the early 1930s a medical survey among the Maasai of Kenya's Kajiado District revealed that the birth rate among the Maasai was not high enough to maintain the population as a result of gonorrhoeal infections (see KDAR 1931:4). In spite of this the Maasai nowadays number more than ever before. This is true of most pastoralist ethnic groups, making Sandford conclude that pastoralism is not dying out. He agrees that pastoral people are leaving pastoralism and that it is *proportionally* less important in the economy than 50 years ago. Nevertheless, he believes that 'most of the areas which are pastoral at present will continue to be so in future and many millions of people will continue to be pastoralists' (Sandford 1983a:2/3).

To some researchers this growth of the human population is in fact the main cause of the economic problems of today's pastoralists. Droughts, rangeland degradation, reduced access to and control over land and an unfavourable if not hostile political and economic environment are also among the main causes mentioned. Opinions as to the relative importance of each of these causes differ between several schools of thought within and between disciplines, now and in the past. Nevertheless, they all share the view that traditional nomadic

[3] Throughout this book I will use the modern spelling of the group's name (i.e. Maasai). Before the 1970s most authors used the name "Masai", "Masaï" or "Massai".

pastoralism is losing ground.[4]

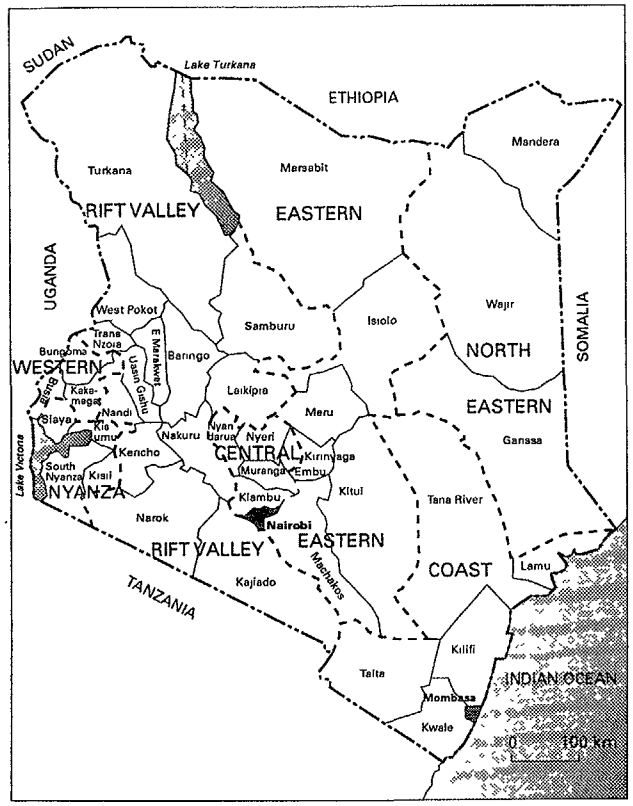

Figure 0.2 Location of Kajiado District in Kenya

[4] Only a few cases were found in which traditional pastoralism gained in structural importance within a group's economy. Holy (1987:210) reports of the increased importance of nomadic pastoralism within the mixed-agricultural economy of the Berti living in Northern Darfur Province, Sudan. A combination of climatic conditions, water improvements and political factors enabled the Berti to invest their wealth in livestock. A similar description is given by Haaland (1972) for the neighbouring Fur. Unesco/UNEP/FAO (1979:284) report of Fulani groups in Niger and Nigeria who, just before the 1970s drought, changed back from agriculture towards nomadic pastoralism. A less recent example concerns the Turkana pastoralists of northwestern Kenya; after departing in the 18th century from the Karimojong cluster centred in northern Uganda, they concentrated on livestock herding as the ecological conditions in their new home area were not as favourable as in Uganda.

By the early 1980s, the International Livestock Centre for Africa (ILCA) made a survey of the Maasai pastoralists of Kajiado District located at the southern tip of Kenya's Rift Valley province (see figure 0.2). Several sources concerning data for the human as well as the livestock population of the district between 1948 and 1984 were plotted against each other.[5]

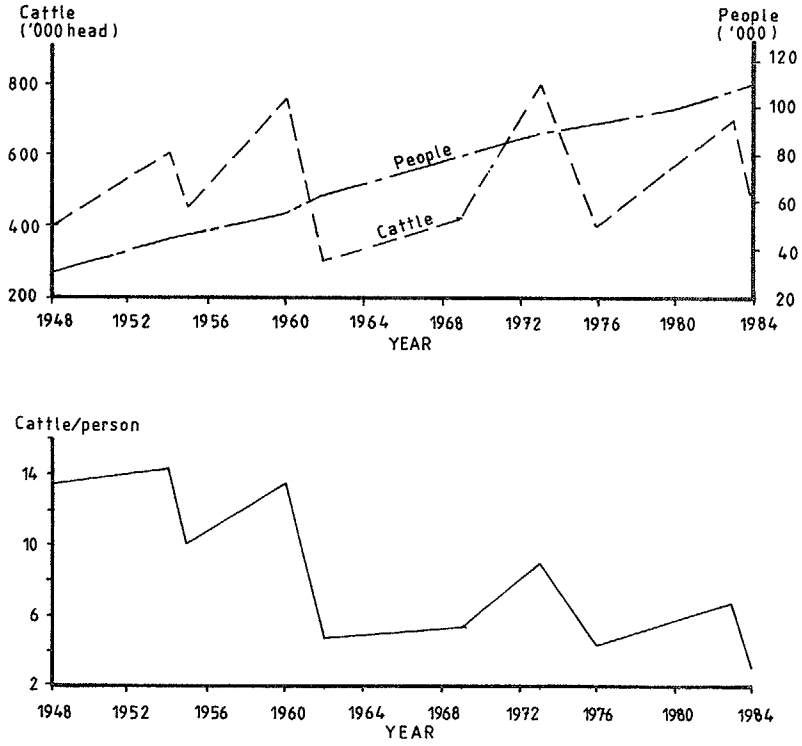

Figure 0.3 Cattle and Pastoral Human Populations Kajiado District 1948-84
Source: Bekure et al. 1987:82

Figure 0.3 shows the results of this analysis. A consistent rise in the number of Maasai pastoralists in combination with a fluctuating cattle population has led to a steady decline in the cattle/people ratio. As a rule of thumb it is estimated

[5] ILCA's estimations of livestock populations are notoriously inaccurate; even human population figures for nomadic societies are problematic. The livestock figures represent compromises among the often conflicting estimates originating largely from government records. The human population figures are based on census as done in 1948, 1962, 1969, 1979 with an estimated correction factor for non-pastoralists (see Bekure et al. 1987:127).

that to subsist entirely on a diet of milk and meat, a minimum of about 10 cattle/person is required.[6] Thus, it can be concluded that since the early 1960s the Maasai of Kajiado District, on average, no longer accord with this basic condition. After the 1984 drought cattle wealth dropped to a low of less than 3 cattle per person.

Though aware of the questionable reliability of dated information a trend can be discerned in Maasai prosperity in this century. For instance, by the early 1930s a report suggested that the 'average Maasai household of five persons has an allowance of over one and a half square mile of country to itself. The official number of cattle for 1930 is 720,000, but a more recent actual account made by the veterinary department in the Kajiado District indicates that the numbers are much in excess of that estimate and are probably more than a million' (KLC 1934:5).

From these data, concerning the whole of Kenyan Maasailand (i.e. both Kajiado and the neighbouring Narok District), it can be calculated that some 48,000 Maasai possessing approximately 720,000 to 1,000,000 cattle had on average 15-20 cattle per person in the early 1930s. Nowadays, according to a recent livestock census conducted in Kajiado District, some 120,000 Maasai pastoralists share approximately 633,000 head of cattle, a cattle/person ratio of 5.3 (MoLD 1988:iii).[7]

Besides an increasing Maasai population and virtually stable livestock numbers the land area available has been decreasing over the years. Population densities have been rising not only as a result of the growth of the Maasai population, other non-Maasai groups have migrated towards this area. Moreover, in an absolute sense, the Maasai territory has become much smaller, especially as the outcome of the process of colonization of East Africa by the end of the last century. In this study we will concentrate on the diminishing availability of the land resource for the Maasai pastoralists of Kajiado District. Let us, by way of introduction, briefly examine the Maasai ownership of land over the last century.

At the end of the nineteenth century and before the arrival of the British and Germans in East Africa, the Maasai pastoralists occupied an area located at a latitude of between 1° north of the Equator to about 6° south at some places over 200 km in width. Its surface area as presented by several authors ranged between 116,000 km^2 (Jacobs 1963) and 207,000 km^2 (Huntingford 1953). Approximately 44,000 km^2 (Jacobs 1963) to 100,000 km^2 (Voshaar 1979) was

[6] This is based on a reference adult requirement of 2,300 Kcal per day, an output of 1 litre of milk per lactating cow (700 Kcal) and a fraction of some 20 per cent of the cows in milk. Each head of cattle is assumed to provide an additional 50 Kcal/day as meat (see Bekure et al. 1987:127).

[7] After analyzing the crude 1988 Livestock Census data we estimate that approximately 26,000 cattle and 80,000 shoats belong to non-Maasai. Kikuyu and Sonjo were the main owners.

located in present day Kenya.[8] The Maasai territory at the end of the nineteenth century and that of today is shown in figure 0.4.

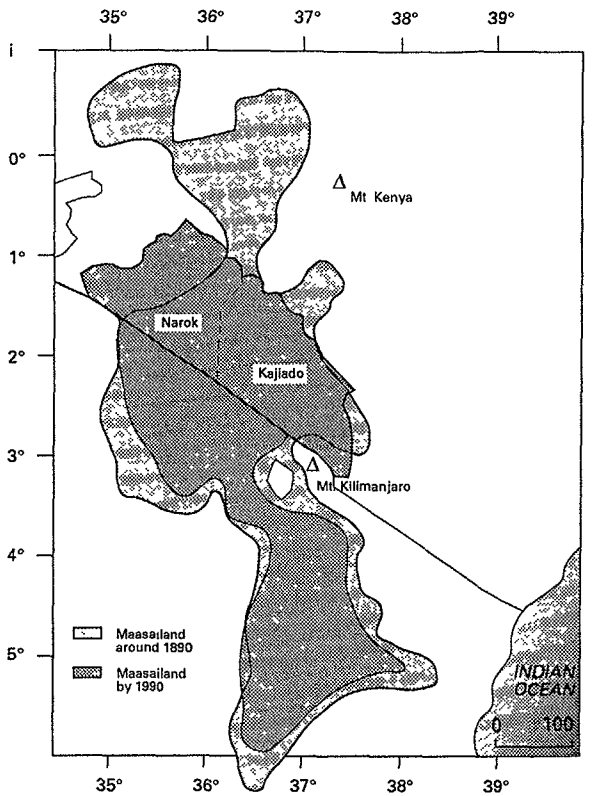

Figure 0.4 Maasailand around 1890 and in 1990

After the arrival of the British the Maasai were removed from their best grazing areas and restricted into two separated Maasai reserves totalling some 23,620 km^2 by a treaty in 1904. In 1912/13 the majority of the northern Maasai

[8] For an assessment of the 19th century Maasai area, maps provided by several authors were analyzed and our measurements provided the following figures for the extent of pre-colonial Maasailand: Jacobs (1963) 116,000 km^2; Ochieng' (1985) 123,000 km^2; Hollis (1905) 126,000 km^2; Bekure et al. (1987) 155,000 km^2; Voshaar (1979) 160,000 km^2; Leys (1924 repr. 1973) some 200,000 km^2; Huntingford (1953) 120,000 km^2. Figures for Kenya Maasailand ranged as follows: Jacobs (1963) 44,000 km^2; Hollis (1905) 55,000 km^2; Leys (1924 repr. 1973) 64,000 km^2; Ochieng' (1985) 69,000 km^2; Huntingford (1953) 70,000 km^2 and Voshaar (1979) 100,000 km^2.

were regrouped in an enlarged southern reserve comprising an area of approximately 37,800 km^2 (see Sandford 1919:3). Moreover, in terms of quality the loss was even more severe as green pastures located in ecologically favourable areas had to be abandoned and were replaced with a less comfortable habitat, heavily infested by tsetse fly and mostly lacking sufficient water and all year round grazing. According to Morgan (1972:215) of the 31,000 km^2 (excluding forest reserves) of European settled lands, 18,000 km^2 consisted of old Maasai grazing grounds, evacuated under the agreements of 1904 and 1913. Minor adjustments in later years resulted in a Maasai territory of 39,300 km^2 by 1934 (see Hailey 1950 repr. 1957:167).

The 1979 Kenya population census gives a figure of 211,651 Kenya Maasai living in Kajiado and Narok districts totalling 39,618 km^2. This area, however, had to be shared with 147,655 non-Maasai inhabiting the towns and better-watered areas, as well as with a few of the most popular Kenyan game parks. Leaving these reductions aside for the moment, it can be calculated that during this century the Kenya Maasai area was reduced to almost half of its former territory. At the same time the population occupying it, Maasai and non-Maasai, has increased almost fifteenfold from 43,000 in 1915 to probably over 630,000 nowadays (see Sindiga 1986:163).

0.2 Objectives and Methods of Survey

The object of this study "nomadic pastoralism" can also be seen as two separate issues, the "nomadic" referring to access to and *mobile movements* over *land*, the "pastoralism" to the ownership and production of *livestock* and the use of *pastures*. As Galaty (1978:1) points out the first is mainly a political and the second largely an economically governed phenomenon. As we will see in the Maasai context the two spheres are inter-related and our study of Maasai society should also operate from both perspectives.

The *main* theme of this book, however, is foremost to study one specific phenomenon; the loss, privatization of and competition for land within the Maasai pastoral way of life.

The loss of grazing pastures due to increased cultivation, the establishment of Game Parks and mineral exploitation is said to undermine the livestock economy of Maasai pastoralists in Kajiado District. Furthermore, the recent subdivision of group ranches into too small individual holdings is feared will result in the selling of land to outsiders. This research examines the outcome of this process as well as the Maasai response of economic intensification and diversification, including increasing the productivity of the herd, cultivation, wage-employment, out-migration and so on.

Taking into account the geographical context this main objective has been operationalized through the following research questions:

- *international level*: what is the world-wide trend concerning the availability of land for nomadic pastoralism? Have international political and economic forces directly or indirectly affected the man-land relationship in Kajiado District?
- *national level*: which particular physical, economic, demographic and other features of Kenya are operative in the context of the availability of land? What is the central government's policy towards the Kenyan land issue and livestock development?
- *regional level*: what is the structure and dynamic of the Kenyan dry regions? Which is the regional development policy applied in these regions?
- *local level*: what are the economic, political, socio-cultural features of Kajiado District as of today? How did these develop since the arrival of the British colonizers by the late 1880s? What happened to Maasai access to land during the last century? What is the balance between demand and availability of land then and now? Which factors are responsible for the decreasing availability of land? What is the outcome of the process of individualization of communally owned land? Will it increase the marketing of livestock and bring about improvements in the sphere of water development and grazing management? To what extent is the reported selling of individualized plots taking place? Who are these sellers and buyers? For what purpose do buyers use the newly acquired parcels? Are the Maasai selling land to buy poverty?

The methods of research applied in the preparation of this book included an in-depth analysis of the relevant literature covering nomadic pastoralism. Part of this exercise had been carried out in the context of another study undertaken by the author in 1984 among the Turkana nomadic pastoralists of north-west Kenya. Specific literature concerning Maasai pastoralists was collected at several universities in the Netherlands, the University of Cambridge and the University of London in Great Britain. In Kenya, the bulk of information available in the form of books, research papers, annual reports, policy papers, mimeos, maps, remote sensing data, closed and open files and newspapers was obtained from the University of Nairobi, the National Archives, the Kajiado District Information and Documentation Centre, the International Livestock Centre for Africa (ILCA), the Kajiado Arid and Semi-Arid Lands Programme (ASAL), the Ministries of Livestock Development, Agriculture and Education, the United Nations Environment Programme (UNEP) and private collections. Father Frans Mol's private collection of literature on Maasai turned out to be particularly helpful. However, entering his library makes one feel as if hit by a sledge-hammer as it is a visual expression of the enormous amount of ink and paper used by early travellers, colonial politicians, missionaries, anthropologists, geographers, historians, biologists, ecologists and even fiction writers on the pastoral Maasai.

Among the most informative, at least for this study, have been the works of

Jacobs (1963), Leys (1924), Merker (1904), Mol (1978), Sandford (1919), Sorrenson (1968), Waller (1976), mainly dealing with the history and anthropology of the Maasai, Bekure et al. (1987), Campbell (1978), Evangelou (1984), Galaty (1980), Grandin (1981), Halderman (1972), Holland (1986), Metson (1974), White and Meadows (1981), Njoka (1979), Sindiga (1986) and Tobiko (1989a) chiefly concerned with the Maasai economy and habitat.

In addition to the literature survey I attended a fulltime five month course on "Land Ecology and Rural Survey" at the International Institute for Aerospace and Earth Sciences (ITC) at Enschede in the Netherlands. It enlarged my knowledge of the ecological peculiarities of the tropical rangelands.

In Kenya, co-operation was sought with the Arid and Semi-Arid Lands (ASAL) Programme of Kajiado District. Backstopping of this Netherlands sponsored programme was entrusted in the hands of the University of Amsterdam. As an assistant backstopper I supported the programme with the statistical handling and analysis of a district-wide survey conducted in co-operation with the Ministry of Agriculture. Other, small scale surveys concerning livestock marketing, agricultural diversification and women group activities were also dealt with.

Furthermore, a conference entitled "the Future of Maasai Pastoralists in Kajiado District" held in Limuru, Kenya, was attended in May 1989. Besides being a conference visitor, I was lucky enough to be able to participate in the organization of note-taking and the production of the conference proceedings. This job helped me to become acquainted with up-to-date information from a variety of sources, including Maasai pastoralists, government officials, missionaries, politicians and fellow researchers. Another forum, the Ol Maa meetings in Nairobi, also acted as a catalyst in my understanding of the present problems facing Maasai pastoralists. Other key-informants had already been interviewed during my stay in Kajiado from October 1988 until March 1989.

The actual fieldwork was conducted from September 1989 until April 1990. Criteria for the selection of our research locations were formulated and discussed with key informants. Seven group ranches were finally chosen in which the survey would be conducted: Olkinos, Embolioi, Elang'ata Wuas, Lorngosua, Kiboko, Meto and Poka. In addition we did two more specific surveys concerning employment among (young) Maasai in Esokota group ranch and Nairobi and another one about agricultural Maasai in Bartimaro group ranch (these case studies will be published at a later date).

In total 26 Maasai secondary school leavers were tested for conducting the interviews of which 20 were finally selected.[9] An important prerequisite was that they should originate from the locations being researched. Experience during the testing of the questionnaire had made clear that the openness of the

[9] Unfortunately, we had to drop Poka from our sample because the enumerator left his job after finding another one in Nairobi and no time was left to appoint and train another assistant.

respondents and the validity of their answers greatly increased when the interviewer belonged to the same Maasai section. His familiarity with the area allowed the checking of information provided. Furthermore, parallel carrying forward of the survey in every location at the same time overcame the problem of comparability of data which would have resulted from a sequential collection.

Groups of 2 to 4 students were stationed in their "home" group ranches. This also helped to solve the immense logistic problems of accommodation and transport. As most respondents could only be interviewed during evening time, it was necessary to spend the night at the household's residence. Non-Maasai or Maasai from other locations would have had severe problems in arranging for this, especially in the Kaputiei group ranches (i.e. Olkinos, Embolioi, Poka and Kiboko). Every group was provided with at least one bicycle and a letter of introduction. As far as possible we had informed local chiefs of the start of the survey. In general every interviewer operated on his own except where, for reasons of wildlife danger, it was better to move in teams of two persons.

We have tried to reach to a uniform distribution of respondents taking into account the human population densities within the ranch. The selection of the households was random. The location of every respondent's home was marked on a map. A Kajiado District General Event Calendar and a group ranch specific time table were produced to assist the respondents and interviewers in locating historical happenings. These calendars combined dates and specific events such as the construction of a road, the drilling of a borehole, a period of severe drought, the conducting of special ceremonies and the opening of a school, dispensary or training centre.

Before the actual fieldwork went ahead the group of interviewers had a two-week fulltime training course in Kajiado. The concepts, objectives and methods of survey were discussed in full detail in order to come to as uniform an understanding of the purpose and execution of the research as possible. Research questions were formulated, field-tested and reformulated. In order to be able to make trend deductions we attempted to stay as close as possible to other survey formats used by Metson (1974), White and Meadows (1981) and ILCA (1981) during the late 1970s and early 1980s period.

In the first week of the survey we visited all groups to discuss problems that had possibly arisen. Revisits were carried out at a later stage. In addition, all the interviewers reported at a three week interval at Kajiado to recover somewhat and to refresh mind and body. Experiences were shared and discussed. Papers providing specific information about selected aspects were produced by every research team. Their interest in the topic became most obvious in discussions between themselves and with civil servants and policy makers. The enthusiasm and input showed by these young Maasai was very stimulating for us. Their work has contributed enormously to the writing of this book.

0.3 Organization of the book

Chapter 1 introduces some of the main concepts used in this book such as nomadic pastoralism, land, land use rights, landlessness and poverty. Reference will be made to the Maasai situation. In addition, trends in the use of land world-wide as well as in Kenya will be shown. Finally, a framework used for the analysis of the access to land will be discussed.

Chapter 2 highlights the Kenyan economy. Special attention is paid to the livestock sector in a regional, national and international context. Next, the national development policy is discussed before turning to one of the country's most burning issues, the unequal distribution and availability of land.

Chapter 3 concentrates on a sketch of the semi-arid and arid lands of Kenya. This acts as a frame of reference for the Maasai pastoralists of Kajiado District in respect of land potential, livestock and wildlife density and demographic characteristics.

Chapter 4 provides more detailed information about Kajiado District concerning its people, economy, ecology and physical infrastructure as of today. A brief outline of some aspects of Maasai society will also be discussed.

Chapter 5 outlines the history of land use and land policy in Kajiado District as it developed since the late 1880s until 1963, the time of Kenya's independence from Great Britain.

Chapter 6 follows a similar approach though here we concentrate on the Maasai economy and development policy in Kajiado District during this period. Reference to the overall performance of the Kenyan economy and Colonial development policy will often be made.

Chapter 7 discusses post-Colonial land policy and the state of affairs in Kajiado District. Attention is paid mainly to the creation, performance and subdivision of group ranches. The growing importance of wildlife conservation and cultivation since the mid-1960s will also be dealt with.

Chapter 8 presents the results of this survey obtained among the Maasai of Kajiado District concerning the effects of group ranch subdivision. The ecological and economic viability of individualized plots, the processes of fencing and reduced mobility.

Chapter 9 deals with the further fragmentation, transfer and mortgage of the newly created plots. The kind of investments and improvements made by this new group of individual ranchers are presented.

Chapter 10 provides information concerning the personal characteristics of the Maasai pastoralists and the intensification, diversification and commercialization of their (livestock) household economies. Notice is given of the major problems as mentioned by the Maasai pastoralists of today. This should provide an answer to the future of the Maasai of Kajiado District considering the steadily growing number of Maasai people with a diminishing area of land available.

CHAPTER 1

CONCEPTS AND FRAMEWORK FOR ANALYSIS

1.1 Concepts of Nomadic Pastoralism, Grazing Capacity, Land and Poverty

1.1.1 The Concepts of Nomadic Pastoralism and Grazing Capacity

Pastoralists are people who make a living by keeping livestock that act as a direct intermediate between man and his natural environment, the pastures. Indigestible plants are converted into milk, meat, fat and blood for human consumption and/or provide an indirect source of income through the sale or barter of animals and their produce, including wool, hides and skins, manure and horns.

Like hunting and ranching, *pastoralism*, belongs to the main categories of rangeland utilization. It is a form of "extensive grazing", meaning that use is made of the land by grazing animals without an overall improvement of the vegetation being undertaken by (re)seeding or fertilizing or allowing for improvements like local feedlots or water supplies.

Zonneveld (1984:94) has subdivided pastoralism according to various "key attributes", such as produce, stock type, objectives and mobility:

Produce: - meat pastoralism, milk pastoralism, wool (by-product mainly);
Stock type: - small stock pastoralism, cattle pastoralism, reindeer pastoralism (see Ingold 1980:202), llama and alpaca pastoralism;
Objectives: - subsistence pastoralism, commercial pastoralism;
Mobility: - village communal grazing, transhumance, nomadism, ranching.

Let us consider some of these sub-classifications in detail. The distinction made concerning "produce" is a relative one. Milk pastoralists will also eat meat and vice versa. Milk pastoralism is the most common. The division made along the line of stock type is a relative one, especially as far as cattle and small stock are concerned. For example, in Kenya most pastoral households have both cattle and small stock. We would like to add "camel pastoralism", which in most north-African countries especially is of major, if not sole, importance.

Using the "produce" criterium a division can also be made concerning the relative importance of pastoralism within the households' overall economy (see Dietz 1987:15). When at least 50 per cent of the pastoralists' income is based on the livestock enterprise the term "*pure pastoralism*" is often applied. Others, however, prefer to reserve this term for those pastoralists who live solely from the produce of their herds. Besides livestock, pastoralists may satisfy their needs through cultivation. If they obtain between 10 and 50 per cent of their

income from animals they are classified as "*agro-pastoral*". When non-agricultural income covers more than half of the food needs one speaks of a "*mixed economy*".

Starting from the production "objective" point of view it is possible to differentiate between *subsistence* and *commercial* pastoralism; the former implies that livestock products directly provide more than half of the food needs, while in the latter case food is bought with the proceeds of the selling or bartering of animals and their produce.

The last key for sub-classifying pastoralism is that of "mobility". As with the degree of pastoralism, it is possible to distinguish a kind of gradation in the mobility aspect, ranging from hyper mobile, having no fixed home and putting up a tent or hut wherever grass and water is available to being completely sedentary.

It should be stressed that the nomadic movements are not the result of the pastoralist's wish to travel. These are foremost determined by the low ecological potential of the grazing areas; minimal and/or unreliable rains, sometimes failing altogether, and the high evapotranspiration or extreme cold resulting in low and seasonal and geographically variable herbaceous biomass availability. In other words, the pastoralists are forced to move their animals in search for grazing. Other factors affecting mobility are the need to avoid disease-affected and insecure areas. Actual migration patterns are also influenced by the location of trading centres, agricultural areas and quarantine regulations imposed by the Government. In other words, mobility is necessary in order to survive.

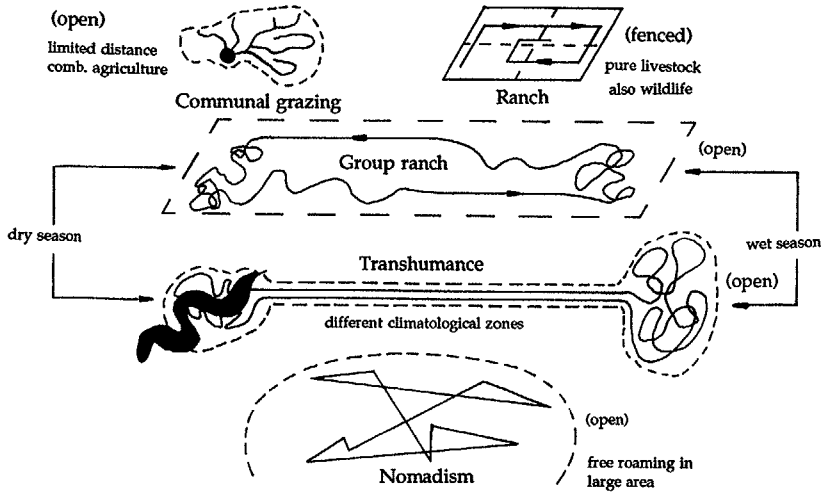

Figure 1.1 Types of Livestock Keeping
Source: Zonneveld 1984:94

One speaks of *village communal grazing* if herding is centred around a village and the walking distance does not exceed 20 km (see figure 1.1).

A specific intermediate form of mobility is *transhumance*: the seasonal movement of herds and flocks accompanied by herdsmen only, along more or less fixed trekking-routes to wet-season grazing grounds returning to their sedentary base where the rest of the families live permanently in the dry season. For example, the Bororo of Niger and the Tuareg of Mali make long treks of over 100 km every year. Where ecological conditions become better, i.e. the intermediate zone between semi-arid and sub-humid allowing for agriculture, the nomadic movements are short or rather infrequent; e.g. the Nandi of Kenya.

Nomadism refers to those cases in which all household members are constantly on the move during the dry season either together or, as in the case of the Turkana of Kenya, split up from each other taking care of a specific part of the total herd.[1] During the wet season the members and their livestock regroup on the wet season pastures whenever there is an abundance of grazing for all of the household's animals. This is a constant process of dispersion and concentration in order to use the scarce available resources optimally.

Ranching refers to a situation whereby 'the herds are kept for sale on a specific, sometimes fenced, area, in which water resources are controlled, herds are divided into different age and sex groups, parasites and predators are controlled, the range is managed and use of fire is regulated' (Unesco/UNEP/FAO 1979:265). Wild animals may also be kept and managed as well as domesticated. According to Zonneveld (1984:96) ranching was introduced in the last century. Ranches can only exist where dry season grazing areas are available. For arid and semi-arid areas this means that a ranch has to extend over many thousands of hectares. Improved ranch systems which make use of reseeding and fertilizing as in the United States, can be much smaller.

A specific ranching system, which will be the focus of this study, is the "group-ranch" in which the exclusive grazing rights of a large tract of (unfenced) land are given to a specific group of families. Its objective lies somewhere in-between that of regular ranching (one of the most commercialized forms of livestock keeping oriented at an outside market), and that of subsistence pastoralism (foremost geared to maximize (milk) output in order to support the human population and the reproduction of the herd).

Traditional Maasai pastoralism was (moderately) nomadic, cattle-, milk- and

[1] Unfortunately, several authors while referring to pastoralists speak of "*nomads*" (see e.g. Unesco/UNEP/FAO 1979:465). There is also the confusing concept of "*semi-pastoralism*". Some authors use it in the context of agro-pastoralism or a mixed economy. Others stress the nomadic aspect and seem to speak of semi-sedentary pastoralists when referring to pastoralists following transhumance or a kind of reduced mobility, either in time or space, as compared to "fully-nomadic" people. When semi-pastoralism exists together with semi-nomadism as is not seldom the case, there is no problem. It would be better to avoid this terminology.

subsistence-oriented. Nowadays, the Maasai human population has become more sedentary and organized along the lines of "group-ranches". These are, however, in a process of dissolution resulting in the individualization of landownership. Cattle are still the most important kind of stock within the Maasai herds, though sheep and goats have grown in importance. Recently, some camels have been introduced. In addition, the diversification of and commercialization of processes of the Maasai household economy as well as changing food habits are increasingly visible.

The extent of mobility is foremost related to the quality of the rangeland; forage quantity and quality, availability of water, presence of pests and diseases, erosion hazard, climatic hardship and the like. The number of animals that can be maintained per area unit as determined by all site factors, without reducing the quality of the land is called the *carrying capacity* of the land. The term *grazing capacity* can be defined as the number of animals that can graze on a certain area without doing damage, based on the amount of forage available, presuming all other factors are favourable (see Zonneveld 1984:107). Grazing capacity therefore refers to a potential situation. An approximation of the grazing capacity is obtained by dividing the rangeland forage growth by the herbivore requirements[2]:

$$G=\frac{F}{R}xP$$

G = *grazing capacity* in animal units/area unit (eg. AU/ha);

F = *forage production* in weight/area unit/unit of time (e.g. kg/ha/year). The yearly Consumable Dry Matter (CDM) production (y) is determined by the annual rainfall (x) in mm per year multiplied by a certain constant (b: 1-10) depending on soil, rainfall seasonality, altitude and the like. The outcome has to be added to another fixed constant (a: -400 to 100, depending on the area). For semi-arid Kenya these constants are set at -100 to -240 and 3.8 to 6.0 for a and b respectively);

R = *herbivore requirement of dry matter* (DM) in weight/animal unit/unit of time (e.g. kg/AU/year). The daily DM forage requirements of large herbivores varies from 2 to 4 per cent of the body weight. Also the quality of DM, expressed in terms of crude protein contents (CP) is of importance in this respect. In general CP requirements are set at 7% of consumable dry matter, whereas 10% is preferable. Multiplying the N(itrogen) content by 6.25 gives the CP percentage;

P = *proper-use factor* (PUF) in decimal (0-1); maximum proportion of forage growth that can be grazed each year from a given type of forage without inducing a downward trend in forage production. For arid and semi-arid rangelands a rule of thumb is that the potential forage consumption is half the forage growth (PUF = 0.5).

[2] The following is based on lecture notes of the International Institute for Aerospace Survey and Earth Sciences (ITC) written by van Gils, van Wijngaarden and Zonneveld (see Gils van et al. 1985a and Gils van et al. 1985b).

Comparing the actual grazing capacity (i.e. taking into account other land qualities like water availability and so on) with the *stocking rate* (i.e. the number of animals per surface area present over a certain period (e.g. AU/ha/year)) an idea may be formed about the *grazing intensity*. If the stocking rate is lower then the range is understocked, if higher then it is overstocked. In both cases there is a danger of deterioration of the rangeland (see Gils van et al. 1985a:19).

Finally, we should consider the application of a uniform animal or '*stock unit*' to convert different types of animals (i.e. cattle, camels, goats and sheep) into a single figure enabling us to make an overall estimation of the total feed requirement and/or production potential for a certain area or group of people. In general animals are compared on the basis of liveweight only. Others go further by applying metabolic weight, by including age or by referring to the food producing capacity.

Unfortunately, as a result of these different approaches, a world-wide accepted definition of the stock unit is not yet available. Several units can be traced in the literature. Dahl and Hjort (1976) use a 'Standard Stock Unit' (SSU) of 215 kg, which places goats at 0.33 SSU and sheep at 0.20 SSU. Pratt and Gwynne (1977/8) also speak of SSU, though they refer to a steer with a liveweight of 450 kg or to a Zebu cow with calf of 300 kg ('Zebu Unit'). For goats and sheep they use equivalents of 0.14 - 0.20 SSU, depending on actual liveweights. The UNDP/FAO Kenya Range Management Project Preliminary Survey conducted in the late 1960s grounded their 12 year span livestock development projections on 'Kenya Stock Units' (KSU) of an average of 0.55 for cattle and 0.07 for small stock (see section 7.2.5). Some years later the Kenyan Range Management Division (RMD) used a 'Stock Unit' of 1.25 for a mature bull, 1.0 for cow with calf, 1 year old steers and heifers 0.5, 2 year old cattle 0.75, 3 year and over 1.0 SU (see section 7.2.6). The Kenyan Rangeland Ecological Monitoring Unit (KREMU) speaks of 'Tropical Animal Units' (TLU) as equivalent to a 250 kg animal and uses conversion factors of 1.2, 0.72 and 0.072 for camels, cattle and small stock, respectively (see Mbugua 1986:419 and section 3.4). By contrast Jahnke (1982) speaking of 'Tropical Livestock Units' (TLU) uses conversion factors of 1.0, 0.7 and 0.1 for camels, cattle and shoats.

For their Kajiado District survey executed during the early 1980s the International Livestock Centre for Africa (ILCA) used 'Livestock Equivalents' (LE) for livestock species conversion towards a standard 250 kg liveweight animal. The LE approach is based on metabolic weight as it gives a more precise indication of the feed requirements of the herd. The average conversion factors used are 0.71 for cattle and 0.17 for small stock. The Ministry of Livestock Development in Kajiado used for their 'Stock Unit' (SU) a mean figure of 0.6 for cattle and 0.125 for small stock (see section 8.3.2).

In other words, one should be very careful about estimates and especially

about strong statements concerning situations of 'overgrazing' or 'livestock deficits for human consumption'. Application of different livestock units will result in different outcomes which could be in conflict. In chapter 8 we will deal further with this confusing concept.

1.1.2 The Concepts of Land, Land Use Rights and Landlessness

Besides livestock the pastoral way of production needs land. *Land* has been defined by the Food and Agricultural Organization of the United Nations as an area on the earth's surface, the characteristics of which embrace all reasonably stable, or predictable cyclic attributes of the biosphere vertically above and below this area, including those of the atmosphere, the soil and the underlying rock (geology), the water regime (hydrology), the plant and animal populations and the results of past, present and future uses of the land by man (see Zonneveld 1984:111).

Let us consider some juridical issues in relation to land. Simply put, *land tenure* concepts define how individuals gain access to and acquire use rights over land, either temporarily or permanently (see Ezemoah 1987:36). There are many ways in which rights of land are laid down. It is possible that title deeds have been given out (*statutory law*) or that land is transferred by a traditional law of succession (*customary law*).

Hellen (1977:54-74) makes a twofold division within the category of land which falls under the regulations of the statutory law:

1. *private* land - all land which is owned, held or occupied under a freehold title, or a leasehold title, or a certificate or claim, or which is registered as private land under a Registered Land Act.
2. *public* land - all land which is occupied, used or acquired by the Government and any other land not being customary or private land.

Land underlying customary law can be distinguished as:
1. communally used
2. individually used
3. reserve land - not yet allotted

Nowadays, in many countries of Africa, the customary laws of succession are under pressure as a result of a process towards individualization and exclusivity of tenure. By implementing a programme of land consolidation, adjudication and registration, often part of a large-scale land-reform policy and/or new land legislation, the change from customary to statutory land law and from communal to individual ownership is being brought about.

In Kenya too, traditional systems of land tenure and land use are vanishing slowly but surely. It should be realized that there was no such thing as a

uniform traditional land tenure system for all ethnic groups in Kenya. Each group had its own system with certain peculiarities that others lacked in their land tenure arrangements. For instance, the *githaka* system of the Kikuyu agriculturalists differs in many respects from the land regulations among the Maasai pastoralists (see e.g. Sonius n.d.). Still, for all groups there was no such thing as land being a marketable commodity as land came under British rule by the end of the 1890s (see chapter 5). In 1902 an Ordinance was passed by the new rulers proclaiming that all public land (i.e. unoccupied land) was *Crown land* which, for the time being, was subject to the control of His Majesty. In practice this meant that land under customary law, which seemed to be unoccupied but was, in many cases, only temporarily abandoned or sometimes still in use, was alienated and given in leasehold or even granted in freehold to the newcomers. When the Kikuyu returned to find the lands of their people occupied by settlers it had been, from their point of view, stolen (see Best & de Blij 1977:440).

Reserves allocated to the principal ethnic groups in the first quarter of this century, created another category of land ownership; *Native land*. In fact this was reserve land all held under traditional tribal systems of allocation and rights. In later years this division in land tenure categories in Kenya was regrouped into:

- *Government land*: land, directly administered by the Commissioner of Lands, held on behalf of the Government; forest reserves and national parks. Leases of 33 or 99 years are sometimes offered to interested parties;
- *Trust land*: land not gazetted or allocated on title but held in trust under customary law by the county council, a "native" administrative body, for the ethnic group occupying that particular territory, and
- *Private land*: registered land in private ownership or held on lease from the Government (see World Bank 1975:455).

Landlessness or *near-landlessness* seems to be on the rise all over the world in the urban as well as in the rural areas. *Landless* agricultural workers do not have access to this productive resource necessary for making a living. *Near-landlessness* has been defined by Leonard (1989:13) as 'access to plots of land too small to provide a minimal livelihood under existing land use patterns and technical capabilities'. Recent estimates place some 13 per cent of all rural households in developing countries as landless and almost 60 per cent have too little land to subsist on (see section 1.2.1).

How do the Maasai traditionally view land-related issues such as ownership, rights of use and inheritance?

Tobiko (1989a:25) states that, to a Maasai, land (*en-kop*) includes 'both the solum and anything growing or otherwise naturally implanted in the soil - vegetation, trees, grass, etc.'. Maasai customary land law regulates the access

to and use of pastures and water. The most important sociological entity along which the application of the Maasai customary land law proceeds is the '*ol-osho*' or section. In total among the Kenyan Maasai there are 12 distinct sections each having their own name (Kaputiei, Matapato, Purko, Kisonko, Ildamat, Dalalekutuk, Keekonyokie, Loodokilani, Loita, Siria, Uasinkishu and Moitanik) and together they comprise the Maasai pastoral group.[3]

Every section has its own specific geographic location in Maasailand and forms the basic, as well as the ultimate unit of land ownership and resource utilization. The senior elders in any section form the governing body. Land at sectional level is communally owned. Members of each section, enjoy equal rights of access to all natural resources (grass, water, salt licks) of their section.

However, the use of land also has some restrictions. For instance, dry season pastures are not entered by any person of the community until the time comes to retreat to these mostly swampy or upland places. Additionally, a family is allowed to mark a small 'traditional private pasture' (*ol-okeri*), tracts of land located immediately opposite the family gates to a kraal camp (homestead), reserved for the grazing of a family's calves, sick, aged and weak animals. Grazing on another's *ol-okeri* without permission is a serious social wrong. But, as Tobiko explains 'in spite of its private nature, *olokeri* did not confer upon the "owner" any semblance of private ownership; it is merely a socially recognized "private-reserve" that confers no title whatsoever; it is neither inheritable nor disposable by whatever means. Moreover, it only belongs to the "owner" so long as he is in occupation of it; so that if he migrates to another place, his *olokeri* ceased, whereon, another person may subsequently carve his on the same site' (Tobiko 1989a:35).

Another restriction concerning the free use of land among the Maasai is operative on the wet season pasture (*emparnat*) of a certain section. Most people have their own locality of residence in the lower plains which they prefer and return to whenever possible during the wet season. Where a person erects his homestead he acquires exclusive rights over it. These rights will retain some sort of "reversionary" rights over both the settlement itself and the spot on which it is erected. No outsider can lay claims to the site and, even if the owners abandon it, it remains unoccupied and undistributed unless a relative or friend is allowed to live there. No one may occupy it without the owners' permission and they can return there at any time to live in it again. Settlements in the dry-season higher lands are temporary in nature. Also "man-made" water sources are more or less privately "owned". Land around such a well also falls under the control of the well-digger. This person, however, has no exclusive say in the use of it.

Finally, Maasai of a different section in search of water and green pastures are not allowed to trespass onto another section's area without permission being granted by this section. In principle, however, permission is always

[3] In Tanzania we find the Sikirari, Laitayiok and the main body of Kisonko Maasai.

granted. The Maasai recognise the fact that by allowing others to enter their area they create a reciprocal right which, as history has repeatedly demonstrated, will most likely be needed at one time in the years to come.

1.1.3 The Concept of Poverty

Another concept which needs some clarification is *poverty*. Several definitions have been used in the past each having its own merits and difficulties.[4] Nonetheless, all approaches should be handled with caution. According to a World Bank Report (1990) *poverty* is the inability to attain a minimal standard of living. This seems to be a simple definition but its operationalization still causes great difficulties. The World Bank Report uses a measure of *consumption* below US$ 370 per person per year as the poverty line. On a regional level social indicators like life expectancy, child mortality and school enrolment are also included. Undernutrition is a well known symptom of poverty - largely concentrated among the landless, sharecroppers, small farmers and small-scale fishermen. The close relationship between illiteracy and poverty is also confirmed in country surveys (see WCARRD 1988:103).

According to the World Bank's US$ 370 consumption poverty line approximately 1,115 million people in the developing world, that is some 33 per cent, were living in absolute poverty by 1985 (see World Bank 1990:28).[5] South Asia (525 million poor), East Asia (280 million poor) and Sub-Saharan Africa (180 million poor) are the regions inhabiting most of the poor with only the latter expected to increase their absolute number of poor people by the end of the century to some 265 million people living below a minimal standard. This would mean a continuation of the trend for this region in the 1965-1985 period when poverty in Sub-Saharan Africa was severe and especially since the beginning of the 1980s, even increased sharply.[6]

Consumption per capita stagnated and primary enrolment rates (approximately 60 per cent by 1980) decreased by almost 7 per cent between 1980 and 1985. Child mortality by 1980 was almost 200 deaths per thousand children under 5 years of age and has been reduced by only a meagre 5 per cent since then. Life expectancy has increased from 42 years in 1965 to 50

[4] For example, Greer and Thorbecke (1986) use a *nutritional* approach for Kenya by defining 'food poverty' as an attempt to measure whether individuals consume enough food - or have the means to do so - to enjoy a minimum desirable level of physical health.

[5] The Food and Agricultural Organization of the United Nations (FAO) gives an estimate of 789 million poor people for 1980 (excluding China and Asian centrally planned economies), half of whom were living in South Asia (see WCARRD 1988:7).

[6] Newest figures indicate that the 1990 Report projection for the year 2000 (decline to some 825 million poor world-wide) has been to optimistic. Latest estimates foresee a total of 1,107 million poor people of which 304 million will reside in Sub-Saharan Africa. This is 49.7 percent of the latter's total expected population for the year 2000 (see World Bank 1992:30).

years by 1985 but is still the world's lowest. Malnutrition is on the rise, and the number of underweight children has grown substantially. All other regions in the world score much better in comparison.

Kenya, in terms of GNP per capita ranking 25th on the scale of poorest countries by 1992, seems to reflect the overall trend for the whole of Sub-Saharan Africa sketched above.[7] 'Estimates of the proportion of the total population living in poverty in Kenya in the mid-1970s range from 30 (Collier and Lal) to 45 per cent (Crawford and Thorbecke)' (Hunt 1985:33). As Hunt points out both studies were based on a considerable amount of guesswork. Still, both surveys show that poverty in Kenya is a widespread phenomenon and that the majority of the poor are living in the rural areas.

The rural poor are a heterogeneous group, comprising of smallholders, large-farm squatters and pastoralists, but who share common disadvantages. These include limited assets, environmental vulnerability, lack of access to public services and amenities, specifically education and medical facilities. The (near)-landless constitute the largest single poverty group in the developing regions. Pastoralists are also among the poor, though their situation seems to be less structural as severe periods of stress are followed by times of recovery.

Table 1.1 Poverty in Kenya (1974)

	Total number ('000)	Below poverty ('000)	Below poverty (%)	Total poor (%)	Total population (%)	Poverty line Ksh./yr/hh
URBAN	*1,400*	*60*	*4.3*	*1.4*	*9.8*	
Nairobi	700	20	2.9	0.5	4.9	2,150
Other	700	40	4.7	0.9	4.9	2,150
RURAL	*12,895*	*4,150*	*32.2*	*98.6*	*90.2*	
Pure pastoralists	725	615	84.8	14.6	5.1	4,285
Pastoralists who farm	75	25	33.3	0.6	0.5	2,700
Migrant farmers	200	110	55.0	2.6	1.4	2,000
Landless/poor occupation	420	210	50.0	5.0	2.9	1,900
Landless/good occupation	245	-	0.0	0.0	1.7	
Smallholders	10,340	2,990	28.9	71.0	72.3	2,000
Large farm squatters	600	200	33.3	4.8	4.2	2,000
Large farmers	290	-	0.0	0.0	2.0	
TOTAL	*14,295*	*4,210*	*29.5*	*100.0*	*100.0*	

Source: author's compilation from World Bank 1983:45-200/Collier and Lal 1980

Collier and Lal (1980 and 1986) took 2,000 Kenyan Shillings a year (at 1974 prices) as the rural poverty *income* line for a smallholder household in Kenya. The line is mainly chosen to be able to compare one rural group with the other

[7] The World Bank includes 43 low-income economies with GNP per capita between 80 US$ (Mozambique) and some 600 US$ (Viet Nam). Kenya scores a 370 US$ per capita GNP. Of this group 28 are African countries (see World Bank 1992:218).

instead of measuring the total number of poor people. Table 1.1 shows the spread of poverty in Kenya by 1974 according to Collier and Lal (1980). Crawford and Thorbecke give a figure of 89 per cent of the poor living in the rural sector, while Collier and Lal's estimate is even as high as 98.6 per cent composed of smallholders (71.0 per cent), pure pastoralists (14.6 per cent), pastoralists who farm (0.6 per cent), migrant farmers (2.6 per cent), landless with poor occupations (5.0 per cent) and large-farm squatters (4.8 per cent).[8]

In absolute terms Collier and Lal estimated pure pastoralists at 725,000 people of whom almost 85 per cent were living below the poverty line set for this group at Ksh. 4,285/- per year per household. This information caused the World Bank to conclude that 'pastoralists are possibly the poorest group in Kenya' (World Bank 1983:300). For pastoralists who practise some additional farming (75,000 people), Collier and Lal predicted a relatively well-off situation with only 33 per cent living in absolute poverty.

Let us examine the extreme figures provided by Collier and Lal in more detail. To determine poverty among Kenyan pastoralists they used a survey done by Campbell in 1977 among the Loitokitok section of the Maasai living in the south-eastern corner of Kajiado District. As their source of information Campbell estimated the household's *average* income to be Ksh. 3,270/- for 1976.

Table 1.2 shows data from Campbell's survey as well as the results of a research conducted by the International Livestock Centre for Africa (ILCA) between 1981 and 1983 among Kajiado Maasai pastoralists. The ILCA survey estimated an annual household cash income of Ksh. 13,010/- obtained mainly through the sale of livestock and its produce (83 per cent). Other sources of income such as wages, beer brewing, money transactions, accounted for the remaining 17 per cent. Borrowing and loan collections (Ksh. 1,110/-) provided a total annual *cash inflow* of Ksh. 14,140/-.[9] For a valid comparison with Campbell's 1976 cash income, however, these figures should be corrected for inflation which amounts to some 15 per cent per year. At 1976 prices ILCA's Maasai pastoralist household's mean annual *cash income* would be in the order of Ksh. 5,782/- per year.[10] This is some 77 per cent higher than Campbell's mean annual cash income, and would, on average, *exclude* Maasai pastoralists

[8] Because the 1990 urban population has increased to some 4-5 million or 22-24 per cent of the Kenyan human population as compared to the 1.4 million or 9.8 per cent by 1974, it is expected that since 1974 the importance of the urban poor has grown likewise.

[9] This is in the range of Campbell's figure of 93.43 per cent livestock related income. One should take into account that this figure applies to pure pastoralists. For Maasai pastoralists who also farm the livestock related income drops to some 35 per cent only. The ILCA survey does not discriminate between so called Maasai pure pastoralists and Maasai farmers.

[10] Using the ILCA defined Maasai consumer price index of 112 for 1976 as compared to 252 for 1982 (1975=100) (see Bekure et al. 1987:372).

from being among the poor![11]

Table 1.2 Average Annual Cash Income of Maasai Households, 1976, 1981-83

Income 1976			Income 1981/3		
Source	*Ksh.*	*%*	*Source*	*Ksh.*	*%*
Cattle	2,167	66 3	Livestock sales	10,365	80
Sheep	347	10 6	Milk	210	2
Goats	462	14 1	Hides	5	0
Milk	34	1 0	Skins	110	1
Hides	45	1 4			
Sub livestock	*3,055*	*93 4*	*Sub livestock*	*10,690*	*83*
Relatives	42	1 3	Money transactions	815	6
Business	78	2 4	Beer brewing	75	0
Labour	47	1 4	Wages	1,330	10
Other	48	1 5	Other	100	1
TOTAL	3,270	100 0	TOTAL CASH-INCOME	13,010	100
			Loan collections	970	
			Borrowing	270	
			TOTAL CASH-INFLOW	14,140	

Source Campbell 1978 48 & Bekure et al 1987 329

In addition, as highlighted in appendix 1.1, Collier and Lal's estimate is based on a survey conducted among one group of nomadic pastoralists at a specific time and place, the group being under severe stress.[12] Their assessment also overrates the pastoralists' poverty line due to the omission of the valuation of subsistence production and the use of a questionably large household size. In other words, Collier and Lal's calculation has resulted in an inflated number of poor pastoral people for the whole of Kenya.

This statement is confirmed by other surveys showing a less dramatic situation for Maasai pastoralists. For instance, according to a survey conducted in 1981/2 by the Kenyan Central Bureau of Statistics, Kajiado and Narok households, most of them pastoralists, had the *highest* average net monthly income (Ksh. 1,674/-) as compared to other districts of the country (Ksh. 829/- mean) (see RoK/CBS 1988:33-35). This survey included income in kind derived from farm enterprises in determining total income. In Narok/Kajiado, the proportion of income in kind was an estimated 63 per cent of the total average monthly household income, while the national average figure amounted to 48 per cent. This underscores our statement that among pastoralists subsistence is of more importance than among smallholders.

[11] Adjustment of the minimum income of Ksh 4,285/- for 1974 would result in a poverty line of approximately Ksh 5,635/- per household for 1976

[12] Campbell gives a figure of 60 per cent of his sample of pastoralist households being unable to meet subsistence needs from their herds at the time of the survey (i.e in the post drought situation) as compared to 25 per cent in the pre-drought situation' (see Campbell 1978.23)

Likewise, the per capita cash income poverty line for pastoralists will be lower than for agriculturalists

Does this mean that we should reject the idea of widespread poverty among Maasai and other pastoralists in Kenya altogether?

Not completely; we agree with Collier and Lal that the poverty concept should mainly be used to estimate the relative number of poor people especially in relation to other groups in Kenyan society. Nevertheless, a more accurate figure than that provided by Collier and Lal would be welcomed. Crawford and Thorbecke presumed a still high but considerably lower percentage of impoverished people of 60 per cent of all Kenyan pastoralists (totalling 1,365,000 people according to these authors - see Hunt 1985:40-54). Available information provided by other researchers suggests that among the Maasai in 'normal' times the number of poor households, which in most cases is based on a ranking according to wealth expressed in number of animals in relation to household size, ranges in the order of 25 to 35 per cent (see Campbell 1978:23 and King et al. 1982:5). Estimates for the other pastoral peoples of Kenya vary with the Pokot and Turkana characterized as being less well off and the Orma and Borana among the relatively more affluent pastoralists (see section 3.4).

As late as the early 1930s the Maasai were characterized by the Kenyan Land Commission as being probably the most wealthy tribe in East Africa, both in land and the stock they were able to sustain.

This kind of wealth (land and stock) has not been included (directly) in Collier and Lal's poverty definition. As Leonard (1989:13) has said the degree to which landlessness or near-landlessness coincides with poverty is a source of debate among experts. Unesco sees a strong relationship between landlessness and poverty at least for certain areas of the world. 'Poverty is highly correlated with landlessness in South Asia, southern Africa and much of Latin America. When the poor do own land it is often unproductive [and] many of the poor have access to land without having ownership rights. In other cases the poor have access to land that is owned by the community or is common property. Such arrangements are increasingly jeopardized by population pressure, privatization, overexploitation of resources, and deterioration of the environment' (Unesco/UNEP/FAO 1979:31-2).

Comparison over time of resources, including assets like livestock and land, should bring forward really essential information concerning the level of poverty. It is the overall trend of prosperity over a long span of time, excluding short term fluctuations, that should be sought. In the following chapters we will present this trend for Kenyan pastoralists and Maasai livestock keepers in particularly. To enable us analyzing the access to land for Maasai pastoralists we used a framework which we will present in the next section. Before that we will discuss the world trend in the availability of land for the agricultural population in the last decades.

1.2 Access to Land: a Framework For the Analysis

1.2.1 Access to Land World-wide

World-wide during 1980-1990 there was an increase in the agricultural population of some 193 million, whilst the arable area under production expanded with only 23.4 million ha as against an increase of 62 million agricultural people and 38.8 million ha in the period 1970-1980.[13] Table 1.3 shows the (agricultural) population figures for some selected regions in the 1970-90 period. From this table it can be concluded that, as far as all developing regions are concerned, the agricultural population increased with some 235 million people over the 1980-1990 period.

Table 1.3 also shows the high percentage of the agricultural population in Kenya (77 per cent), Africa (66 per cent) and the Far East (61 per cent) as compared to the Near East (38 per cent) and Latin America (26 per cent). The 1970 percentages for these regions were 82, 74, 68, 59 and 41 per cent, respectively. This means that the Near East and Latin America regions in particular have been able to reduce the relative importance of their agricultural population, whereas the reductions in other regions were only modest.

Table 1.3 Increase in (Agricultural) Population for Some Selected Developing Regions 1970-90 (in millions)

	1970		1975		1980		1985		1990	
Region	Tot Pop	Agr Pop	Tot Pop	Agr Pop	Tot Pop	Agr Pop	Tot Pop	Agr Pop	Tot Pop	Agr Pop
Kenya	11	9	14	11	17	13	20	16	24	18
Africa	284	209	333	246	386	275	449	308	525	347
L America	283	117	323	118	363	117	404	118	448	118
Near East	160	95	185	95	212	99	247	102	280	106
Far East	1,892	1,286	2,109	1,470	2,313	1,559	2,538	1,636	2,786	1,713
All dev regions	2,623	1,710	2,955	1,932	3,280	2,052	3,641	2,167	4,046	2,287

Source: FAO/PY 1982 and 1990

Note: the regions mentioned refer to the developing countries only. The Far East figure also includes centrally planned Asian nations.

[13] *Agricultural population* is defined as all persons who depend for their livelihood on agriculture. This comprises all persons actively engaged in agriculture and their non-working dependents. For a definition of types of land use see notes table 1.4.

Table 1.4 Change in Main Types of Land Use (in '000 ha), 1974-89

	Kenya				Africa				Latin America			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
1974	2,210f	38,100f	2,660f	13,999	143,634	703,999	668,285	813,057	153,895	542,225	1,032,917	288,633
1979	2,270f	38,100f	2,560f	14,039	149,357	703,317	656,700	819,561	167,281	553,489	1,008,249	288,652
1984	2,335f	38,100f	2,460f	14,074	153,051	699,346	644,967	831,571	175,603	563,544	982,647	295,877
1989	2,428f	38,100f	2,360f	14,081	156,576	698,164	633,203	840,997	180,090	573,843	955,601	308,137
	Near East				Far East				All Developing Countries			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
1974	84,651	309,948	98,610	699,027	374,995	495,788	503,398	585,498	758,238	2,052,735	2,347,432	2,428,457
1979	84,258	310,132	96,185	701,012	378,250	478,850	489,260	613,292	780,261	2,046,562	2,295,142	2,464,812
1984	81,991	309,878	95,365	704,980	380,677	478,684	470,600	629,653	792,485	2,052,232	2,237,596	2,504,423
1989	82,582	309,148	94,122	706,362	382,227	461,917	461,917	635,692	802,654	2,061,734	2,188,780	2,533,590

Source: FAO/PY 1990

(1): Arable Land and Land under permanent Crops
(2): Permanent Meadows and Pastures
(3): Forests and Woodland
(4): Other land
f : FAO estimate

Arable land refers to land under temporary crops, temporary meadows for mowing or pastures, land under market and kitchen gardens, and land temporarily fallow or lying idle;
Land under permanent crops refers to land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee and rubber;
Permanent Meadows and Pastures refers to land used permanently (five years or more) for herbaceous forage crops, either cultivated or growing wild. The dividing line between this and "Forests and Woodland" can be somewhat unclear especially in the case of shrubs, savannah, etc;
Forests and Woodland refers to land under natural or planted trees;
Other Land refers to any other land not mentioned in category 1, 2, 3. It includes built-up areas, roads, barren land etc. (see FAO/PY 1990).

The change in land available for cultivation is shown in table 1.4. It should be noted that, in the latter half of the 1980s, the expansion of land for agriculture worldwide was only half that of the first period of the decade, whereas the growth of the agricultural population was slightly higher. This trend, though less pronounced, can also be deduced for the African Region. From 1979-84 the land available for agriculture in Africa increased by 3.7 million ha as compared to a 3.5 million ha increase in the 1984-89 period. The African agricultural population increased by 33.5 and 38.5 million people, respectively.

In Kenya, the situation is less clear. The growth of the agricultural population is on the increase. From 1980 to 1990 the number of agricultural people was estimated to have increased by some 5.0 million (2.4 million and 2.6 million for the first and last half, respectively). The FAO, however, estimated a larger increase in the amount of arable land in this period (65,000 ha for 1979-84 and 93,000 ha for 1984-1989).

Still, the percentage increase in arable land (4.0 per cent) is very much less than the growth of the agricultural population (16.4 per cent) in the 1985-90 period. The effect of this imbalance in growth has been increased pressure on land.

Access to land has become an issue for a growing number of people. In extreme cases people become landless or near-landless. The FAO estimated total of landless and near-landless people is 180 million and 817 million, respectively for 1985 as against 171 and 763 million for 1980. This is an overall increase of 63 million people classified as landless or near-landless over the 1980-85 period.

Table 1.5 Developing Countries Estimated Landless and Near-Landless Population, 1980-85

Region	Near-landless population						Landless population					
	1980	%	1985	%	80-85	% 80/85	1980	%	1985	%	80-85	% 80/85
Africa	172	22.5	190	23.3	18	+ 10 5	17	9 9	19	10.5	2	+ 11.8
L. America	63	8 3	63	7.7	nil	0 0	18	10.5	18	10.0	nil	+ 0.0
Near East	47	6.2	48	5.9	1	+ 2.1	15	8.8	14	7.8	-1	- 6.7
Asia	481	63.0	516	63.1	35	+ 7.3	121	70.8	129	71.7	8	+ 6.6
Total	763	100.0	817	100.0	54	+ 7.1	171	100 0	180	100.0	9	+ 5.3

Source: authors derivation based on WCARRD 1988:39 table 4
Note: the estimates do not include centrally planned economies.

Table 1.5 presents the estimated spread of landless and near-landless people living in the less developed regions of Africa, Latin America, Near East and Asia as at 1980 and 1985. It shows that landlessness is foremost a phenomenon of the Asian countries. Over the continents, nearly two-thirds of landless and near-landless people live in Asia as against one-fifth in Africa and one-tenth in Latin America. In terms of percentage of *agricultural* people being landless or

near-landless Africa remains less affected though it is estimated that the increase in landlessness is highest in this continent.

Table 1.6 Distribution of Land and Landlessness for Selected Countries

Country	1970s	1980s	Pure Landless	Near Landless
	(gini coefficients)		(as % of all rural households)	
Africa				
Cameroon	0.44	-		
Congo	0.29	-		
Ethiopia	0.43	-		
Gabon	0.47	-		
Kenya	-	0.77	-	31.8
Lesotho	0.39	-	1.1	28.3
Liberia	0.73	-		
Madagascar	-	0.80		
Malawi	-	0.36		
Reunion	0.70	0.65		
Sierra Leone	0.44	-		
Togo	-	0.45		
Far East			29	
Bangladesh	0.42	-	30	78.0
India	0.64	0.62	-	55.0
Rep. of Korea	0.37	0.30	-	38.0
Nepal	0.69	0.60	37	-
Philippines	0.51	0.53	19	
Sri Lanka	0.51	0.62		43.0
Near East				
Saudi Arabia	0.79	0.83		
Latin America				
Brazil	0.84	0.86	39	
Dominican Rep.	0.79	-	77	
El Salvador	0.81	-	41	60.0 (<2.0 ha)
Guatemala	0.85	-		41.0
Jamaica	0.82	-		76.0 (<2.0 ha)
Paraguay	-	0.94		
Venezuela	0.92	-		

Source: WCARRD 1988:table 3 & 5
Note: the gini-coefficient is a measure of inequality in distribution increasing from 0 to 1. Thus a reduction in the gini-coefficient does not exclude an absolute increase in the number of near-landless and landless (e.g. India). The high rates of Madagaskar and Reunion are mainly due to foreign owned plantations.

Table 1.6 shows the inequality in the distribution of land holdings and percentages of (near-) landlessness in some selected countries. Inequality is at its most profound in Latin America. Africa shows the least unequal distribution of land holdings, whilst Asia takes an intermediate position. Among African countries, Madagascar, Kenya and Reunion show the most distorted land

distribution pattern. For Kenya this is expressed in a gini-coefficient of 0.77 (1981) and in the percentage of almost 32 per cent of all rural households estimated as having holdings of less than 1.0 ha.[14]

1.2.2 The Causes of Landlessness and Near-landlessness

The issue of landlessness has been stipulated by the World Conference on Agricultural Reform and Rural Development (WCARRD) organized in 1979 as one of the major obstacles for establishing a "growth with equity" policy.[15] The FAO undertook follow-up conferences in 1983 and 1987 which recommended anew a broadening of the social base of land-ownership by introducing policy changes relating, among others, to land tenure (see WCARRD 1988:i).

A review of causes of landlessness and near-landlessness was provided by Sinha in 1984.[16] He concluded that landlessness and near-landlessness were the result of a complex interaction of topographical, socio-economic and political forces operating over centuries which made it difficult to disentangle these causes from one another or to indicate their relative importance (see Sinha 1984:18).

Still, for most cases of landlessness, Sinha (1984:18-32) after reviewing several case studies from all over the world, holds one or more of the following causes to be responsible: land scarcity; low productivity of agriculture and underdevelopment; colonial legacy; maldistribution of land; economic incorporation into the world economy and indebtedness. Let us briefly discuss each of these factors:

First, densely populated areas that suffer from a shortage of land will, over time, confront a growing number of landless people. We have seen that countries in Asia in particular have to deal with the problem of densely populated areas and land scarcity. Land scarcity also exists in parts of the developed world (e.g. the Netherlands). For example, in 1988 the potential per capita availability of arable land in the Netherlands was only 0.06 ha, whereas

[14] Distribution of land in Nandi District, ranking 16th (out of 42) of the most densely populated districts of Kenya, showed a gini-coefficient of 0.56 for 1987 (see Hebinck 1990:173).

[15] The conference was attended by 145 countries and effected the adoption of a Declaration of Principles and the implementation of a Programme of Action which asked the developed and developing countries to intensify their efforts for alleviating rural poverty.

[16] His book was written under the auspices of the FAO in order to challenge the lack of well-documented information about the many inter-related factors causing landlessness. It was felt that without a thorough understanding of the causes and effects of landlessness, it would be extremely difficult to advise governments on policy alternatives to reverse the present situation and the trend of the growing significance of landlessness.

it is 0.08 ha in Bangladesh.

However, the potentially inadequate size of a holding does not matter so much in countries where the scope for non-agricultural employment is very wide. In 1990 only 3.7 per cent of the economically active population in the Netherlands was operative in the agricultural sector, while in Bangladesh this figure was 68.5 per cent. As a result the average actual arable land holding size per caput of the agricultural population was 1.64 and 0.12 ha for the Netherlands and Bangladesh, respectively. The trend of absolute numbers of people engaged in agriculture is a decrease in the rich countries whereas in the poor countries it is an increasing trend.

Among the group of developing countries strong differences exist as well in the importance of the agricultural sector for employment opportunities. The South American countries, for example, have more opportunities outside agriculture than do most Asian and African nations. In 1990, 26.1 per cent of the *economically active* Latin American population was working in the agricultural sector whereas this figure for Africa (68.3 per cent) and the Far East (63.6 per cent) was significantly higher (see FAO/PY 1990).

Secondly, it should be realized that in the world's richest countries the productivity of agriculture, as well as manufacturing, is much higher. In the Netherlands the 1988 agricultural output per ha was US$ 12,220. By contrast, Bangladesh had an output of only US$ 956 per ha. Low productivity in both agriculture and manufacturing prevents the rapid acceleration of economic development and, as a result, the pressure of population on land continues to increase, especially in combination with rapid population growth.

A third cause of landlessness is stated to be colonial rule. Sinha reports the consequences of the Spanish conquest and the introduction of Spanish land tenurial arrangements for the Aztecs in Mexico. Land was confiscated and this legacy simply continued after the time of independence. In the early years of the 20th century nearly 96 per cent of rural families possessed no land while over 8,000 *haciendas* controlled 40 per cent of Mexico's total area.

Comparable situations developed in Brazil where the Portuguese started their plantations and large estates at the cost of Indian land and lives. The plantation system was also introduced in Africa, leaving the "native" population to subsist on poorer lands (e.g. in Zimbabwe, Kenya, Algeria, Tunisia, Morocco). Myrdal reported for South Asia on the European policy of encouraging private property to be superimposed on South Asian traditional tenurial rules, resulting in the destruction of the latter (see Sinha 1984:24).

A fourth factor causing landlessness is the concentration of landownership in the hands of a minority. In Latin America in particular this factor is held responsible for a great deal of poverty and landlessness. According to the WCARRD data base comprising 33 selected developing countries, the average

concentration ratio during the 1970s for a group of 12 Latin American countries was 0.80 For Asia this was 0.52 (from 9 countries) and for Africa 0.45 (from 12). In most cases, the colonial legacy must have been responsible for the maldistribution of land. Land reform programmes after Independence must have assisted the landless somehow. Nevertheless it has often been the case that the post-Independence period saw a continuation or even a worsening of biased landownership relations.

For example, Paraguay, which had only a peripheral position in the era of a "Spanish" Latin America, did not suffer from landlessness at the time of Independence in 1811. It was only after the Government started to sell stateland to willing buyers that a process was started which ultimately resulted in the most distorted pattern of landownership in the world. Wealthy people as well as (foreign) companies were offered an opportunity to acquire large areas of land at relatively low prices, leaving the have-nots behind (see Kleinpenning 1987:90).

As a fifth factor, world-wide economic integration has been mentioned. The assimilation of the colonies into the world economy has led to the commercialization of agriculture. The surplus earned from exports was deposited in the capitals of the colonial powers instead of in those of the colonized, and provided the wealth for the industrialization and diversification of their economies.

With the political independence of the colonial territories, a direct take-over of land by foreigners was stopped, but dispossession of the peasants still continued. In Latin America this was reinforced by the introduction of new technology (large scale mechanization) causing these large estates to lay off workers (see WCARRD 1988:46). Multinational corporations and the local elite were responsible for this practice. For example, between 22 and 39 per cent of cultivatable land in the Dominican Republic was controlled by one foreign company alone (see Sinha 1984:29). More subtle claims on land in the Third World operate by way of setting aside large parts of agricultural land for the production of animal feed for western cattle (e.g. tapioca fields in Thailand).

Incorporation into the world economy has also brought advantages like sanitation, health and medicine, which, however, have had serious consequences for the pressure of population on land.

Finally, landlessness results from indebtedness. Under communal tenure land is not a commodity. The adoption of Western concepts of private property, however, have made land a transferable resource. Farmers who fall into debt as a result of harvest failures, either have to mortgage their land or to sell it straight away. It should be realized that with large numbers of poor households driven onto marginal lands on steep slopes or semi-arid areas the risk of crop failure has increased. The final result is that large numbers of former land-

owners either become tenants or share-croppers on the mortgaged lands or they become landless. In the latter case they engage in rural wage-labour, become illegal squatters, move to newly opened colonization areas or leave the rural area in a search for urban employment.

The emerging problem of landlessness in Africa is related to a combination of several factors. The World Conference on Agrarian Reform and Rural Development (WCARRD) mentions two main factors which have affected access to land in Africa (see WCARRD 1988:41).

First, it stresses the high rates of growth of the agricultural population in Africa, exceeding 2.0 per cent in more than half the countries and at around 3.0 per cent in Kenya, Rwanda, Nigeria and Tanzania in relation to an inadequate compensating expansion of arable area. All except four African countries (Cameroon, Gabon, Reunion and Sierra Leone) have recorded declines in arable land per capita of agricultural population in the period 1980-1985, as compared with 1975-80.

Secondly, the tenurial situation in most African countries is responsible for the inequality in the distribution of land resulting in an artificial shortage. It is stated that, apart from landlessness caused by shortage of land in certain countries (such as Lesotho and Rwanda), the major factor affecting landlessness in Africa is the growing tendency towards the privatization of land rights, leading to the dispossession of the poorest in the process of adjudication or through forced sales due to debt (see WCARRD 1988:41).

However, improvements have been made in some countries. For example, Reunion, India, Nepal and Korea are among the countries mentioned by the WCARRD-report that succeeded in bringing about a more equal distribution of land. In the next section we will analyze Government policies towards land tenure as practised by different groups of countries.

1.2.3 Government Policies Towards Landlessness

Basically, national land development policies are of two sorts: those designed to increase economic growth and those intended to increase equity (see Davison 1987:30). In the latter approach three types of measures to tackle landlessness and increase equity can be distinguished: curative, ameliorative and participatory measures. It should be noted that these measures are not restricted to the national Government but, at different levels of intensity they are also part of policies practised by other countries, international donors and Non-Governmental Organizations.

In the group of curative measures we include land reforms, land settlement, intensification of agriculture, diversification of the economy and reducing population growth. Ameliorative measures are those such as securing tenancy and (reasonable) minimum wages or relief of debts. Other ameliorative measures are those developed within as a result of an increase in interest in the

rural sector like basic needs programmes (e.g. integrated rural development programmes) or rural works programmes (e.g. land reclamation, afforestation). Finally, participatory measures are those activities which help the landless and the rural poor to organize themselves. This includes programmes of consciousness-raising, assisting self-help activities, promotion and improvement of agricultural co-operatives and the like.

In spite of this broad range of possible measures to improve the access to land for a large number of the (near-)landless the WCARRD-propagated strategy of "growth with equity" via a more equitable distribution of assets, has been followed by virtually no country during the 1980s. In this period attention for land reform programmes as in the 1970s seems to have declined in most countries. In fact a continuation -even increase in many countries- of inequalities occurred in the distribution of land and increasingly large numbers of marginalized smallholders became dependent upon wage-labour. It seems that the type of land policy geared at promoting economic growth, either with or without the implementation of a set of ameliorative measures, has been the most favoured.

In Africa, three broad trends of policy governing access to land during the early 1980s have prevailed. First, in some countries there have been shifts towards a socialization of land through co-operatives, collectives and state farms, sometimes coupled with villagization programmes (as in Ethiopia, Mozambique, the Congo). Secondly, in other countries, there have been shifts towards or a continuation of the privatization of land, as in Malawi, Kenya, Liberia, Uganda, Reunion and Botswana. Thirdly, there have been adaptations of existing tenures to modify the relations between the tribal chiefs and the state, as in the Gambia and Lesotho (see WCARRD 1988:38).

Within the first group of countries, the need has been recognized for greater allocation of resources towards the peasant sector and a further strengthening of the peasant co-operative sector, as state farms are not achieving their intended results. Here ameliorative and participatory measures should help to increase economic development.

In the second group of countries, Kenya and Malawi have continued their programmes of accelerated adjudication and registration of individual titles. Both countries are reported to face an increasing number of landless people, rural-urban migration and settlement in marginal areas. In Uganda, the granting of public lands to large entrepreneurs has led to the emergence of tenancy problems. In Botswana, the land tenure changes are partly the result of increased population and partly the result of Government programmes aimed at increasing employment and income in rural areas (see Milazi 1988:51).

In the third group of countries, the adaptation of customary tenure to new needs has taken various forms such as the establishment of land allocation committees chaired by the chiefs with regulations and leaseholds (Lesotho), or defining the rights of the state in relation to the chiefs in the allocation of

unused land, as in the Gambia. These latter arrangement represent a steady expansion of state power in the regulation of customary tenure. In the Gambia, it has been recognized that fallow periods have either diminished or have disappeared as a result of population pressure, while the renting of land has become common.

In general a switch to the adoption of the second type of land policy can be recorded among a growing number of African countries. 'The last five years have seen the wholesale abandonment of economic planning based on social property concepts to a planning pattern emphasizing some form of private property rights' (Riddell 1988:39). This will probably sharpen the inequality in the land distribution which, though less pronounced as in Latin America or Asia, does exist in Africa. The WCARRD report (1988:38) stated that 'some of the factors contributing to this inequality seem to have originated from state-created dualism or the privatization of lands held under customary tenure'. Indeed, as shown by table 1.6 the highest inequality in land distribution in Africa is found among the group of countries propagating the privatization of land (e.g. Liberia, Kenya, Reunion).

Overall, it can be concluded that the trend in most countries of the developing world is one of a further deterioration in regard to access to land for a majority of farmers. Groups such as pastoralists, hunter-gatherers, the illiterate and female agriculturalists are particular victims of the capitalization of land. These groups cannot compete with the vested interests of powerful groups of rich farmers, ranchers or multinationals. Competition, sometimes evolving into open conflict manifests itself between these groups. Sometimes the dispossessed compete over the same lands as for example when marginalized farmers compete with pastoralists. Finally, this struggle for land can also be recorded among members belonging to the same group. Let us now turn to the next section in order to discuss a global framework to help us analyze the factors causing landlessness and the competition and conflict arising over land.

1.2.4 A Framework for the Analysis of Landlessness

The scheme presented in figure 1.2 is the result of work done by Kleinpenning (1986 and 1987), Weicker (1982), Little (1987) and Rutten (1985) incorporating information provided in sections 1.2.2 and 1.2.3.[17] The starting point for the creation of this framework was a need to disentangle some of the complexity and interrelated causes and effects operating in the field of landlessness and the rise of the struggle for land. The scheme is intended to help us describe and analyze the process of land alienation and conflicts over land in Kajiado District of today as well as in the past.

[17] The scheme presented in the latter report was developed by Korfage and Rutten.

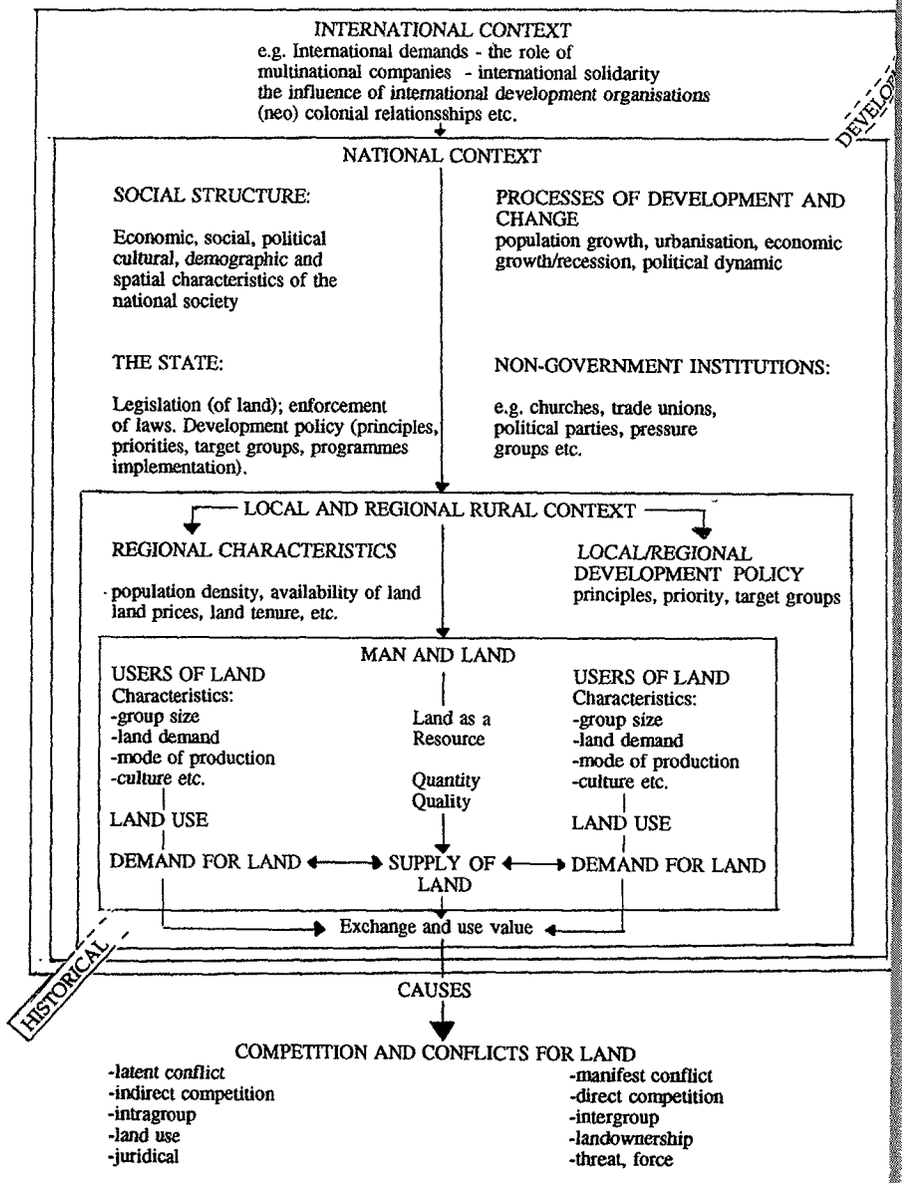

Figure 1.2 Framework for the Analysis of Access to Land
Source: Kleinpenning 1986; Rutten 1985

Land as a resource for man has been placed in the centre of the scheme. Land, however, is as we have seen, a scarce resource. The extent of this scarcity will vary over the globe's surface depending on the absolute quantity available (supply) in relation to the demand for it. It should be realized that both variables (i.e. supply and demand) should be defined in a relational way (see Hendriks 1986:149).

The physical quality, relative location, accessibility and form of ownership (e.g. communal or individual) of a certain piece of land will make it more or less suited for certain activities. The demand is also determined by the specific quantitative and qualitative needs of the users. In other words, supply as well as demand both have a qualitative dimension. Moreover, these dimensions will vary over time. As a result the scarcity of land may be permanent or temporary.

The quantitative and qualitative dimension of supply can be defined as "areal extent" and "use potential", respectively. For demand these characteristics could be renamed as "number of land users" and "user and production-specific characteristics". For example, the demand made for land by a group of farmers engaged in irrigated agriculture will differ from that made by pastoralists, ranchers, enterprises, institutions or the Government itself. The potential productivity of the land in relation to a (minimal) standard of living requirements, the ability to purchase and use the land as well as possible motives for speculation all play a part in determining the final volume of demand for land. If a free land market exists supply and demand will express themselves in a particular use value (rent) and exchange value (sale price).

All of this interplay evolves not in a vacuum, but within a local, regional, national and international context, which can be further sub-divided into an economic, social, political, demographic and ecological scene, imbedded in a dynamic process of change and development.

The local and regional level is the setting where the land use activities are performed and where the analysis starts. Kleinpenning (1987:44) mentions that we should at least differentiate between colonization zones and old agricultural regions because of the striking differences between them. In addition the local and regional (land use) development policy exercised by the Government should be considered as well as the existing land tenure situation.

It will be clear that, in most cases, Government policy at local and regional level is interlinked with national development policy. Nevertheless, differences do exist between countries themselves as well as in time concerning the specific prescribing and regulating power of the national policy for the local context. Moreover, it is difficult to speak of one uniform Government as several departments each have their specific policies that sometimes conflict (e.g. Ministry of Wildlife & Tourism versus that of Agriculture or Livestock Development). Moreover, within a single ministry those responsible at local-regional level may have different opinions than their superiors have at national headquarters.

Notwithstanding these remarks it should be realized that central government is a very important conditioning force. We have already indicated the choices the state may make between its economic development policy which is either geared to economic growth sec or to a policy that also takes account of the equity issue. These policy objectives determine which forms of rural land use are encouraged, e.g. large-scale capitalist forms of production or peasant types of land use. We also mentioned the curative, ameliorative and participatory measures that can be implemented to assist certain, land seeking groups (see section 1.2.3)

Non-governmental institutions such as churches, trade unions, political parties and pressure groups also play a role in this respect. They are often directly or indirectly involved in assisting the land seeking groups to a greater or lesser degree.

Processes appear at international level that have effects on the national and even the local level. Foremost, the international economic order is characterized by a differentiated production of goods and a huge flow of products between countries. The developing countries play a specific role in this respect; roughly speaking they supply the energy and raw materials for the production of a large number of industrial goods. Most of this production occurs in the rich countries although, increasingly, multinational firms are transplanting some of these activities to less wealthy countries.

Excépt for some Asian countries, agricultural products still make up the bulk of exports transported from the poor to the rich countries. Changes in the demand and/or price for these products will, in return, affect the agricultural sector in the developing world, including the way and extent to which land is used.

Furthermore, supra-national institutions like the World Bank or the International Monetary Fund play a role in land (tenure) policy or in the actual use of land in the poor countries either directly or indirectly. International solidarity and support, for example from trade unions and churches, should also be recognized in this respect.

International organizations active in the field of nature conservation (e.g. the preservation of the rainforests, the protection of biological diversity and rare wildlife species and so on) see their efforts ultimately translated into questions to do with land, unfortunately not infrequently at the cost of access to land for the marginalized of the human population in the developing countries.

Finally, access to land is bound to change. This means that, besides the location-specific dimension, we should undertake a historical analysis to clarify how a particular situation of land use developed.

The problem of land scarcity is expressed in a growing number of landless people but also in the manifestation of competition and conflicts concerning access to land. Competition for land could be defined as a situation by which one or more parties involved are being hindered in converting the necessary

production needs by the other party without the *will* to take action against it. This could develop into a situation of conflict in the case when one or all parties *want* to take action at the cost of the other(s).

Competition and conflicts could take place over *use rights* to or *ownership* of land. Competition could take place either *directly* (taking land from the other party) or *indirectly* (taking virgin land). Conflicts can be *latent* (wanting to counteract) or *manifest* (actually taking action against the other party). Another distinction could be made concerning the activities involved. Competition and conflicts occurring between actors performing the same activity could be called *internal* or *inter-group* conflicts, whereas those between actors of different activities are classified as *external* or *intra-group* (see Rutten 1985:32-33, Little 1987:195).

Where early studies of land use and interactions between pastoral and agricultural groups emphasized the symbiotic co-operative aspects, nowadays examples of competition and conflicts over land are manifold. Restricting ourselves to Africa the following are but a few examples. The Basarwa in Botswana, a group of hunter-gatherers, are in process of losing their hunting areas at the cost of large farm ranching. Maasai pastoralists have seen large tracts of their grazing land carved out for the exclusive use of wildlife in National Parks. Tuareg pastoralists in the Niger are faced with increasing numbers of small-scale farmers disrupting their migration patterns, frequently leading to open conflicts which can include murder. Similar difficulties exist between Hausa farmers versus Fulbe herders in West Africa and Tugen cultivators vis-à-vis Il Chamus pastoralists in Kenya.

Little has made a classification of three origins of land use conflicts in pastoral areas; the encroaching farmer, the cultivating herder, and the absentee herd owner. These last two are 'symptoms of social differentiation at the community level, in which rich and poor producers pursue different land use strategies that are potentially competitive' (Little 1987:207). The "Cultivating Herder Model" refers to pastoralists who in recent years are turning to farming as part of a diversification strategy. This involves either rich pastoralists farming to support their livestock herding or poor herders virtually forced to cultivate in order to survive.

The "Absentee Herd Ownership Model" manifests itself in two ways; private landowners living off the ranch who employ someone to look after the animals or livestock traders and other businessmen who buy cattle locally, hire herders to look after the animals and organize stock movements to the urban markets. By using local grazing areas these traders are able to fatten the animals at minimal cost. According to Little (1987:206) this development is growing in significance in Kenya and elsewhere in Africa. Since this group of "part-time" pastoralists mostly operate outside the indigenous management system it is likely to be less concerned with long-term conservation practices. This could, in the long run, give rise to growing competition and conflicts.

1.3 Summary and Conclusion

In this chapter we discussed the concepts and framework for analysis which will be used in outlining the process of access to land among the Maasai pastoralists of Kajiado District, Kenya. In the world's rangeland areas different types of livestock-keeping such as subsistence nomadic pastoralism or commercial ranching exist. Divisions can be made along the lines of produce (meat, milk, wool), stock type (e.g. cattle, camel, reindeer), objective (subsistence or commercial) and mobility patterns (e.g. transhumance, nomadism, ranching). The Maasai pastoralism of today has evolved from nomadic subsistence milk-oriented cattle keeping towards a mixed situation of group ranching, individual landownership and commercialized and diversified household economies. Cattle are still the mainstay of the Maasai herds but small stock is on the increase.

Several methods for recalculating these different types of animals into uniform stock units have been highlighted. The enormous diversity of these equivalents stresses the difficulties and care needed in judging the grazing capacity of a certain area. Besides, uncertainties and the variability in forage production, herbivore requirements and a proper use factor make any absolute statement concerning the potential carrying capacity of an area questionable.

Land can also be dealt with in juridical terms. For Africa as a whole and Kenya in particular we concluded that customary law has, in the last century, increasingly been replaced by statutory law and communal by individual landownership. This statement needs some clarification as we showed for the Kikuyu and Maasai traditional society that land use was not free for all. For instance, every Maasai family was allowed exclusive user rights over certain pieces of land either reserved for their young, sick or weak animals (*ol-okeri*). Also, control over a specific territory was exercised by each Maasai section. Access to another section's territory had to be requested.

Another vested idea, reaffirmed by Collier and Lal, concerning severe poverty among nomadic pastoralists was criticised by showing that this assessment suffered from the use of questionable assumptions, overestimations and omissions (see also appendix 1.1). Instead of some 85 per cent of Kenyan pastoralists considered to be living below the poverty level we assumed a figure of approximately 25-35 per cent.

Attention was paid to the concepts of access to land and landlessness. Reference was made to a clear trend of a decreasing availability of land for low-income groups resulting in a growing number of landless. The highest percentages of (near) landless households can be found in the Far East and in Latin America. In Bangladesh, for instance, 78.0 per cent of all rural households are within the group of pure or near landless. In the Dominican Republic the figure of pure landless alone was estimated at 77.0 per cent. For Africa the highest figure known is for Kenya (31.8 per cent).

In addition to these high percentages of landlessness, the distribution among the group of owners is highly distorted, meaning that land scarcity is frequently artificially created. For example, gini-coefficients for Latin America (a measure

of inequality in distribution increasing on a scale from 0 to 1) are often above 0.80, with Paraguay at the world's top position with 0.94! In Africa and Asia these figures are in the range of 0.45 to 0.65. Only in Madagascar (0.80 due to plantations mostly) and Kenya (0.77) is the distribution of land rather distorted.

In Africa the percentage of landless and near-landless is, in general, still on the low side but it is growing rapidly. Over the 1980-1985 period it was estimated to have witnessed an increase of 11.8 per cent of pure landless and 10.5 per cent for near landless. The mean figures in the developing regions of the world stood at 5.3 per cent and 7.1 per cent, respectively. Several causes for landlessness were reviewed: densely populated areas, low economic productivity, colonial legacy, maldistribution of land, world-wide economic integration and indebtedness (i.e. poverty). For Africa the major factor affecting landlessness was stated to be the growing tendency towards the privatization of land rights.

In some countries (e.g. India, Nepal and Korea) a more equal distribution of land has evolved. Korea, especially (north as well as south) played an active role in achieving this improved situation. Three types of strategies can be distinguished in order to tackle landlessness: curative (e.g. land reforms), ameliorative (e.g. securing tenancy) and participatory (e.g. assisting self-help activities) measures. However, interest in land reform programmes under the heading of "growth with equity" did not materialize in the last decades. Instead inequality continued or became even more severe.

In Africa, three major lines of policy towards access to land during the early 1980s prevailed. In some countries there was a shift towards the socialization of land by way of co-operatives and state farms (e.g. Mozambique). In others the privatization of land was either continued or begun (e.g. Malawi, Kenya). One of the latest approaches to modernizing traditional tenures in favour of state control, is taking place in Lesotho.

In general, the switch towards the second type of land policy is what seems to be prevailing in Africa at the present time. From this an increase in the maldistribution of landownership in Africa is expected. Groups like pastoralists, hunter-gatherers, illiterate and female agriculturalists will be the victims of the capitalization of land. These groups are doomed to lose their struggle for land with the vested powerful groups of rich farmers, ranchers or (inter)national corporations. Increased conflicts and competition about land between both types of groups mentioned above and among the have-nots themselves can be predicted.

In order to systematically disentangle the complexity of land conflicts and the competition a framework for analysis was presented. Supply and demand for the land resource is the starting point for a scheme which involves aspects and dimensions such as physical quality, relative location, form of ownership, number and specific needs of (potential) users and historic developments. This interplay occurs within a local, regional, national and international context. In the following chapter a start will be made with presenting all of these spheres.

APPENDIX 1.1 Assessment of Poverty Among Maasai Pastoralists

For a real assessment of poverty among Maasai pastoralists the following considerations are also of importance:

1. First, the pastoral annual income as defined by Collier and Lal excludes a valuation of the home consumption of milk and meat from the household's livestock. The formation of capital through the herd's natural growth of animals is also not included. Exclusion of these means of livelihood are considered to be too important an omission to allow for, as most Maasai pastoralists are still mostly subsistence oriented.

By examining two groups of Maasai in detail ILCA found that, besides the commercial value of livestock (Ksh. 9,375/-), the herd's output used for direct home consumption (valued at Ksh. 9,145/-), as well as the "stock inventory change" (i.e. the net growth of the herd and flock amounting to Ksh. 14,975/-) would raise the mean annual income from livestock alone to Ksh. 33,495/- per household. In a relative sense this means that some 28 per cent of the gross output of the household's herd can be considered as being commercial while 27 per cent is used for direct subsistence.[18] The remaining 45 per cent is saved in the form of herd and flock accumulation (see Bekure et al. 1987:346/7). Including non-pastoral income total gross annual income was Ksh. 38,260/- on average for Maasai pastoral households of the eastern part of Kajiado District during 1981-83. This means that, at 1976 prices, ILCA's Maasai pastoralist average *total* household annual income would be in the order of Ksh. 17,000/-.

A comparison between Collier's smallholders and ILCA's pastoralists shows that the former are able to provide approximately 35 per cent and the latter some 50 per cent for home consumption. Moreover, pastoralists spend a relatively small amount of cash on their livestock production since they do not pay directly for the major inputs of the system, i.e. family labour, livestock and land (see Bekure et al. 1987:350). Also, expenditure for schooling and travelling fall far below those made by cultivators. The effect of this ability of Maasai pastoralists to rely on their own food production for a major part and to have minimal expenditure for several inputs and services is shown by Campbell for the year 1976; while Maasai pastoralists and farmers had expenditure ratios as a percentage of income of 81 and 79 per cent respectively, non-Maasai farmers had expenditures of 174 per cent (Kikuyu farmers) and as high as 286 per cent (other non-Maasai farmers), as a result of being forced to use cash savings and stored food above the regular annual income for 1976.

[18] Thus Maasai pastoralists use some 50 percent of their production for their own consumption. By comparison, smallholders in Nyanza, Western and Central keep approximately 35 per cent of their production for subsistence. According to the ILCA survey more than 80 per cent of the total home consumption is accounted for by milk. It seems valid to conclude that this fact severely reduces the need for a cash inflow allowing a lower poverty-line as, for example, compared to the agricultural smallholders, the landless or the urban poor. Campbell's survey shows that Maasai farmers and non-Maasai farmers obtained over two-thirds of their subsistence needs from cultivation. Maize and beans alone were able to produce 64 and 5.4 per cent for Maasai and 55 and 15 per cent for non-Maasai' subsistence needs, respectively. In addition, Maasai farmers could rely on their cattle. This made Campbell (1978:36) conclude that 'In terms of provision of subsistence the non-Maasai farmers faced a more difficult situation than either the Maasai farmers or many Maasai pastoralists'.

2. A second remark towards Collier and Lal's use of Campbell's data concerns their statement that '1976 was a post-drought year' and 'income was evidently not regarded as being temporarily low, for mean expenditure was only Ksh. 2,641/yr' (World Bank 1983:300).[19]

These are disputable accounts. According to Campbell, and many other authors, 1976 was one of the worst years since the early 1960s drought. Rainfall amounted to an extreme minimum of 230 mm on average for Kajiado District. It ended a period of almost continuous below average rainfall in the drought-stricken Loitokitok area since 1973. Campbell's survey was conducted at the end of the drought, prior to the heavy rains of March-April 1977. The data concerning income and expenditure refer to the year 1976 and cannot be considered to reflect a post-drought situation. As Campbell states 'At the time of the survey (at the end of the drought) over 60 % of Maasai pastoralists were unable to meet their subsistence needs from their herds (...) the situation was very serious' (see Campbell 1978:10/23). Assistance was also provided by relatives and non-relatives, the Government and missions. In spite of this, returns of livestock related sales were sufficient to buy substantial amounts of grain (see Campbell 1978:8). An average of 53 per cent of total expenditure was used to buy food crops.

Taking all these factors together it will be clear that at least the variables affecting Maasai income and expenditure in 1976 are heavily biased; more animals were sold because of the drought. On the other hand, prices had dropped considerably, while those for grains had increased. It is hard to know the net result of these variables for the total cash income earned by Maasai pastoralists in 1976. Still, it seems rather questionable to use the annual income of this year as a firm basis for an estimation of the Maasai household income let alone other Kenyan pastoralists.

3. A third comment concerns Collier and Lal's guesswork as applied to their handling of the household size of pure pastoralists. Campbell's survey gives a figure of 13.4 persons or 10.5 adult equivalents for an average Maasai household. Collier and Lal rounded this figure up to 15. By adjusting the Ksh. 2,000/- annual income poverty line for smallholder agriculturalist households of 7 members, they estimated the pastoralists poverty boundary to be 15/7 x 2,000 = Ksh. 4,285/- a year per household (see table 1.1).

Data from other researchers depart in some cases significantly from this 15 persons household size estimate used by Collier and Lal. For example Sindiga (1986:109/217), who studied Maasai population pressure and related aspects for the Kajiado Maasai, used an overall 6 persons household size as confirmed by the 1979 population census (6.23 persons per household). Studies by other scholars in the Maasai area provide average household size figures in the range of 9.4 persons (Bille & Anderson 1980:23), 12.0 persons (Bekure et al. 1987:172-181) and 13.8 persons (White & Meadows 1981:16). Differences in household definition, variations in time, place and conductors of survey, will be responsible for (part of) this fluctuation.[20]

Many households are expanded by the incorporation of an individual from another

[19] By contrast, ILCA calculated a mean annual expenditure of Ksh. 9,393/- for 1981-83 and only 32 per cent of this amount was spent on food (see Bekure et al. 1987:332).

[20] A household according to official Kenyan sources comprises a person or a group of persons generally of the same kinship who normally reside together in the same house or in several houses within the same compound and share a common source of food and are answerable to the same head. It is probable that the inclusion or exclusion of dependents and/or household members who have temporarily migrated is responsible for the large variation between the various estimates.

household or even a whole sub-household (resident mothers, step-mothers and/or siblings). The ILCA survey (Bekure et al. 1987:172-3) found a share of 17 per cent of all households having unseparated married sons with their wives and children. Dependents are incorporated into other households because they have insufficient resources to be self-supporting.

Additionally, to offset a labour shortage for herding or domestic tasks 40 per cent of all households borrow children from other households. Poor households and rich are involved in this practice with the former lending out higher numbers. ILCA points to the correlation between wealth and household size and composition. Rich households are 80-100 per cent larger than poor ones and have a smaller percentage of their members coming from the nuclear family (man, his wives and children). In fact, it is a social mechanism relieving shortages of labour for the rich and helping the poor to overcome insufficient resources.

If one accepts a pastoral household size of less than 15 people, the poverty line for pure pastoralists should be lowered significantly. Applying Campbell's household size of 13.4 leads to a reduction of Collier and Lal's poverty line (i.e. Ksh. 4,258/-) to Ksh. 3,829/- (13.4/7 x 2,000 = Ksh. 3,828/60), while Sindiga's household estimate places it at Ksh. 1,714/- only.

4. Fourthly, different methods of data collection will have influenced the validity of the information gathered. While the ILCA team interviewed all adult members of households (n=282) once a month over a two-year period concerning their income and expenditure, Campbell's data were obtained from the head of the household (n=166) during one visit. It is well known that in the latter case an underestimation of real expenditure and income is inevitable.

CHAPTER 2

KENYA: ECONOMY, LAND AND PEOPLE

2.1 Introduction

Kenya covers an area of 582,646 km^2 of which about four-fifths is arid and semi-arid, receiving less than 700 mm of rainfall per year (eco-zones V-VII). Only a mere 18 per cent (104,844 km^2) constitutes the medium and high-potential areas (eco-zones I-IV receiving between 700 and 1,600 mm of rainfall annually). In total approximately 23.5 million people (1989 estimate) share this area. However, their distribution is highly concentrated in the high-potential regions where some 80 per cent of Kenya's population lives. Figure 2.1 shows the ecological zones and population distribution for Kenya.

Kenya's demographic situation has been characterized as 'among the most alarming in Africa' (see Bernard 1982:151). A population increase of 3.8 per cent per year as compared to a world average of some 1.8 ranks Kenya among the fastest growing countries in the world.[1] This fast population growth in Kenya is the result of a sharp decline in mortality (from 20 to 11 per 1,000 persons between 1965 and 1988), a still high crude birth rate (from 52 to 47 live births per 1,000 persons) and a continuing high total fertility rate (from 8.0 in 1965 to 6.9 in 1988). Although the average annual population growth figure is expected to decline to some 3.4 per cent, the total Kenyan population will rise to an estimated total of 34 million people by 2000 and by the year 2025 will amount to some 62 million people (see World Bank 1990:228).[2] This rapid growth is reflected in the population age structure of Kenya; 50.9 percent of its population is between 0-14 years of age! No other country in the world has more than half of its population in this cohort (see World Bank 1990:228).

Table 2.1 shows the Kenyan age cohorts. The combination of rapid population growth in the face of a limited supply of good agricultural land is the central problem of Kenyan development. It affects all elements of Kenya's development strategy. Given the nature of the age structure of the population, there will be short-run implications on the Government's ability to provide basic needs.

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[1] Leaving aside the oil producing countries of the Middle eastern region experiencing high growth rates due to immigration, only the Ivory Coast and Gabon reached higher than average annual growth rates of 4.0 and 3.9 respectively for the 1980-1988 period (see World Bank 1990:228/9). The latest figures of the United Nations estimate the Kenyan mid-1989 population to number 24,872 people. The 1985-1989 growth was placed as high as 5.0 per cent annually (see United Nations 1991).

[2] The World Bank figures do not take into account the effect of AIDS. Alarming reports from several parts of Africa, including Kenya, suggest a slowing down in the growth of the population. Nevertheless, the latest World Bank Report (1992:268) expects a total of 64 million Kenyans by 2025.

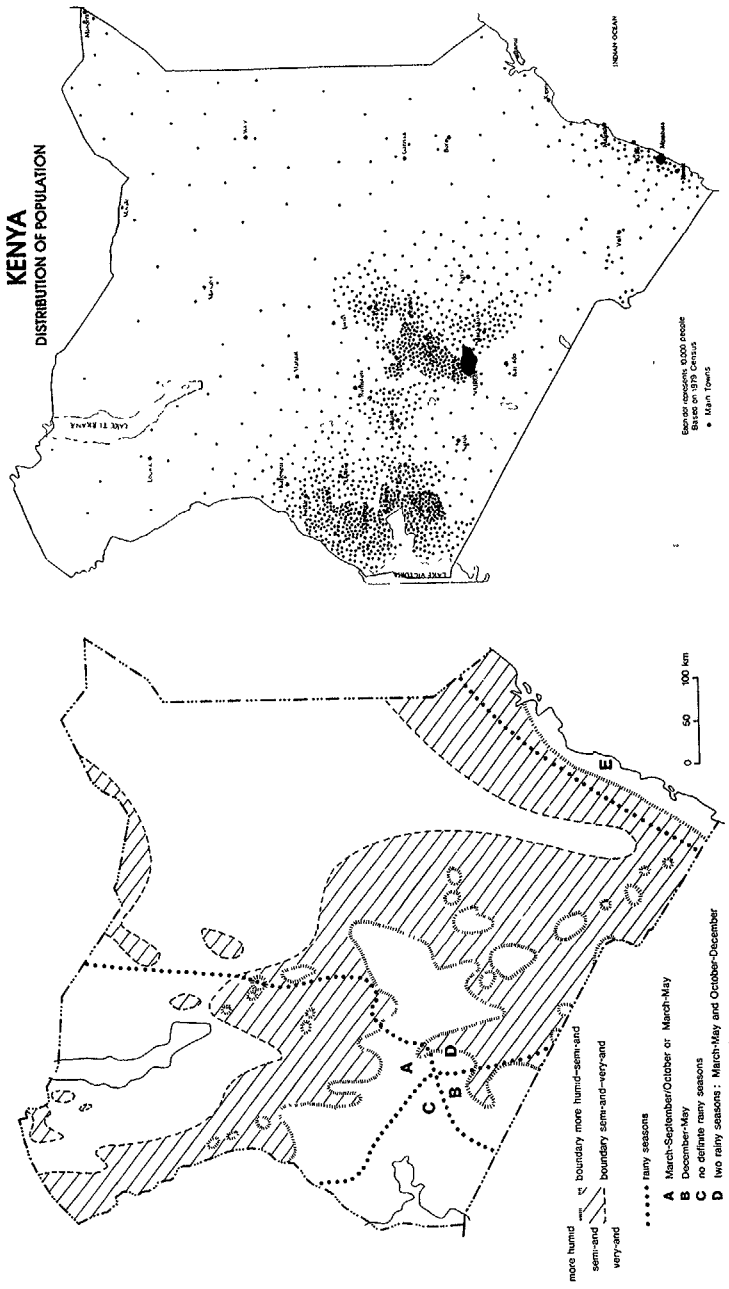

Figure 2.1 Kenya's Ecological Zones and Population Distribution
Source: Dietz 1987 and Population Census 1979

Table 2.1 Projected Population by Selected Groups in Kenya, 1989

Functional Age Groups	1989 ('000)
Total Population	23,513
Children (0-14 yr)	11,832
- Pre-School Age (0-5 yr)	5,523
- Primary School Age (6-13 yr)	5,707
- Secondary School Age (14-17 yr)	2,251
Female Reproductive Age (15-49 yr)	5,018
Productive Age (15-64 yr)	11,190
Old Age (65+ yr)	491
Potential Labour Force	9,139

Source: RoK 1988a:208 table 9.3

In the long term heavy pressure will be placed on the economy which is likely to induce the major structural and social changes necessary to absorb the greater labour force. In other words, the generation of today has to be absorbed into productive employment in the years to come in order to prevent widespread human misery. According to Hunt (1985:1) 'Kenya is on the brink of a major human crisis. Between 1976 and the year 2000 8 million people are expected to enter the labour force. This in an economy in which in 1982 the total labour force was 7.6 million (in 1976 6.2 million). These labour force entrants are already born'.

Before considering the implications of the new jobseekers for the Kenyan economy, let us first examine the structure of this economy; its sectors and their contribution to the national economy as well as its growth.

2.2 The Kenyan Economy: Structure and Performance

2.2.1 Introduction

The Kenyan economy belongs to the low-income economies of the world. It ranks 25th having an average per capita GNP of 370 US$ in 1990. Table 2.2 shows some of the basic indicators for social and economic development for Kenya in comparison to the whole of Sub-Saharan Africa, the low-, middle- and high-income economies and the world. The relatively good performance of the Kenyan economy, as illustrated by the average annual GNP per capita and inflation figures, in comparison to the rest of Sub-Saharan Africa is also demonstrated by table 2.2. Furthermore, life expectancy and literacy confirm Kenya's favourite position among this group of African countries. A striking feature of the Kenyan population is its high percentage of those living in the rural areas as compared to other countries. Besides the capital city of Nairobi, populated by some 1.5 million people, six more cities, Mombasa, Kisumu,

Nakuru, Machakos, Meru and Eldoret, fall in the range of above 100,000 inhabitants. In 1989, a total of 4.3 million people was estimated to live in 172 urban centres (having at least 2,000 inhabitants) (see RoK 1988a:74).

Table 2.2 Basic Indicators for Social and Economic Development

	GNP/Cap		Average annual inflation		Life expectancy (years)	Adult illiteracy (%)	Rural population (%)	
	US$	av. an. growth						
	1990	65-90	65-80	80-90	1990	1990	1965	1990
Kenya	370	1.9	7.2	9.2	59	31	91	76
Sub-Saharan Africa	340	0.2	11.4	20.0	51	50	86	71
Low income economies	350	2.9	8.0	9.6	62	40	83	62
Middle income economies	2,220	2.2	21.1	85.6	66	22	58	40
High income economies	19,590	2.4	7.7	4.5	77	4	29	23
World	4,200	1.5	9.2	14.7	66	35	66	50

Source: compiled from World Bank 1992:218-19/278

Table 2.3 displays Kenya's structure and growth of production. It demonstrates that the Kenyan economy, after Independence and up to the 1980s, performed very well and grew at an annual rate of 6.8 percent. This growth was based largely on the transfer of land from large to small farm use, extension of the area under cultivation of high value crops and industrialization based on a strategy of import substitution (see RoK 1988a:4). Economic growth slowed down to 4.2 percent for the 1980-90 period. This setback had already started by the mid-1970s, resulting in an average growth of 4.1 per cent per year during 1972-1980 only (see World Bank 1983:xi), not much above the population growth.

Table 2.3 Structure and Growth of Production Kenya and the World, 1965-90

	GDP (US$ million)		distr. of GDP			av. annual growth and 65-80				80-90			
			agricul		industry		services		GDP		agricul.		industry		services	
	1965	1990	65	90	65	90	65	90	65-80	80-90	65-80	80-90	65-80	80-90	65-80	80-90
Kenya	920	7,540	35	28	18	21	47	51	6.8	4.2	5.0	3.3	9.7	3.9	7.2	4.9
Sub-Sah. Africa	27,020	162,940	40	32	20	30	39	40	4.2	2.1	2.0	2.1	7.2	2.0	4.7	2.5
Low inc. ec.	168,700	915,520	41	31	26	36	32	35	4.9	6.1	2.6	3.9	7.3	8.2	6.2	6.5
Middle inc. ec.	209,520	2,437,660	19	12	34	37	46	50	6.3	2.5	3.4	2.4	6.7	2.3	7.4	2.6
High inc. ec.	1,413,490	16,316,290	5	..	43	.	54	..	3.7	3.1	..	1.7	2.7	..	4.5	..
World	2,039,890	22,298,850	10	..	41	..	51	..	4.0	3.2	1.7	2.7	..	..	..	..

Source: compiled from World Bank 1992:220-23

International and national problems were among the causes for this reduced economic growth rate; the energy crises of the 1970s, international recession, high interest rates, dramatic swings in the prices of Kenya's key exports coffee and tea, the collapse of the East African Community, narrowing scope for

efficient import substitution, slow agricultural growth due to unfavourable climatic conditions, diminished scope for the expansion of production on un or undercultivated high-potential land and a switch to industrialization to the detriment of agriculture. The manufacturing sector has been increasingly oriented to the processing of intermediates for the domestic market, making it more dependent on imported inputs and less capable of generating the exports required to pay for these imports.

Although the contribution of the services sector is responsible for 49 percent of the national GDP it is still agriculture which is considered to be the mainstay of Kenya's economy as it provides the basis for the development of other sectors of the economy. Coffee and tea are by far the most important cash crops, accounting for some 64 percent of the agricultural export total. In fact, besides petroleum products (12.0 percent), coffee, tea, and horticultural products are the most important export commodities comprising 26.6, 20.2 and 12.5 per cent for 1988, respectively (see Statistical Abstract 1990:58). However, exports have grown very slowly, if at all, and have become concentrated in the above mentioned commodities. The tourism sector has grown in importance over the last decade, and has even overtaken coffee and tea as a major source of foreign exchange earnings, but it is also a very uncertain branch of the economy (see section 7.5).

From table 2.3 we also learn that the growth of the industrial sector was much higher until the 1980s, as compared to this last decade, when it experienced a very modest rate of growth despite an official Government policy geared at promoting industrial production. Again, in respect to other Sub-Saharan countries Kenya's industrial performance was much better, but in comparison with the industrial growth of other low-income economies outside Africa, Kenya lagged behind. On the whole the country's terms of trade have deteriorated and outstanding external debt has risen from 12.4 per cent in 1978 to 35.8 percent of GNP in 1987 (see RoK 1988a:15). This adds to another burden; the lack of employment opportunities for a fast growing number of people. In section 2.3 we will examine this issue in more detail. Before turning there we should briefly present information concerning the position of the livestock venture within the agricultural sector of the Kenyan economy.

2.2.2 The Kenyan Livestock Sector

According to the 1989-1993 Development Plan the Kenyan Government aims at a diversification of agricultural production, while at the same time specifically promoting seven major commodities; coffee, tea, maize, wheat, milk, meat and horticultural crops. Coffee and tea should provide agricultural incomes and exports. Maize, wheat and meat should secure the domestic food supply, while milk and horticultural products aim at both (see RoK 1988a:106).

From table 2.4 we learn that the growth in the marketed output in monetary terms has especially occurred in coffee and tea which have overtaken the initial

leading position of beef and dairy products. The last column shows the importance of each of the officially marketed products with respect to the domestic export of Kenya for 1988. Horticulture (12.5 percent), petroleum products (12.0 percent), hides and skins (2.8 percent) and sodium carbonate (2.0 percent) are among the other main export commodities.

Table 2.4 Gross Value of Marketed Output of Some Major Agricultural Commodities at Constant 1972 Prices (K£ million)

	1955	1964	1972	1980	1982	1988	As % of *export value* in 1988
Coffee	5.0	16.2	24.2	35.6	34.0	47.9	26.6%
Tea	2.6	6.1	16.0	26.9	28.7	49.0	20.2%
Maize	4.1	2.7	7 3	4 2	11 1	20.7	2.4%
Wheat	3.4	3.4	4.2	5.5	5.9	5 5	-
Sisal	1.8	3.1	1.9	2.2	2 3	1 7	1.3%
Sugar cane	0.9	1.8	3.1	11 2	8.7	9.8	-
Beef	7 4	13.4	16.5	14.0	19.6	21 9	-
Dairy	5 0	6.6	10.9	10.0	13.4	18.1	-
Sub-total	30.2	53.3	84.1	109.6	123.7	174.6	50.5%

Source: author's compilation of World Bank 1983:330; Statistical Abstract 1982, 1985, 1988, 1990

Livestock production in Kenya is a very diverse activity in terms of all aspects such as production goals and applied technology as well as producer, pasture and livestock characteristics.[3] Beef and dairy animals of different quality are kept, mainly by distinct groups of producers in separate regions of the country geared on the one side at full (milk) subsistence and on the other to intensified commercialized production of high grade meat for export to Europe.

Table 2.5 shows these different livestock production systems over the different ecological zones. The data presented are based on the 1983 livestock census performed by the Ministry of Agriculture and corrected by Sloan. It was estimated that a total of 10,930,000 cattle, 6,630,000 sheep and 7,730,000 goats made up the Kenyan livestock herds and flocks. Out of these 32.2, 55.1 and 54.1 per cent respectively belonged to the pastoralists, mostly for subsistence reasons. Camels and donkeys are not included in this overview but are estimated to total some 800,000 and 250,000, respectively, almost all restricted to the low-potential rangeland zone.

The commercial livestock sector comprises large ranches in the disease free higher rainfall zone (i.e. zones I, II and III). This is the zone that was occupied gradually by the Europeans when they arrived at the end of the 19th century, pushing the African pastoralists towards the arid and semi-arid regions. Nowadays, the ranches are in the hands of companies or rich individuals either

[3] For an indepth analysis of the Kenyan livestock sector we would like to refer to studies done by UNDP/FAO (1967), Raikes (1981), Evangelou (1984) and FAO (1984).

held under freehold arrangements or leased from the government. Improved beef and high grade dairy cattle stay on these large farms using high inputs of capital for extra feed and disease-omitting measures.

Table 2.5 Livestock Population by Zones and Production Systems ('000 head)

	Cattle	Sheep	Goats
High-potential areas			
(zones I, II and III)			
Smallholders	4,830	1,440	1,380
Commercial enterprises	390	240	
Total	5,220	*1,680*	*1,380*
Medium-potential rangelands			
(zones IV and V, part of zone VI)			
Smallholder mixed farming	960	1,000	2,170
Commercial ranching	1,230	300	
Pastoralists (including group ranches)	1,680	1,630	1,710
Total	3,870	*2,930*	*3,880*
Low-potential rangelands			
(zone VII, part of zone VI)			
Pastoralists	1,840	2,020	2,470
Grand Total	10,930	6,630	7,730

Source: Bekure et al. 1987:24

Most improved dairy animals, however, are owned by smallholder farmers in the better watered parts of Kenya. These smallholders also keep a major share of all indigenous cattle and small stock of Kenya (some 47.8 and 21.3 per cent, respectively). So, by far the densest concentrations of cattle are found in western Kenya, Nyanza and Western Provinces and are kept by peasant cultivators. Cattle, sheep and goats are often grazed on crop residues and on any public land available such as roadsides. The animals provide an additional source of food next to the crops cultivated on the small parcels. Milk and animals are also marketed.

The medium and low-potential zones (i.e. the semi-arid and arid zones IV, V, VI and VII) are inhabited by 4 to 5 million people. Some three quarters of this human population possess about one third of the total livestock units under smallholder mixed farming conditions comprising approximately one quarter of the rangeland zone. The medium-potential rangeland zones are also inhabited by commercial ranches including individual ranches, company ranches and co-operative ranches (see section 3.5 and figure 3.4). The remaining quarter of the human population in the rangelands is made up of (semi)-nomadic pastoralists. They either stay within group ranches or roam freely around with their animals in the traditional grazing areas. They keep relatively large herds of mostly indigenous cattle, small stock, camels and donkeys (almost 70 per cent of all

livestock units or 61.6, 73.7 and 65.8 per cent of all cattle, sheep and goats in the Kenyan rangelands, respectively).

Each of these species have their specific food requirements and production characteristics which allow the pastoralists to optimize the use of the natural habitat and diminish the risks involved in livestock keeping as set by harsh environmental conditions. For example, camels and goats are browsers as opposed to cattle and sheep who are grazers. In addition, each of these species have different water requirements and rates of survival and reproduction. In general some 60-70 per cent of the pastoralists' cattle are cows as the owners' main goal is production of milk for subsistence. Increasingly crossbreeds are brought within these herds to optimize output. Small stock is the main supplier of meat and often bartered or sold in exchange for other foodstuffs or cash. Cattle sold by pastoralists is either unproductive, old, sick or weak or very young steers. This last category is not seldom transported from the very dry regions in the north of the country for fattening in the southern semi-dry areas and on the commercial ranches. So, in spite of different farmers' production goals and regional characteristics, the distinct livestock enterprises in Kenya are interlinked to form a stratified, integrated and specialized livestock production system.[4]

As stated by several authors and the Ministry of Livestock Development itself we should be very careful about livestock (offtake) figures as up dated basic data is missing.[5] Still, to assess the (potential) capacity of the livestock sector let us look at some of the production factors involved (i.e. livestock numbers, breed type of animals and the quantity and quality of land available).

Firstly, the livestock population of Kenya immediately prior to the 1984 drought was estimated to be 11.5 million head of cattle (see Evangelou 1984:7). If this figure is correct, we estimate that by the late 1980s the Kenyan stock will have recovered to this same number of cattle or slightly above. Table 2.6 gives an overview of predictions about livestock numbers made by the Food and Agricultural Organization of the United Nations (FAO).

[4] Still, according to Evangelou, increased stratification of Kenya's livestock industry is thought to have been impeded by the lack of sufficient finishing facilities for absorbing rangeland immatures. For example, the World Bank calculated that if Kajiado and Narok were stocked with 1.0 million head (compared to 1.5 million now), in order to stabilize the population, fattening arrangements would have to be made for 180,000 young steers and heifers annually, and this number alone would nearly fill the present areas of commercial ranches (see Evangelou 1984:72). Feedlots for fattening were given high priority by the government in the late 1960s. Test trials of 70 day periods in feedlot conditions raised the edible meat content of a low quality carcass by 50 percent, and did so profitably (FAO/World Bank 1977a:73).

[5] For example, Raikes (1981:192) states that the slaughtering of cattle and other stock in rural areas is very much less controlled and a number of major towns are ringed by "rural" butcheries, which sell meat to the towns. In addition, there is a substantial illegal urban trade, which is steadily growing.

Table 2.6 Total Number of Livestock Species in Kenya, 1960-90

Year	Cattle ('000)	Sheep ('000)	Goats ('000)	Camels ('000)
1960/61	7,442	6,742*	n.f.a	n.f.a
1961/62	7,386	5,004f	6,400f	171f
1962/63	7,513	4,997f	6,600f	173f
1963/64	7,236	4,928f	6,200f	175f
1964/65	7,206	5,027f	6,300f	177f
1965/66	7,740	5,375f-7,000f	6,400f	178f
1966/67	7,730*	7,200f	6,500f	179f
1967/68	7,750f	7,300f	6,600f	180f
1968/69	7,800f	7,450f	6,700f	182f
1969/70	7,850f	7,500f	6,800f	184f
1971	8,170f	3,515f	4,000f	320f
1972	7,760f	3,339f	3,800f	322f
1973	7,370f	3,172f	3,600f	325f-520
1974	7,400f	3,500f	3,800f	530f
1975	7,600f	3,600f	4,100f	530f
1976	7,500f	3,611f	4,100f	564f
1977	9,400*	3,500	4,390	540f
1978	9,960*	3,980	4,415	550f
1979	10,470*	4,000f	4,500f	550f
1980	11,000	4,700f	5,000f	608
1981	11,500	5,100f	5,300f	609
1982	12,000	5,500f	5,500f	610f
1983	12,500f	6,400	7,500f	620f
1984	13,082	6,588	7,775	774
1985	12,000f	7,000*	8,200f	600f
1986	9,000f	7,100f	8,000f	790f
1987	9,500f-12,645	7,200f	8,300f	780f
1988	9,800f-13,050	6,317*	7,000*	790f
1989	13,457	6,325*	7,500*	800f
1990	13,793	6,516*	8,000*	810f

Source: FAO/PY 1961-90

Note: f=FAO estimate; *= unofficial reliable source. FAO livestock figures for a particular year are often altered in more recent FAO publications. As a result we should be very careful in interpreting this data. For example, the increase in cattle numbers from 1976 to 1977 is simply due to new information. For the years 1987 and 1988 double figures are presented as the FAO adjusted its initial estimate. Moreover, for some years the figures exclude livestock available on smallholdings of less than 2 ha and/or in the hands of pastoralists. The drop in small stock numbers after 1970 is due to the exclusion of the pastoral areas, whereas the rise in the number of sheep in 1965/66 results from inclusion of animals on holdings of less than 2 ha. Figures for camels were initially based on village countings only.

The FAO made an estimate for 1988 of 9.8 million cattle and 15.8 million shoats (see FAO/PY 1988). In its 1989 production yearbook, however, this 1988 figure was changed to 13.1 million cattle and 13.3 million shoats (see FAO/PY 1989). This again stresses the lack of reliable data concerning livestock numbers in Kenya.

Secondly, besides the number of cattle and small stock we are interested in the

type of breed of these animals. Raikes estimated that for 1970 there was a total of 702,000 grade dairy cattle and 422,000 improved beef animals in addition to some 8,807,000 indigenous Zebu.

As compared to the early 1970s, the number of improved animals is on the increase. For 1978 the Ministry of Livestock Development assessed a total cattle population of 10.2 million of which 1,127,000 were improved dairy, 660,000 improved beef and 8,460,000 unimproved animals (see RoK/MLD 1980:10). For 1983 an estimate was made of some 2 million grade dairy animals mainly in the hands of smallholders from the high-potential zones (see Bekure et al. 1987:20). Unfortunately we have no figures for the number of improved beef animals, most of them staying on the large farm commercial ranches of the medium-potential zone.

Thirdly, the quantity and quality of land available for livestock production in Kenya should be assessed. The Ministry of Livestock Development estimated that in 1975 some 50.31 million hectares were available for grazing. This area was thought to be able to support a total of 12 million livestock units, while only 6 million were available at that time. The amount of land available was expected to decline to about 48.7 million hectares by 1990 due to increasing cultivation and other land uses. As a result the supportable number of livestock units was expected to drop to 10 million livestock units.

Table 2.7 Amount of Land Available for Grazing (Million Hectares) and Carrying Capacity (Million Livestock Units) per Zone, 1975-90.

	1975		1990	
Zones	Million ha	Million L.U.	Million ha	Million L.U.
II High-	2.0	3.8	1.6	3.0
III Potential	4.0	4.0	3.0	3.0
IV Semi-	5.4	1.4	5.2	1.4
V Arid	26.0	2.2	26.0	2.2
VI Arid	13.0	0.4	13.0	0.4
Total	50.4	11.8	48.8	10.0

Source: RoK/MLD 1980.11

Table 2.7 shows that the decrease in land available for grazing is expected to occur in the high-potential zones (II and III), including patches of these inside low-potential areas, mainly. Besides a decreasing availability of land for livestock production the major constraints to livestock development in Kenya include livestock diseases, poor marketing facilities, low prices, harsh climatic conditions including periods of severe droughts, lack of improved breeds and competition from wildlife (disease transmission, predation). As a result it is feared that Kenya's production of meat will, in the future, possibly not be able to keep pace with the growth of the human population.

The 1977 FAO/World Bank report on meat production and trade in the Near East and East Africa projected a deficit in domestically produced sheep and goat meat of some 15,000 tons for Kenya as early as 1980, increasing towards 25,000 tons for 1985. For 1985 a shortage of beef and veal of approximately 10,000 tons was foreseen. In reality domestic livestock production (i.e. officially slaughtered animals including meat exported, excluding imported animals) lagged behind these projections in the case of beef and pork, while the small stock meat production was more than threefold the 1985 projection (see table 2.8).

Table 2.8 Projected and Actual (Officially) Slaughtered Meat of Bovines, Small Stock and Pigs and Potential Availability for Export in Kenya 1980-85 ('000 Tons)

	1980 projected	1980 actual	1985 projected	1985 actual
Beef & buffalo	187	193	229	189
Small stock	17	39	15	45
Pig	8	4	10	4
Export availability (+) Import requirement (-)				
Beef & buffalo	+9	+15	-10	-50
Small stock	-15	+7	-25	+5
Pig	+1	-3	+2	-4

Source: FAO/World Bank 1977a:118/134; FAO/PY 1982, 1985

In 1980 the Ministry of Livestock Development published its National Livestock Development Policy document. It stated that the main objective of future livestock development policy was to help the nation avoid any shortfalls in livestock production (see RoK/MLD 1980:1). These strategies and objectives were recently restated in the Sixth National Development Plan (see RoK 1988a:121).

In the Policy document the 1980 demand for beef was estimated at 135,000 tons and was projected to increase to well over 200,000 tons by 1990. The 1980 supply was stated to be 140,000 tons of beef. According to the Sixth Development Plan the supply for 1987 was 171,000 tons, while the 1993 production target was set at 181,000 tons (see RoK 1988a:107/110). This would mean a projected deficit of 42,000 tons of beef for this last year as the 1993 demand was calculated to be 223,000 tons. FAO production estimates are higher for production as well as demand. For 1980 the FAO gives an estimate of 193,000 tons of locally produced beef rising to 228,000 tons for 1989 and

even 330,000 tons for 1990 (see FAO/PY 1983, 1990, 1991 and table 2.9).[6]

Table 2.9 Livestock Production in Kenya 1964-90

	Bovine Com. & Sub. Slaughter (1,000 h)	Bovine Com. Purchase (Parast) (1,000 h)	Shoats Com. & Sub. Slaughter (1,000 h)	Shoats Com. Purchase (parast) (1,000 h)	Bovine Com. & Sub. Slaughter (1,000 t)	Bovine Com. Purchase (Parast) (1,000 t)	Shoats Com. & Sub. Slaughter (1,000 t)	Shoats Com. Purchase (Parast) (1,000 t)	Total Meat Slaughter (1,000 t)
1964	n.f.a.	156	n.f.a.	115	n.f.a.	25.3	32f	1.32	162
1965	n.f.a.	185	n.f.a.	110	n.f.a.	25.1	32f	1.27	171
1966	n.f.a.	188	n.f.a.	63	n.f.a.	27.9	31f	0.72	167
1967	n.f.a.	216	n.f.a.	67	n.f.a.	31.4	32f	0.77	174
1968	n.f.a.	184	n.f.a.	53	n.f.a.	30.4	31f	0.61	185
1969	n.f.a.	185	n.f.a.	99	n.f.a.	26.3	28f	1.14	189
1970	905f	196	2250f	112	131f	28.0	26f	1.29	196
1971	859f	210	2196f	100	132f	26.1	26f	1.15	201
1972	801f	199	2080f	101	137f	26.9	25f	1.16	208
1973	759f	155	2060f	36	141f	22.7	24f	0.41	213
1974	780f	159	2150f	18	143f	19.8	25f	0.21	217
1975	830f	134	2500f	33	131f	16.6	29f	0.38	212f
1976	920f	229	2600f	17	145f	26.9	32f	0.20	228f
1977	1350f	158	2920f	17	189f	20.6	37f	0.20	278f
1978	1245f	68	2960f	22	192f	8.9	43f	0.25	290
1979	1400f	68	3130f	12	192f	8.9	43f	0.14	293
1980	1540	56	3380f	9	193f	7.3	36f	0.10	286
1981	1610	61	3642f	9	209f	8.4	37f	0.10	262f
1982	1680f	75-310	3850f	15-108	219f	9.8	38f	0.17-1.24	289f
1983	1640	84-384	3420f	6-293	198f	10.7	40f	0.07-3.37	304f
1984	1650	223-614	2888	15-714	204f	38.4	33f	0.17-8.21	303f
1985	1560f	? -524	3900f	?-764	189f	25.5	45f	?-8.79	300f
1986	1170f	? -427	3730f	?-818	145f	n.f.a.	43f	?-9.41	261f
1987	1684	? -524	4013	?-875	164-212f	n.f.a.	45-46f	?-10.06	280f-340
1988	1737	? -701	3406	?-942	173-239f	n.f.a.	45-51f	?-10.83	295f-362
1989	1789	? -752	4700	?-998	228f	n.f.a.	54f	?-11.48	357
1990	1878	n.f.a.	4936	n.f.a.	330f	n.f.a.	56f	n.f.a.	466

Source: FAO/PY 1987-1991; Raikes 1981; Statistical Abstract 1982, 1988, 1989

Note: Com.= commercial; Sub.= subsistence; Parast.= parastatal; f= FAO estimate; n.f.a. = no figures available. For 1982-1990 in the commercial purchase by parastatals columns two figures have been included to illustrate the change in recording by the statistical department. Also for 1987 and 1988 we included two sets of data, both FAO estimates made in following yearbooks.

Whatever the exact figures will be, it is felt that Kenya will probably not be able to become a major exporter of meat as foreseen by the FAO in the mid-1980s (see FAO 1985c:84). There is in fact a risk that Kenya will be forced to import meat in the near future. By early 1990 the Minister for Livestock Development called upon local researchers to find ways to curb the predicted

[6] It should be noted that the FAO 1987 estimate of 212,000 tons of beef published in 1990 differed significantly from the FAO 1987 production figure published one year earlier which stood at 164,000 tons of beef only (see FAO/PY 1989, 1990).

shortfall in the production of livestock in the country by the turn of the century (see KT 18/01/90).

The crux of the matter in this selfsufficiency aspect will be whether the growth in livestock production will be able to offset the growth in the Kenyan human population, which happens to be among the highest in the world. Unfortunately, per caput livestock production figures for Kenya are even more prone to "guestimates" due to the fact that exact and reliable figures for both human and livestock population totals are not known. As a result FAO livestock production per caput index figures for 1988 as published in 1989 differ significantly from the 1988 estimate published in 1990 or again in 1991. The latter estimate for the year 1988 of 123.66 suggests a growth in per caput production as compared to 1979-81 average production level (=100), whereas the former figure of 82.04 would imply the opposite situation (see FAO/PY 1989, 1990, 1991).

The Ministry of Livestock Development foresaw the same bleak future for milk. In 1987 1,503,000 tons of milk were produced, mainly by improved dairy animals from the high-potential areas. For 1993 this figure is estimated to rise to 1,693,000 tons, while the demand will be for 2,500,000 tons. The rising shortages are reflected in the decline in the export volume of livestock related products. FAO milk production estimates for 1987 have recently been changed from 1,001,000 tons to 2,055,000 tons. This again illustrates the care that should be taken in drawing too strong conclusions based on this data. The FAO estimate for the production of milk in 1990 is 2,340,000 tons. If correct, this comes close to the expected 1993 demand.

To secure food supplies the Ministry of Livestock Development, in co-operation with other ministries and institutions, has several instruments at national, regional and district level by which it is able to influence production Marketing of agricultural products in Kenya is dominated by state-controlled institutions at almost every level. For example, the Minister of Finance sets the prices for most products at producer and consumer levels, as empowered by the Price Control Act. For livestock products this practice has continued until recently when the Government decontrolled (bovine) meat prices at the producer, wholesale and retail levels. During the 1970s real prices paid to producers by the state owned meat processing Kenya Meat Commission (KMC) remained more or less unchanged, whereas for small stock they declined dramatically (see box 2.1).

Box 2.1 Change in Livestock Prices for Consumers and Producers

Prices paid to producers and consumers of meat, milk and maize over the years are presented below (see table 2.10). It should be noted that these are *official* prices. In other words, overall producer livestock prices will have been above this estimate. Still, the real prices received by the primary producers will have been less than these figures, as the animal changes hands several times between the producing household and the wholesale producer (KMC, private abattoir or local butcher) before reaching the slaughterhouse.

Retail prices paid outside Nairobi will be slightly higher for processed and packed products due mainly to transport costs, while ready-made fresh products like meat and milk are often cheaper than in the Nairobi area.

Table 2.10 Producer and Retail Prices of Selected Agricultural Products

Official Producer Prices	1970	1975		1980		1985		1987		1989	
	Ksh.	Ksh.	+%	Ksh.	+%	Ksh.	+%	Ksh.	+%	Ksh.	+%
Beef high grade (CAQ)	3.49	5.98	71	10.43	199	21.61	519	21.52	517	24.00	588
Beef low grade (3rd)	2.73	4.74	74	9.60	252	14.92	447	16.69	511	19.00	596
Mutton	4.19	7.00	67	9.48	126	21.98	425	21.48	413	n.f.a	
Milk	0.53	0.85	60	1.46	175	2.85	438	3.25	513	3.75	608
Maize	0.28	0.70	154	0.95	247	1.87	580	2.09	660	2.23	696
Average Retail Prices Nairobi	Ksh.	Ksh.	+%	Ksh.	+%	Ksh.	+%	Ksh.	+%	Ksh.	+%
Beef high grade (CAQ)	11.76	13.33	13	25.46	116	46.41	295	53.37	354	64.01	444
Beef low grade (3rd)	5.34	7.40	39	13.00	143	21.00	293	25.13	371	30.17	465
Mutton	9.98	16.50	65	23.74	138	49.42	395	52.45	426	60.06	502
Milk	1.50	1.90	27	2.76	84	5.50	267	6.00	300	7.18	379
Maize flour	0.55	1.19	116	1.65	200	4.11	647	4.65	745	5.00	809
Maize grain	0.55	1.00	82	2.69	389	6.21	1029	6.50	1082	6.50	1082

Source: Statistical Abstract 1976, 1982, 1990; Standard 30/08/89

Producer prices set for beef are by grade. Sheep and goat meat are not graded. The Price Control Act also fixed maximum retail prices for beef with bone, beef without bone; mutton/goat meat; liver, heart, tongue and kidney; and tripe. The prices vary by locality but do not take into account different grades. According to Evangelou (1984:58) this has resulted in butchers mostly willing to purchase lower-grade carcasses as this brings them a higher net return per kg. They also offer higher grade meat to restaurants at above authorized prices.

The Kenyan Government deregulated the fixed floor prices for producers and consumers of bovine meat in February 1987. The effect of this measure on the total level of marketed animals is hard to determine as many other factors, like the closing of the KMC and periods of drought and disease, influence take off figures from the arid and semi-arid areas. In terms of profitability a figure of approximately 30 per cent rise in livestock farmers' incomes has been mentioned over a period of two years since the decontrol of livestock prices (see DN 13/01/90).

Evangelou studied livestock marketing in Maasailand in the early 1980s and also concluded that 'expansion of livestock production in Kenya's Maasailand foremost requires unbiased pricing policies (...) A price structure for Kenya's livestock industry which is not biased against producers stands first among needed institutional reforms' (Evangelou 1984:252).

World-wide, governments have kept down the cost of living in the cities. Their policy in fact meant subsidizing food for the urban population at the cost of rural producers. As stated by the FAO/World Bank 1977 report this so-called "cheap meat" policy has 'led in some countries to a distorted relationship between retail prices and domestic producer prices, maintaining the latter at unprofitable levels' (FAO/World Bank 1977a:45).

In addition to price setting, a large body of legislation regulates how, where and when stock and produce may be moved (see Raikes 1981:189-91). The regulations for the marketing of meat in Kenya are controlled by the KMC and the Livestock Marketing Division (LMD). The KMC runs two factories: one in Athi River (near Nairobi) and another in Mbirikani (near Mombasa), while the LMD is responsible for livestock purchases. Both parastatal bodies have their roots in the colonial period. In the past the "quarantine policy" has often been misused in favour of the "modern" sector and at the cost of the "traditional" livestock sector. It blocked fair competition to keep producer prices of meat artificially (too) high. Nowadays, quarantine regulations are still in force permanently or temporarily especially for the northern rangelands. Traders, however, do violate these rules, resulting in the transportation of animals between districts as well as countries.

Thus, KMC/LMD face stiff competition on the local market as producers prefer to deliver their animals to private abattoirs. At least nine are operative around Nairobi. Their popularity stems from higher and immediate payments, whereas it takes two weeks to two months for KMC to pay the livestock keepers while offering less favourable prices. Moreover, producers are not allowed to have the offal and skins free as the private abattoirs do (see DN 12/10/86).

With a rapidly growing local demand for meat this means that growing proportions of total supply are diverted away from exports, KMC's main outlet, to these more lucrative non-official markets (see Raikes 1981:127 and below). As a result KMC has not been used to full capacity (1,250 cattle and 700 shoats per day) in the last 15 years. By the middle of the 1980s the KMC ran into severe problems as it lost some Ksh. 190 million over the years 1983-85 (see DN 12/10/86). Recently the KMC underwent a major revitalization after it had been forced to close down by the late 1980s (see box 2.2).[7] Moreover, as mentioned by FAO (1985c:84) 'in recent years, disasters of climate, particularly prolonged drought, and other external circumstances have considerably limited exports'.

[7] The failure of KMC does not stand alone. The Government of Kenya concluded in its Sixth Development Plan that parastatals and nationwide monopolies had performed poorly due to lack of competition and weak management. Most parastatals in Kenya are not cost-effective (see RoK 1989:114). After analyzing the performance of 17 agricultural parastatals from Independence to 1984 Barbara Grosh concluded that since 1976 several firms had developed financial problems. KMC was classified as a firm having chronic deficits since 1974. The current strategy of increasing Government control was predicted to fail (see Grosh 1986:41).

Box 2.2 Decline and Revival of the Kenya Meat Commission (KMC)

In the early 1970s KMC's legal monopoly over commercial slaughter was relaxed and private slaughterhouses were officially permitted to operate for the first time (see Evangelou 1984:66-68). According to FAO/World Bank figures some 16 small abattoirs with a daily total capacity of 300 cattle and 300 sheep slaughterings were licensed by the KMC (see FAO/World Bank 1977a:41). It was intended that KMC concentrated on Kenya's export market, while local urban markets would be supplied by private firms. Before the collapse of the KMC Kenya was the third largest supplier of corned beef in Europe (mainly to the U.K.).

The performance of the Kenya Meat Commission started declining in 1975. By late 1980 it was operating at only two-fifths of its weekly production capacity of 750 tons. KMC's problem of securing sufficient throughput for profitable operation can be largely attributed to increased competition from private abattoirs, especially those in the Nairobi outskirts. The Government directive to intervene during the drought of 1984 by way of buying large numbers of cattle irrespective of their condition (at too high prices) is said to have hastened this process of decline. This operation caused the parastatal to incur losses estimated at Ksh. 36.75 million.

The ill-fated Government abattoir ground to a halt at the height of crippling financial problems in November 1987. KMC owned farmers some Ksh. 4 million. KMC was revived on July 24th 1989. It's name was changed to the Kenya National Meat Corporation 60 per cent being in private hands (shareholders) and the remaining 40 per cent owned by the ADC (see Standard 23/08/89). Under this new management plans have been made to open branches in Garissa and Nakuru, but most importantly to improve its operations by timely (next day) payments to producers, fair payments and the like.

The Livestock Marketing Division (LMD)

Whereas the processing and sale of meat was in the hands of the KMC, the Livestock Marketing Division's responsibility was primarily the purchase of stock in the pastoralist's areas. For this purpose stock routes and holding grounds for quarantine (of up to 6 month periods) to prevent the transmission of diseases (esp. CBPP) were created. LMD was created in 1970 replacing the African Livestock Marketing Organization (ALMO). The LMD, though successful in creating the marketing infrastructure, was not able to compete with the private traders. For example, Njiru reports for the Rendille pastoralists in Northern Kenya that only 26.1 percent of all cattle sales in 1980 were sold to LMD, while local shopowners (37.1), local slaughter (18.8) and itinerant traders (17.9) were the other offtake destinations (see Njiru 1986:337).

Private traders offered higher prices, direct payment and (illegally) exported animals towards the butcheries in the main urban centres, whereas the LMD concentrated on feeder cattle for fattening on commercial ranches and slaughter cattle for the KMC. Since 1983/4, however, the Treasury did not provide the LMD with funds for the purchase of cattle. Its task was taken over by the KMC and local traders (see Mweya 1986:327).

Livestock Weights and Offtake Rates

Average carcass weights for (officially marketed) cattle in Kenya have been said to have declined from 145 kg in the early 1970s to 125 kg by 1988 (see FAO 1989). Sheep and goat carcass weights were 12 and 8 kg, respectively. These are somewhat constant weights. By comparison, average carcass weights for all African countries stand at 146, 13 and 12 kg for cattle, sheep and goats respectively. Worldwide these figures stand at 207, 15 and 12 kg, respectively.

Average annual official offtake rates for bovine animals and sheep in Kenya are estimated to be 13.1 and 36.1 per cent for 1982, while a decade before this they stood at 10.1 and 28.3 per cent. In Africa, 1982 offtake rates for cattle and sheep were 11.5 and 30.1 per cent. For the countries within the European Countries average offtake figures were 33.9 and 57.9 per cent while worldwide these figures were 17.1 and 35.3 per cent (see FAO 1985a).

So, although the number of cattle sold by producers will have increased due to the droughts of 1980 and 1984 the average carcass weight will have been rather low. In the post-drought years producers, in spite of the higher prices offered, will not have been very willing to sell their animals as their main concern was rebuilding their herds and fattening their animals.[8]

Kenya is also facing marketing problems for exporting livestock (products) on the demand side, either in a quantitative (low demand due to worldwide overproduction) or qualitative way (non-tariff barriers like hygiene and disease-free requirements). Table 2.11 highlights the decrease of (official) exports of most livestock products during the 1980s from Kenya, while a slight recovery occurred at the end of this period. The problems and revival of KMC will have certainly influenced Kenya's ability to export livestock products. Increased local demands, periods of drought and international competition have attributed to structural or temporary variations in livestock export figures.

Table 2.11 Quantity of Domestic Exports from Kenya, 1973-89

	Live Animals No.	Meat & Products Tons	Hides & Skins Tons	Butter & Ghee Tons	Wool Tons	(Dried) Milk & Cream Tons	Eggs ('000)
1973	1,018,051	6,664	8,226	2,774	1,503	4,118	2,539
1974	1,376,920	6,780	9,082	2,028	1,348	1,460	1,966
1975	1,355,728	8,280	11,940	1,112	1,231	1,501	1,668
1976	2,056,755	9,775	14,158	1,183	1,288	648	2,080
1977	758,216	9,344	11,374	1,063	1,361	257	3,342
1978	227,489	3,033	10,893	1,581	1,165	1,738	2,168
1979	139,964	2,643	13,081	1,206	1,080	1,913	1,248
1980	224,269	1,253	8,485	230	1,706	83	1,599
1981	44,317	1,890	12,964	565	1,113	31	2,204
1982	32,565	2,916	11,136	878	1,453	20	1,422
1983	32,104	2,367	9,158	1,179	1,182	30	929
1984	41,434	4,294	9,055	438	1,701	16	825
1985	62,060	3,669	10,451	275	689	95	699
1986	162,333	763	13,965	423	1,109	208	606
1987	74,048	87	16,052	315	1,024	655	575
1988	143,456	71	17,580	225	795	1,923	484
1989	366,663	403	10,153	262	445	1,144	220

Source: Statistical Abstract 1982, 1990

KMC has been exporting much beef in the form of processed meat, corned beef as well as frozen and chilled meat, most of which goes to the Middle East and the United Kingdom. There is, however stiff competition from other countries due to a worldwide overproduction of beef, especially in Europe, South America and Australia.

[8] For example, average bovine carcass weights in 1980 dropped from 130 kg to 125 kg and recovered to 130 in 1981 (see FAO/PY 1983).

Table 2.12 Destination of Livestock Exports from Kenya, 1981-89 (K£ '000 - current prices)

	year	West-Germany	United Kingdom	Nether-lands	U.S.A	Italy	Yugo-slavia	Other countries	Stored	Total
Live animals	81									1,607
	82									1,711
	83									4,063
	84									3,819
	85									1,392
	86									2,595
	87									1,801
	88									1,523
	89									3,808
Meat and meat preparations	81	95	1,069	53	-	-	-	1,216	176	2,609
	82	93	3,005	250	-	3	-	943	242	4,536
	83	225	2,778	51	-	-	-	734	209	3,997
	84	756	5,526	150	-	3	-	798	177	7,409
	85	222	5,076	238	-	-	-	1,162	158	6,856
	86	95	1,057	43	-	-	-	268	126	1,589
	87	4	-	-	-	-	-	61	151	216
	88	-	-	-	-	-	-	43	141	186
	89	-	997	-	-	-	-	92	183	1,272
Hides and skins (including fur)	81	22	82	491	402	3,890	2	4,319	-	9,206
	82	21	122	2,083	31	3,092	-	2,553	-	7,902
	83	20	380	845	39	2,979	-	2,068	-	6,331
	84	-	688	453	33	3,114	1,095	1,739	-	7,122
	85	-	741	131	84	4,545	2,286	2,202	-	9,989
	86	24	1,657	408	12	5,756	1,384	3,370	-	12,611
	87	6	1,235	530	31	6,555	187	8,330	-	16,874
	88	-	4,223	413	62	9,916	820	10,668	-	26,102
	89	5	3,212	332	2	4,884	-	5,138	-	13,583
Butter and ghee	81	-	-	-	-	-	-	573	10	583
	82	-	-	-	-	-	-	1,006	14	1,020
	83	-	-	213	-	-	-	1,259	14	1,486
	84	-	-	-	-	-	-	630	18	648
	85	-	5	-	-	-	-	442	11	458
	86	-	-	-	-	-	-	613	14	627
	87	-	-	-	-	-	-	504	14	518
	88	-	-	-	-	-	-	325	12	337
	89	-	-	22	1	-	-	1,730	11	1,764
Wool (raw)	81	52	25	497	-	-	-	401	-	975
	82	285	50	699	-	-	-	185	-	1,219
	83	70	105	359	-	-	-	408	-	942
	84	38	172	28	-	-	-	1,164	-	1,402
	85	19	120	195	-	-	-	404	-	738
	86	275	89	314	-	-	-	556	-	1,234
	87	293	139	275	312	-	-	1,089	-	1,472
	88	-	495	-	-	34	-	1,409	-	1,938
	89	-	685	-	-	32	-	559	-	1,276

Source: Statistical Abstract 1985, 1988, 1990

Note: the detailed destination of live animals is not known. Most animals, however, are transferred to neighbouring countries and the Near East.

Demand for imports is restricted to a very small number of markets: USA, Japan, Canada, CIS. Still, the EC is the most important export market for Kenya's agricultural produce. In total the EC imported 75.2 per cent of Kenya's agricultural exports, which is equivalent to a share of 2.0 per cent or the twelfth place in the EC's agricultural imports from the group of developing countries (see Eurostat 1989:67).[9]

Table 2.12 gives a detailed picture of Kenya's export of livestock (products). Among the group of developing countries the most important suppliers of *meat* to the EC are Brazil (42.0 per cent), Argentina (27.7 per cent), former Yugoslavia (11.4 per cent) and Uruguay (7.1 per cent). Kenya (0.7 per cent) ranked thirteenth in 1986 as it did in 1981, while in 1984 and 1985 it stood at the eighth place.[10] In 1985/86 the Common Market was buying 93.7 per cent of all Kenyan meat exports. Zimbabwe (2.6 per cent) now ranks above Kenya in fifth place. Nevertheless, in spite of Kenya enjoying a special agreement with the EC as part of the Convention of Lomé (giving access to that Community's market for the export of fresh, chilled or frozen meat) absolute exports to this market have virtually been non-existent.[11]

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[9] Kenya was among the top ten suppliers for the following products for each of the commodities mentioned. Percentages refer to Kenya's EC market share as compared to the group of all developing countries. Specifically tea (28.3%), fresh vegetables (17.8%), flowers (13.0%) and coffee (5.0%) are supplied to the EC from Kenya. Other primary products for which Kenya is among the main suppliers are fruit and vegetable juices (2.1%), fresh tropical fruits (excl. bananas) (2.1%), preserved vegetables (1.8%), vegetable saps and extracts (4.6%), nuts (2.8%), plants, seeds for pharmacy and perfumery (2.6%) and sheep's and lamb' wool (2.7%).

[10] For imports from developing countries, *live animals* are of minimal importance, the only supplier worthy of mention being Yugoslavia (95.2%). If we consider meat of bovine animals (fresh, chilled or frozen) Argentina takes the lead being responsible for 40.0% of the value of this import item, followed by Brazil (23.8%). Brazil is by far the largest supplier of *other prepared or preserved meat* (70%). In the category *other meat* (sheep, goats, offal, pigs, poultry etc) it is Argentina (33%) before Indonesia (25%) and China (24%). Sheepskins are provided by Iran (65.0%), Lebanon (11.8) and Ethiopia (6.3%). Goatskins are supplied by China (47.6%), Ethiopia (8.5%) and Nigeria (7.6%) mainly (see Eurostat 1989:34/44-45).

[11] This special agreement allows an exemption of duty, subject to only 10 per cent of the variable charge on imports from third-party countries. Botswana, Madagascar and Swaziland also have access to the Common Market under this special arrangement. The quota for preferential access was set at 27,532 tons per annum in 1975 and increased, in 1980, to 30,000. As a result of outbreaks of diseases, especially Foot & Mouth, as well as due to inadequate availability and substandard trade services these four countries actually sent much less beef and veal to the EC in the decade from 1970 to 1980 than had been agreed upon. For example, in 1983 shipments amounted to 16,300 tons only, practically all from Botswana (see FAO 1985c:55/84).

Overall imports of *meat and meat preparations* as a share of the EC's *agricultural* imports from all developing countries decreased from 12 per cent in 1970 to about only 5 per cent in 1985/86 (see Eurostat 1989:20). Competition to enter the EC-meat market mainly comes from Brazil and Argentina. Moreover, the EC increased its meat exports (8% in 1970, 12% in 1985/86), especially towards the Near East (Egypt (16%), Saudi Arabia (13%)) a second most important market for Kenyan livestock (products). In 1986 the third most important EC agricultural export was beef.

Authorization for imports of beef and veal under this agreement have been conditional on the existence of satisfactory animal health standards in the supplier countries. Foot & Mouth disease especially hinders the export of Kenyan livestock to the EC. In 1989, the Minister of Livestock Development declared that his Ministry would take bold steps to make Kenya free of Foot & Mouth disease before 1992 to enable the country's export of beef to the EC (see DN 02/08/89). Even if this major task were to be realized, Kenya faces a rising internal demand for meat and meat products that will have to be met. Table 2.13 shows an overall increasing trend (in monetary terms) of imports of live animals and meat products, with decreasing exports throughout the 1980s. An exception is the value of the trade in dairy products and eggs.

Table 2.13 Value of Import and Export of Livestock Products in Kenya, 1980-90 (x US$ 1,000)

		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Live animals	import	1,334	851	244	640	330	296	325	538	589	2,154	987
	export	1,554	3,822	3,151	6,094	7,203	1,699	3,217	2,205	1,707	1,751	1,751
Meat and meat prep	import	77	63	28	11	22	10	1	14	89	60	60
	export	4,334	5,844	8,344	5,996	10,371	8,354	1,969	267	207	170	3,800
Dairy prod and eggs	import	15,068	15,812	4,221	4,721	12,817	4,940	1,868	967	130	1,360	190
	export	947	1,709	2,121	2,431	1,062	842	1,417	2,700	2,659	2,550	2,120

Source FAO/TY 1986, 1991

Processing and marketing of milk (products) in Kenya is in the hands of the Kenya Co-operative Creameries (KCC). This is not a parastatal but a private body which operates with a state granted monopoly and under some form of state control.[12] It controls almost all modern dairy sector sales of dairy produce on official markets. Still, Raikes estimated that only 12 to 20 per cent of total milk production were official deliveries. It is mainly the small farm sector which is responsible for some 65 percent of total milk production (see Raikes 1981:129).

By the end of 1990 the KCC ran into problems and was placed under interim management in order to end corrupt practices. The Government also repeated its intention to ban the KCC monopoly in milk processing to enable co-operatives to enter this activity (see KT 04/12/90). Over the years the company sold as a result of poor milk prices fixed by the Government, some 70 per cent of its products below production costs (see Weekly Review 08/05/92).

[12] Recently, it has been suggested to break away from this monopoly for the KCC by licensing smaller district-based dairy units (see RoK 1988a 115)

Let us turn to section 2.3 for a more indepth analysis of the Government's economic development policy as it has emerged over the years since Independence. Special attention will be paid to the lack of employment for the fast growing Kenyan population.

2.3 (Un)employment and Economic Development Policy

The total Kenyan labour force is expected to rise to 14 million people for the year 2000, as compared to an estimate of slightly over 9 million for 1989. At the same time it is expected that the total number of people living in poverty is at least likely to double by the year 2000 to about 12 million out of a total population which is expected to rise to over 30 million (see Hunt 1985:101 and table 1.1). In order to combat poverty, Kenya is in high need of new jobs. Several authors have dealt with the problem of how to solve the employment and poverty issue (e.g. ILO 1972, World Bank 1983, Hunt 1985 and Livingstone 1986). Most of them conclude that it will be virtually impossible to solve the employment problem unless population growth slows down. These writers, and the Kenyan Government recognise that this can only be a long term objective.

After Independence, in December 1963, Kenya inherited a largely rural economy based primarily on subsistence agriculture and some commercial and industrial activity which, however, started to falter, arising from capital flight and stagnation of investment as many foreign investors in the country decided to leave. The new Independent Kenyan Government reacted by the establishment of a number of parastatal institutions in order to develop a mixed economy and ensure the gradual transfer of control of the commanding heights of the economy to indigenous Kenyans. Overall this strategy worked reasonably well until the difficulties of the early 1970s showed themselves.

Since the mid-1980s, in order to revive its economy, Kenya has tried to implement a structural adjustment strategy which includes a process of privatization of its economy, reduction of import prohibitions, price liberalization, improved marketing systems and cost-sharing in the case of the Government's provision of basic needs services. The new development strategy was outlined in Sessional paper No. 1 of 1986 and the 1989-1993 National Development Plan. A process of decentralization, called the District Focus for Rural Development Strategy, was already embarked upon by 1983 in trying to streamline the processes of planning and implementation of projects in the districts. This should correct the old situation by which decision-making and project implementation was directed from the Nairobi Headquarters (see e.g. Rutten 1990). At present, besides contributing to food security, the national product and foreign exchange earnings, agriculture is still of major importance in providing employment in Kenya as demonstrated by table 2.14.

Table 2.14 Agricultural and Non-Agricultural Employment in Kenya, 1976-88

	1976	%	1988	%
Non agriculture	1,172,900	30	1,986,000	24
Agriculture	3,783,900	70	6,312,000	76
Total employment	4,956,800	100	8,298,000	100
Reserve labour force	1,219,200		258,000	
Total labour force (87 5% of 15-64 age cohort)	6,176,000		8,556,000	

Source author's compilation from World Bank 1983 343, RoK 1988a 198[13]

Although we should be careful in deducting a trend from these figures obtained from different sources, it can be safely concluded that the importance of the agricultural sector has not diminished between 1976 and 1988, though there has probably been a rising level of hidden unemployment in the agricultural sector. Other classifications of the Kenyan employment structure, made along the lines of rural, urban informal, modern wage and modern self-employment, also show the importance of employment created by the agricultural sector.

For example, the Kenyan National Development Plan for 1989-1993 reveals that rural employment, defined as the sum of non-wage agriculture, farm and rural non-farm employment, remains by far the largest employer in the economy accounting for some 79 per cent (6.2 million people) of total employment in 1987 (see RoK 1988a:48). Consequently the mass of the population heavily depends upon access to land as its prime source of income, as most of them are smallholder producers.

Urban informal employment, though increasing rapidly, provides a mere 5 per cent of all Kenyan jobs and only 16 per cent of the Kenyan labour force is employed in the modern sector, i.e. all of the public sector, large-scale private enterprises located in urban centres, large-scale farms and other large-scale enterprises such as mines located outside the urban centres. Again, (modern) agriculture is responsible for over 20 per cent of employment in the "modern" sector.

The Kenyan Government is of the opinion that Kenya could support a much larger population but that the inability of Kenya's natural resource base and industry to sustain rapid labour force growth tends to lead to low incomes, unemployment and unacceptable living standards. The Kenyan Government expects that full utilization of excess capacity in industry, increased production of tea and coffee in the agricultural sector and the expansion of small-scale

[13] It should be recognized that the 1988 figures are estimates by the Kenyan Government and are thought to underestimate the reserve labour force The 1988 labour force has been computed by the Kenyan Administration as a proportion of the population aged 15-64 years on the basis of observed participation rates. No definition was provided by the World Bank report, though it seems that this is also a percentage of the 15-64 years of age cohort This uncertainty should be kept in mind when dealing with this data

enterprises in both sectors are among the most hopeful opportunities for combating unemployment For now, as explained in the Sessional paper No. 2 of 1985 on Unemployment, the Kenyan Government is attempting to create new jobs through rapid economic growth which should mainly come from import substitution and manufacturing for export and increased productivity and output from the small farms which utilize more workers per hectare than do large ones in the short term as well as programmes of land consolidation and registration, agricultural credit, good domestic agricultural prices and new fiscal and monetary policies in the middle term (see RoK 1985:3/4). The Government's 1988-1993 employment scenario expects the creation of 1.9 million jobs of which more than half should be found in the small farm sector.

The Kenyan Government nevertheless reaffirms its wish to put more effort into the non-agricultural, especially industrial, sector to promote economic growth and employment opportunities for its people. The Plan states; 'in the circumstances, and in the context of a rising population, Kenya's vision and eventual goal is to become an industrial nation. Hitherto, we have pursued a policy of import substitution for consumer goods which is approaching its limit Further industrialisation will be directed towards the production of intermediate goods in the medium-term, with an orientation towards the export market, while at the same time establishing a base for the eventual production of capital goods' (RoK 1988a:35).

An example of this strategy is the development of a Kenyan automobile industry as announced in 1986 and which resulted in the presentation of the first Nyayo Pioneer car in February 1990. If this development is to be a sound strategy resulting in a successful venture can only be judged in the years to come. For now it has already been concluded by the World Bank (1983:xii) that the encouragement and promotion of the industrial sector has tilted the incentive structure toward that sector to the detriment of agriculture. Still, the Bank itself believes that the creation of jobs outside the agricultural sector is the best strategy because 'a high and sustained rate of growth of non agricultural employment [should be] reached in order to prevent an intolerable strain on the agricultural sector. Even with slowing population growth, a 4 per cent growth rate of non agricultural employment would force agriculture to absorb [by the year 2037] more than five times its present [1976] number of workers' (World Bank 1983:345).

Livingstone (1986:158), however, still seeks a solution in the rural sector acting as a "sponge" for the absorption of population and labour. The most direct way in which the "sponge effect" has operated so far was by subdivision of the family smallholding. This, however, has resulted in a dramatic reduction over time in the *average* availability of agricultural land per person (see section 2.4). It is unclear how long this process can continue. Nevertheless, Livingstone disagrees with the Kenyan Government and World Bank policy centred mainly at the creation of non-agricultural jobs as a major solution to the unemployment issue because:

'accelerated industrial and urban development would not absorb increases in workforce on this scale. Output-employment elasticity is low. The urban population in Kenya is already expanding without an adequate base of manufacturing activity. The limited number of jobs involved and the degree of polarisation associated with industrial development means that such development does not carry a positive income distribution effect as between individuals and regions; nor does it do most for the most needy regions. Most important, industrial development is dependent upon expansion in agricultural incomes and purchasing power in the domestic market' (Livingstone 1986:190).

Livingstone, referring to Tidrick (1979), offers two alternative options, both available within the agricultural sector:

(a) bringing new land into play, through either
  (i) expanding agriculture into medium and low-potential areas
  (ii) irrigation
  (iii) drainage of wet or swampy areas and
  (iv) conversion of forest or
(b) fuller use of existing arable lands in the high-potential areas.

The first opportunity of expansion towards the medium and low-potential areas is considered to be an unsound development both on the grounds of ecological damage and the modest production and employment potential of these regions. 'Indeed it would be desirable actually to reverse some of the migration which has already taken place were that feasible' (Livingstone 1986:190). The other options, of opening up new land is thought to be more promising. Especially the drainage of poorly-drained land is expected to have an employment potential of some 2 million jobs. Cutting of forest replanted with tea would provide approximately 800,000 jobs while irrigation would create only an estimated 150,000 jobs at very high cost. By contrast, Senga, also referring to Tidrick, estimated the irrigation potential to vary between 200,000 and 500,000 hectares, providing a maximum employment of 2 million jobs (see Senga et al. 1980:43). According to Livingstone the best approach would be to make fuller use of existing arable lands in the high-potential areas and by intensification of agriculture through the provision of agricultural credit for the purchase of inputs (see Livingstone 1986:196/7).

Authors like Leo (1984) and Hunt (1985) provide us with a more radical solution of land reform. They point at the imbalanced distribution of land among the Kenyan population. The following section will analyze this situation in more detail.

2.4 The Unequal Distribution of Land

2.4.1 Introduction

During the 1950s the European hold on power in the British Colony of Kenya began to weaken following the Mau Mau rebellion. In their struggle for independence it was freedom as well as land for which Kenyans gave their lives. Since the beginning of this century the European colonialists, large, small and multi-national companies too, had been favoured in every way and very effectively by a strict land policy operated at the expense of the indigenous African population. "Scheduled Areas" had been set aside exclusively reserved for European ownership. The most important of these were the so-called "White Highlands". This enclave was spatially juxtaposed with African Reserves or "Non-scheduled Areas" where a majority of the indigenous population resided in a state of relative political and economic deprivation. In Kikuyuland, for example, a reserve of almost 1 million hectares surrounded on all sides by European farmland, the population doubled to more than one million people over the 1910-1952 period contributing to the classic situation of land hunger and diminishing returns. What remained of bush and forest land was cleared, utilized and soil erosion and impoverishment occurred (see Hellen 1977:66).[14]

By the late 1950s the "White Highlands" comprised of about 3 million hectares of land, or about 75 percent of the total high-potential land in Kenya. Divided amongst less than 4,000 farms and estates the area yielded more than 80 percent of Kenya's agricultural exports and much of its domestic requirements. Mixed farms and ranches each accounted for about 1.4 million hectares while the remaining area was devoted to plantations (see World Bank 1983:320). These holdings provided employment for 6,900 full-and part-time European workers and for almost 300,000 Africans (42 per cent of the total Kenyan wage labour force). They also contained about 1 million landless Africans (see Best & de Blij 1977:441). The loss of land and land rights was at the heart of African suffering.

In 1960, only one year after the rebellion had ended and just prior to Independence, the British Government passed an Order in Council ending the original reservation of the "White Highlands" for farming by Europeans only. Land transfer schemes, based on a willing buyer/willing seller basis, were constructed to promote the gradual purchase of land by Africans. Besides the transfer of undivided large-scale farms, low-density peasant schemes, averaging some 15 hectares, were created. 'The idea was to introduce into the Highlands Africans who would farm, if not on the same scale as Europeans, at least on something approximating it. Their small numbers and their dispersal would

[14] This figure excludes public grazing and forest reserves, which together come to some 587,412 hectares (see Middleton 1953 12)

make them acceptable to Europeans and the latter would help and advise them' (Carey Jones 1972:271).

However, it was not to be the landless who were able to profit from the first land transfer programmes but the more prosperous Africans, as the former lacked the capital needed to buy a plot in the "low-density" schemes. To settle the less well-off African families "high-density" schemes, purchased in large blocks of some 5,000 acres having a mean plot size of some 11 hectares, were introduced in areas of relatively low-quality land. Nonetheless, it was clear that to settle all of the poor more European-held land should be made available.

2.4.2 The Distribution and Availability of Land[15]

After Independence some Europeans took out Kenyan citizenship, but most European farmers left Kenya within a few years Up till then, the location of settlement had depended on European farmers offering land for sale on the condition that the price was such that a viable smallholder scheme could be mounted.

This changed drastically after the introduction of the so-called Million Acre Settlement Scheme. Introduced mid-1962 and completed in 1971, it settled some 35,000 mostly landless smallholder families at an estimated cost of nearly K£ 30 million (see Okoth-Ogendo 1981:331). Finances to buy out the Europeans were provided, by loans as well as grants, particularly from the United Kingdom, West Germany and the World Bank. The one million acres of land were, disregarding the plantations and ranching lands, found on the periphery of existing African areas, especially in Nyandarua District. Before the arrival of the British this area had belonged to the Maasai but was allocated to the Kikuyu after Independence. Quoting a letter written in December 1962 from the Permanent Secretary of the Ministry of Settlement, Mr. Carey Jones, to the Kenya Council of Ministers, Wasserman describes how the Kikuyu were favoured in respect of the provision of land at the expense of other groups in order 'to prevent a flood of Kikuyu from other parts of the Central Region and from the Rift Valley region (driven by unemployment and pressures from other tribes) into the parts of the Central Region west and north of the Aberdare Mountains, which could effectively drive out the Europeans, and replace them with squatters' (see Wasserman 1976:146-7).

From the early 1960s onwards, beginning with the Kinangop plateau (a former ritual area of the Maasai), some 24,000 hectares or almost half of the total settlement schemes area was created in Nyandarua area for some 15,000 settler families. By 1970 some 35,000 families were settled on these schemes. It is estimated that high-density schemes were the most common type of schemes and accounted for some 62 percent of the settlement area (see Odingo 1971:200). Land for settlement was purchased by, or vested in, the Settlement Fund Trustees who offered it in lots to prospective settlers at a price based on an estimate of its productive value. Ability to repay the loan was an important factor in the selection of settlers. This policy resulted in 'that the majority of the people who were actually settled were far from being the absolutely landless - the people who had given the political impetus for the scheme' (Okoth-Ogendo 1981:332).

By 1965, so-called "Haraka Schemes" were started to settle squatters on plots averaging about 10 acres on abandoned or mismanaged European farms. Another type of settlement scheme, "Shirika", was introduced under which large farms were run co-operatively. This aspect of scale was in line with the new official policy, as advised by a British Mission, which propagated the transfer of large farms and de-emphasized small-scale settlement.

By 1968 the subdivision of large farms in the heart of the former "White-Highlands" had in effect been abandoned (see Migot-Adholla 1981:49). Smallholdings were thought to be uneconomic The Government favoured the purchase of complete farms by African farmers. Approximately 390,000 hectares of land had been transferred in this way by 1968. In Uasin Gishu, Nakuru and Trans Nzoia, the first two former Maasai territories, land was transferred to individual owners. Table 2.15 summarises the situation of land transferred to Africans up to 1968

Table 2.15 Classification of Land Transferred to Africans as at 1968

Farm Type	Area Transferred (ha)	No. of farms	Average area (ha)
Smallholder Settlements			
- High-density	319,000	26,700	11 9
- Low-density	76,000	5,200	14 6
- Squatters	35,000	14,000	2 5
Sub-total	*430,000*	*45,900*	*9 4*
Large Farms			
- Individually owned	386,000	1,192	324 0
- Operated by co-operatives or the Department of Settlements	118,000	34	3 464.0
Sub-total	*504,000*	*1,226*	*411 0*
All Types	*934,000*	*47,126*	*19 8*

Source House & Killick 1981 table 8

[15] Unfortunately there are no recent figures available concerning the distribution of all types of landholdings in Kenya The latest figures for smallholder farms date from 1979 Moreover, data available should be handled with great care as in most cases they are extrapolations based on samples and/or suffer from inconsistencies and incomparability due to a change of classifications, definition or method of operationalization The reader should keep this in mind when studying the following pages

The total number of officially registered smallholdings stood at 777,000 by 1969 covering an area of some 2,646,000 hectares. Large farms in former scheduled areas numbered 3,175 owning a total of 2,690,000 hectares (see World Bank 1975:510).

The new policy of transferring large farms was criticized by the International Labour Office 1972 mission, which pronounced modest farms to be more economical than large ones. This statement, at least, will have tempered opposition to a process of informal subdivision of large farms. Many land-buying companies which had been formed by the early 1960s were responsible for this development of unofficial fragmented farms.[16] After acquiring a large farm it was unofficially subdivided among the shareholders of the company. The position of large-scale agriculture was further weakened by the fact that many of the Africans who had bought large-scale farms soon found themselves in financial difficulties and needed Government assistance. By 1974, the officially held position by the Government was that large-scale agriculture, though still welcome, was necessary only in a limited number of areas, which included the production of wheat and hybrid seed maize and the maintenance of breeding herds of livestock (see Leo 1984:177).

Other settlement schemes were started to relieve continued pressure, both from landless people and from well-off Africans. These were called Stateland Schemes and *Harambee* Schemes, also located outside the former scheduled areas. By the end of the 1970s over 500,000 hectares of land had been taken over for settlement schemes, mostly from large mixed farms. Of the remaining 900,000 hectares some 35 per cent had been informally (and often illegally) subdivided. If we include the 185,000 hectares (cropped area only) held by plantations, about 800,000 hectares of arable land is still farmed on large holdings of 50 hectares or more. This is about one-half of the area held by plantations and mixed farms in the Scheduled Areas in 1960. The above sketched developments resulted in a situation at the end of the 1970s whereby the Kenyan agricultural area, estimated to be some 8.0 million hectares, was divided between 1.7 million smallholdings (0-<20 ha), 40,000 "gap farms" (20-50 ha) and some 2,460 large farms (>50 ha). The distribution of holdings as well as employment figures for each of these three categories is shown in table 2.16.

It can be concluded that the land was unevenly distributed. About half of the land was in farms of less than 20 hectares with an average of approximately 2 hectares, while the other half had an average size of 1,000 hectares. 'In spite of settlement schemes and unofficial subdivision, however, large mixed farms and plantations still cover one-seventh of the area devoted to arable agriculture. Counting gap farms as well, about one-third of the arable agricultural land is farmed in holdings of over 20 hectares' (World Bank 1983:338). In other words some 2.4 per cent of the Kenyan holdings own some 32 per cent of arable land in the country.

[16] From 1963 until 1983, 24,000 private land-buying firms were registered in Kenya (see Leo 1984:185).

Table 2.16 Distribution of Agricultural Holdings and Employment, 1977

	Number of farms	Area (ha)	Appr. average holding size ha.	Employment (thousands)	Employment per hundred ha.
Small farms	1,704,009	3,500,000	2	2,236	64
Irrigation schemes	4,744	8,728	2	5	60
Gap farms[1]	40,000	1,000,000	25	80	8
Large farms	2,460	2,500,000	1,000	371	15
- mixed farms	1,800	900,000[2]	500	200[3]	22
- plantations	475	185,000[4]	390	129	70[4]
- commercial ranches[5]	100	650,000	6,500	-	-

Source: World Bank 1983 Vol II table 10

1. Gap farms are those not covered by either the Integrated Rural Survey or the Large Farm Survey. Most are believed to be 20-50 hectares in size. Area and mean size are estimates;
2. Up to 35 per cent of this area has been subdivided into smallholdings;
3. Includes estimated 144,000 squatters in large farm area;
4. Cropped area only,
5. Ranches larger than 1,000 hectares. Government-operated ranches are excluded.

Information concerning smallholders has been collected in the "Integrated Rural Surveys" which were conducted in the middle of the 1970s and are presented in table 2.17. Unfortunately, recent figures are not available apart from extrapolations made using IRS data.

Table 2.17 Distribution of Smallholdings by Size

Size of Holdings (ha)	IRS 1 (1974/75)		IRS 2 (1976/77)		IRS 4 (1978/79)	
	Number ('000)	%	Number ('000)	%	Number ('000)	%
0					581.8	21.6
0.01-0.4	206	14	508	30	678.8	25.2
0.5-0.9	266	18	405	24	541.4	20.1
1.0-1.9	400	27	362	21	425.6	15.8
2.0-2.9	224	15	156	9	196.7	7.3
3.0-3.9	132	9	88	5	86.2	3.2
4.0-4.9	107	7	59	4	43.1	1.6
5.0-7.9	96	7	67	4	75.4	2.8
8.0+	51	3	59	4	64.6	2.4
Total plots	1,483	100	1,704	100	2,693.6	100.0
Total land (ha)	3,458,300		3,458,300		3,216,100	

Source: Hunt 1985:tables 7.13 and 7.14 (columns 1 and 2); Statistical Abstract 1982:tables 95 and 96 (column 3)

Furthermore, the IRS data were collected through sampling within the major agricultural zones only and different operationalizations are responsible for

some of the changes which seem to have occurred between different years. For example, the much higher number for very small-size holdings in 1976/7 as compared to 1974/5 is the result of the inclusion of very small "back-garden" type of holdings which before were excluded. With regard to the large farm sector more recent figures are available. They show us that the number of large farms has increased from 2,750 in 1966 to 4,097 in 1989, while the total area in this period decreased slightly from 2,641,900 ha to 2,345,400 ha. The clue as to this apparent paradox is subdivision of the large farms resulting in a growing number of small "large farms" as shown by table 2.18 concerning the distribution over the different size classes.

The reduction of some 11.2 per cent in the total area categorized as large farm land in the 1966-1989 period is mainly the result of a loss of the large farm land use categories of temporary crops, temporary meadows, forest land and uncultivated meadows and pastures which outstripped the increase of land under permanent crops on these farms.

Table 2.18 Distribution of Large Farms, 1966-89

Size of holdings (ha)	Number of plots 1966	1970	1975	1980	1985	1989*
0-19	281	417	455	677	1,022	1,031
20-49	252	324	355	500	1,063	1,063
50-99	255	304	306	406	433	435
100-199	344	364	393	428	382	382
200-299	266	321	347	362	303	305
300-399	219	253	256	252	210	210
400-499	181	218	219	203	156	156
500-999	466	498	490	482	358	363
1,000-1,999	246	243	211	205	161	152
2,000-3,999	112	107	114	89	85	-
4,000-19,999	115	111	105	112	87	-
209,000 +	13	15	13	19	11	-
Total plots	2,750	3,175	3,264	3,735	4,271	4,097
Total area ('000 ha)	2,641 9	2,688 6	2,672 8	2,670 1	1,986 2(?)	2,345 4

Source Statistical Abstract 1988, 1990
* = provisional Inclusion of 0-19 ha of large farms is probably because of subdivision.

Another aspect of the Kenyan land situation that we should consider is *landlessness*. Opinions concerning the extent of this phenomenon vary from the undefinable (Leo 1984) to "guestimates" calculating their number at over two million people in 1980 (see Okoth Ogendo 1981:337). The latter author states that the number of absolutely landless people is increasing at a rate of *not less than* 1.5 per cent annually. This would imply that by 1990 at least some 2.3 million Kenyans, or approximately 10 per cent of the total population would fall into the category "landless".

This seems to be in line with the World Bank early 1980's estimate of 11.0

per cent of all rural households being classified as landless or 7.3 per cent of all rural households landless and also poor. In addition, 200,000 people have migrated from high-potential areas, where they were landless, to dry areas which were marginal for farming. Of these, 110,000 people are estimated to live below the poverty line of Ksh. 2,000/- per annum per household (see World Bank 1983:216/340).

Landlessness is thought to be the result of the privatization of land, the expulsion of squatters from large farms, forced land sales to repay loans and widowhood or divorce. '(...) it appears that purchases of land are made by relatively high-income urban dwellers both with a view to its speculative return as well as for retirement purposes. There is a fair amount of absentee ownership in Kenya. For instance, a survey of a location within Central Province in 1971 found that 90% of farms over three hectares had absentee landowners' (World Bank 1983:232). In response the landless migrate away either to: (a) settlement schemes; (b) large farms, where they are squatters; (c) semi-arid lands, previously occupied by pastoralists or (d) urban areas.

This latter option seems to have been chosen by a minority of the landless. Most of them have either moved to settlement schemes, large farms or semi-arid areas. From the Central Province people have moved to the few medium to high-potential areas within Narok, Kajiado, Nakuru and Laikipia District Other groups like the Luo, Luhya and Kamba from Nyanza, Western and Eastern Province, respectively, have also migrated within and outside their provinces (to Rift Valley and Coast Province, mainly).

Mbithi and Barnes (1975), Wisner (1978) and Campbell (1978), have reported about this phenomenon of "spontaneous" migration which according to Livingstone (1986:19) is '*the single most important way in which population pressure has been absorbed*'. Indeed outmigration by landless people seems to be one of the most frequent solutions sought for and is responsible for a major part of rural-rural migration. Pushed by a severely populated area lacking sufficient land they are pulled towards those areas where land is still in apparent abundance and where it could be possible to make a living. Table 2.19 shows the most important push and pull areas of Kenya.

Many of the immigrants farm smallholdings without a legal title, they use techniques of cultivation less suited to marginal areas and which can cause severe erosion. They are repeatedly confronted with the marginality and insecurity of their plots, from a tenurial as well as a climatic point of view. Moreover, the movement of the potentially landless to the drylands has brought them into conflict with the pastoralists, another less well-off group. They compete for the same meagre land resources (see e.g. Bos & Peperkamp 1989:35).

Table 2.19 Lifetime Migration by District and Province, 1979

District/*Province*	Net-Migration	District/*Province*	Net-Migration
Nairobi	+ 524,373		
		Kisii	- 60,468
Kiambu	- 108,305	Kisumu	- 24,306
Kirinyaga	+ 374	Siaya	- 133,717
Muranga	- 112,346	South Nyanza	- 44,679
Nyandarua	+ 54,123		
Nyeri	- 106,724	*Nyanza Province*	*- 263,170*
Central Province	*- 272,878*		
		Bungoma	- 26,693
		Busia	- 12,380
Mombasa	+ 167,879	Kakamega	- 247,708
Kilifi	- 6,874		
Kwale	+ 12,402	*Western Province*	*- 268,781*
Lamu	+ 4,714		
Taita-Taveta	- 7,759		
Tana River	+ 4,911	Baringo	- 14,682
		Elgeyo-Marakwet	- 15,664
Coast Province	*+ 175,273*	Kajiado	+ 28,839
		Kericho	+ 6,093
		Laikipia	+ 57,943
Embu	+ 208	Nakuru	+ 159,157
Isiolo	- 1,519	Nandi	+ 8,465
Kitui	- 51,554	Narok	+ 29,065
Machakos	- 110,590	Samburu	- 10,867
Marsabit	+ 1,683	Trans-Nzoia	+ 93,594
Meru	- 11,571	Turkana	- 20,742
		Uasin Gishu	+ 120,554
Eastern Province	*- 173,343*	West Pokot	+ 7,610
		Rift Valley Province	*+ 485,365*
Garissa	+ 5,571		
Mandera	- 25,955		
Wajir	+ 8,191		
North Eastern Province	*- 12,193*		

Source: RoK/CBS undated table 5.3

Table 2.20 presents the estimated availability of good agricultural land per person for a large number of Kenyan districts.[17] Examining the districts with lowest and highest availability of land underlines the picture of push and pull regions as shown by table 2.19.

[17] In general it is thought that actual average availability for the *people involved in cultivation* will be higher than presented here by Livingstone because this table includes the urban and pastoral population as well. Furthermore, it should be stressed that the 1989 figures have been derived by extrapolation of the 1969-1979 trend.

Table 2.20 Estimated Availability of Good Agricultural Land per Person, per District in 1969, 1979, 1989 (in hectares of High-Potential Land Equivalents (hple))

District	Population ('000)			HPLE	HPLE/Capita			Decrease
	1969	1979	1989	('000)	1969	1979	1989	69-89(%)
Narok	125	213	345	915	7.32	4.30	2.66	64
Lamu	22	42	75	74	3.36	1.76	0.98	71
Tana River	51	92	157	119	2.33	1.29	0.76	67
Samburu	70	77	84	156	2.23	2.03	1.85	17
Laikipia	66	134	253	138	2.09	1.03	0.55	74
Uasin Gishu	191	304	460	327	1.71	1.08	0.71	58
Trans-Nzoia	124	260	507	208	1.68	0.80	0.41	76
Nyandarua	177	233	371	265	1.50	1.14	0.71	51
Marsabit	52	96	167	74	1.42	0.77	0.45	68
West Pokot	82	158	286	107	1.30	0.68	0.37	72
Baringo	162	203	249	190	1.17	0.94	0.78	33
Nandi	209	293	396	234	1.12	0.80	0.59	47
Nakuru	291	522	882	301	1.03	0.58	0.34	67
Kitui	343	464	611	305	0.89	0.66	0.50	44
South Nyanza	663	818	986	567	0.86	0.70	0.58	33
Isiolo	30	43	59	26	0.85	0.60	0.43	49
Busia	200	300	431	163	0.82	0.54	0.38	54
Kericho	479	635	821	380	0.79	0.60	0.46	42
Kwale	206	287	384	163	0.79	0.57	0.42	47
Bungoma	345	503	710	253	0.73	0.50	0.36	51
Garissa	65	129	239	44	0.68	0.34	0.18	74
Wajir	86	139	193	57	0.66	0.41	0.29	56
Elgeyo Marakwet	159	149	141	105	0.66	0.70	0.74	12(+)
Embu	179	262	370	103	0.58	0.39	0.28	52
Kisumu & Siaya	784	957	1 144	438	0.56	0.46	0.38	32
Kilifi	308	428	573	162	0.53	0.38	0.28	47
Muranga	445	647	905	217	0.49	0.34	0.24	51
Kirinyaga	217	295	388	100	0.46	0.34	0.26	43
Taita-Taveta	111	148	191	50	0.45	0.34	0.26	42
Kajiado	86	149	213	39	0.45	0.26	0.18	60
Meru	597	831	1 164	263	0.44	0.32	0.23	48
Nyeri	361	487	641	160	0.44	0.33	0.25	43
Turkana	165	143	275*	71	0.43	0.50	0.26	40
Kakamega	783	1 033	1 324	325	0.42	0.31	0.25	40
Machakos	707	1 019	1 413	284	0.40	0.28	0.20	50
Kiambu	476	686	951	170	0.36	0.25	0.18	50
Kisii	675	870	1 096	220	0.33	0.25	0.20	39
Mandera	95	106	117	27	0.28	0.25	0.23	18

Source: Livingstone 1986 table 2.3. Figures for Kajiado, Garissa, Mandera, Marsabit, Turkana, Isiolo and Wajir calculated from Statistical Abstract 1982:96 and Population censuses 1969, 1979. Last column also based on author's calculation.

Note: estimates of district populations in 1989 calculated on assumptions that district growth rates 1969-1979 are maintained to 1989. Five ha of medium and 100 ha of low-potential land are taken as the equivalent to 1 ha of high-potential land. Elgeyo Marakwet increase in availability of land is due to boundary changes. Figures have been rounded. * author's estimate.

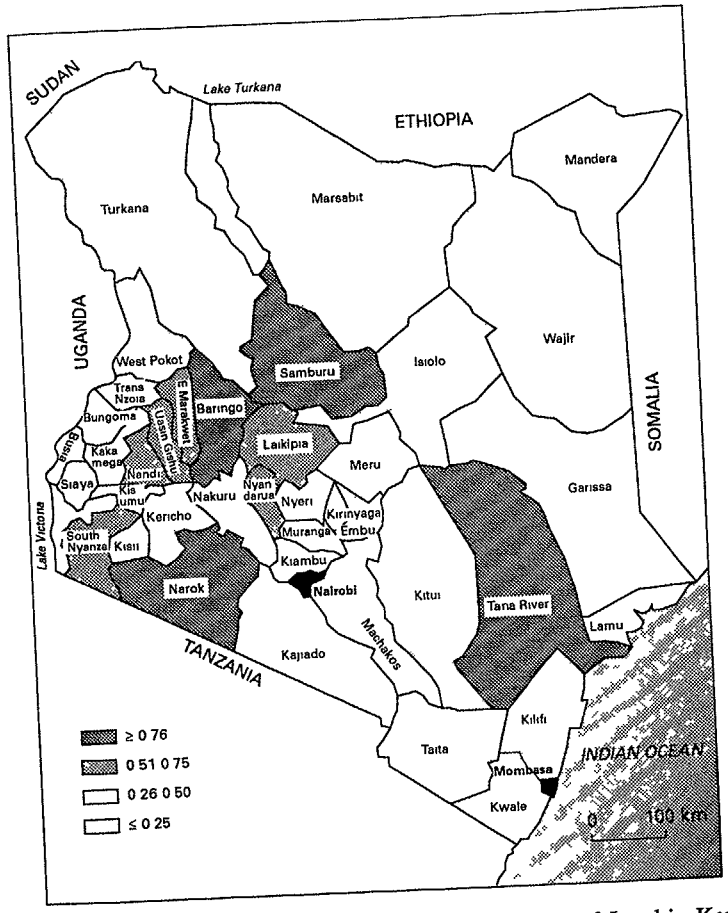


Figure 2.2 Estimated Availability of Good Agricultural Land in Kenya

Figure 2.2 combines the availability of good agricultural land for 1989 with migration patterns in Kenya. Push regions like Western and Central Province have a low average availability of good agricultural land while pull regions like the Rift Valley and Coast Province show a relatively better situation in this respect.

Table 2.20 also highlights the trend in the availability of good agricultural land in Kenya over the 1969-89 period. The number of districts having less than 0.5 hectares of high-potential land equivalents per person increased from 12 to 26 during this time. Kiambu district, once an important outlet for

landseeking people within Central Province, has become one of the most congested districts Kajiado District, one of Kiambu's main outlets in turn, has reached a similar position now. Narok District still has the largest amount of good agricultural land available, although this has been reduced to 2.66 ha per person only.

The favourable position of Narok has also been noted in official documents, where pressure has been excercised for the opening of this district for the non-Maasai. Citing overall population densities of some 150-200 persons/km^2 in Western, Nyanza and Central provinces the 1975 World Bank report on Kenya stated that 'The Masai occupy almost all of Narok, but they are relatively few in numbers, whereas elsewhere large numbers of people of different tribes are short of land. If the Government does nothing, infiltration will continue until there is more intense tribal conflict' (World Bank 1975:470). The World Bank plead for the creation of a land market by adjudication and registration of these Trust lands in order to enable more people to move and restore the population-land balance. Also, 'the Government should not allow the Masai or the County Council, as custodians of the Trust Land, to interfere' (World Bank 1975:471).

Besides criticizing the exclusivity of rights to parts of Kenya for particular ethnic groups, the report also points out the colonial heritage of large scale farms set aside as Government land within districts with a growing number of landless people. The World Bank report of 1983 repeated both of these criticisms concerning the existence and continuance of the Kenyan land problem, although in a slightly more subtle way. It is recognized that:

> 'Much of Narok is undoubtedly suitable for farming and economic pressures are gradually converting some of the best land to cultivation. However, in the drier pastoral areas there is no major potential for increased labor absorption. Development strategy in the marginal areas must be to try to raise the living standards of the existing population rather than to expand production through in-migration' (World Bank 1983:357-8).

In order to combat land concentration it is proposed to reduce the attractiveness of land as a speculative asset through land taxation, capital gains taxes on land or legislative restrictions on absentee ownership. In the following section we will consider Kenyan land policy in more detail

2.4.3 Kenyan Land (Use) Policy

In its latest Development Plan, 1989-1993, the Kenyan Government spent less than half a page on its land use policy. Concerning issues such as the system of land tenure, consolidation, adjudication, registration and the use to which land may be put the Government states that 'These issues exhibit a high degree of sensitivity and complexity in Kenya where people have a strong affinity to

land on which the great majority depends for their sustenance' (RoK 1988a:130). An *Independent Land Use Commission* was announced with the task of reviewing questions related to land and advising on optimal land use patterns for present and future generations in various agro-ecological zones.

In its previous Development Plan for the 1983-1988 period, the Government had proclaimed that land in the private sector was underutilized because of absenteeism, speculation, disputes over land rights, poor management practices, lack of credit and access to markets (see RoK 1983:50). As we have seen above, this statement is rather revolutionary when compared with the policy of the 19760s and 1970s which officially promoted the large farm sector. A special Task Force, another land use committee, was responsible for this analysis. Among the recommendations of the Task Force were measures to: invest Government with greater control of land; abolish freehold tenure in favour of a system of leasehold; lease to individuals or companies any large tracts of Government land not being put to productive use; give top priority to land adjudication; establish a Land Laws Review Commission, and address the problem of underutilization of land. However, the appointment of yet another commission and the lack of clear policy guidelines is illustrative of the indecisiveness of the Kenyan Government.

Besides the transfer of land in the former scheduled areas from European settlers to African farmers and the creation of settlement schemes, the Government's land use policy has so far been directed to the adjudication and registration of land in the non-scheduled areas.

At the close of the colonial period the Kenyan land surface was classified under four categories of land: Private land, Special Reserve (or Crown Land), Special Areas (or Trust Land) constituting the native reserves and Non-Special Areas, comprising 1.0, 1.3, 22.4 and 75.3 per cent of the Kenyan land area, respectively (see Hellen 1977:67). The Land Adjudication Act of 1962 was the vehicle for transferring land into freehold statutory estates held by Africans. The Land Control Act of 1967 set up local boards charged with examining land transactions and protecting the interests of the poor and illiterate (Cohen 1980:390.

At the time of Independence less than 600,000 hectares had been registered. By 1986, in the former non-scheduled areas alone, this figure had increased to almost 7.0 million ha. Ignoring for a moment the initial political incentive, the rationale behind the replacement of customary land rights by individual tenure through adjudication of ownership, registration of these units and issue of title deeds, was to create a collateral for loans and the encouragement of long term investments in land and farm development. The consolidation of separate fragments of land into single land units was aimed at increasing farm efficiency.

Livingstone, however, questions the importance of these measures in the East African context as 'lack of titles to land has in no way prevented

producers from planting tree crops, such as coffee and tea [and] it is not likely that land titles have had any effect except in the minority of large fully commercial farm units' (Livingstone 1986:246). Moreover, against the rather uncertain benefits Livingstone mentions some definite disadvantages.

The most obvious are increased stratification, as the well-to-do buy out poor farmers, and the development of landlessness. Indeed, the Fourth Development Plan acknowledges this by stating that with 'the supplementation of land adjudication and registration, the volume of land transactions among smallholders has increased. Consequently, the incidence of concentration in land ownership among the better-off small-scale farmers has increased' (RoK 1979:53). Yet, as Cohen remarks, 'trends in this direction were clearly visible by the mid-1960s, but policies to correct them have yet to emerge. The government has no policy on land concentration, and wealthy farmers appear to favor acquisition of land titles over alternative capital investment' (Cohen 1980:365).

In this respect, it should be mentioned that the process of stratification of land ownership in Kenya also involves a significant amount of land purchased for purely speculative or asset purposes, carrying with it a low degree of land utilization. Given the problem of population absorption which Kenya faces, this is not a process which it can afford. In an economy which is largely agricultural, employment and access to land may be synonymous; no land may mean no employment. The social consequences of landlessness would be at least ameliorated if there was a parallel increase in opportunities for rural development at a reasonable wage. House and Killick (1980:36) state that it is doubtful whether this has occurred on a sufficient scale.

To solve the Kenyan problem of landlessness and its related need to find employment for a rapidly growing number of people a whole range of measures has been proposed by several scholars and international organizations such as the World Bank. Among the most important proposals are a reduction of population growth, creation of non-farm employment, the carrying out of a land policy that prevents the concentration of land holdings and the intensification of land use. As the former two solutions are mainly long-term options, the latter two proposals are thought to be the most effective to address the requests for employment and productivity for the years to come.

With regard to land policy it is stated that this should focus on the prevention of a concentration in land holdings, encouragement of intensive development of under-utilized high-potential areas and the discouragement of land speculation. Measures to promote an efficient pattern of landholdings might include:

(a) ceilings on the size of holdings;
(b) capital gains taxes on land transactions;
(c) raising interest rates to increase the costs and reduce relative attractiveness

of land as a speculative asset;
(d) controls on new acquisitions (see World Bank 1983:xviii).

In order to redistribute land downwards, Tomlinson (1981:182/3) proposes two sets of land taxes on holdings above a certain size/income earning potential and/or unproductively used farms. Both measures are targeted at the large farm and plantation sector. Because implementation of this measure is thought to be difficult, direct action such as land ceilings and controls on new acquisitions are thought to be more effective.

Intensification of land use through the use of high value labour intensive crops like potatoes, tea and pyrethrum instead of wheat and maize and the use of more inputs like fertilizers which result in increased yields is another option for creating employment. In certain parts of Kenya this change has already materialized a few decades ago (see e.g. Odingo 1971:211). Raising output can also be realized through improved farming methods and the use of high-yielding crops. Of course, several constraints such as land quality and market demand exist but these could at least partially be overcome through the provision of active Government support. Furthermore, more land in Kenya could be brought under cultivation. Drainage of valley bottoms is thought to be possible in order to provide an extra 1 million hectares of high and medium-potential land offering jobs to some 2 million people (see Livingstone 1986:194). Irrigation, though very risky and costly, forest clearing for tea, although highly controversial, and dryland agriculture could provide another 120,000, 800,000 and 300,000 jobs, respectively.

The redistribution of land is thought to be another possibility for raising the intensification of land use and the creation of employment opportunities. It was assumed by many that the breakdown of formerly well-developed European farms would result in a serious drop in the productivity of the land. These gloomy forecasts have failed to materialise. In fact, it turned out that the subdivision of large farms resulted in an increase of productivity and a rise in both subsistence and marketable output as the former underutilization of the land came to an end. The Integrated Rural Surveys in the 1970s revealed that on holdings of less than 0.5 hectare, output per hectare was 19 times and employment 33 times greater than on holdings over 8 hectares. This would mean at the national level that every 10 per cent reduction in holding size raises output per hectare by 7 per cent and employment by 8 per cent (see World Bank 1983:71). This same report gives a warning in respect of some activities like production of sisal, seed maize and ranching which are better performed on large farms as well as towards subdivision in marginal areas which could lead to ecological deterioration. The Kenyan Government is being prompted to take the development of the smallholder section firmly in hand.

So far, the Kenyan Government has taken action to formalize the *de facto* spontaneous subdivision of large group-owned farms. However, an active support of subdivision has yet to be developed. A possible explanation for the

Government's hesitation in addressing the Kenyan land issue stems (partly) from the fact that the urban political elite itself is highly involved in the acquisition of land. As Hunt (1985:287) displays, referring to a study done by Kaplinsky, politicians, bureaucrats and others of influence are among the large land-owners. Table 2.21 shows the profession of the most important large-farm owners in Nakuru and Kiambu districts in the late 1970s.

Table 2.21 Land Ownership in Nakuru and Kiambu Districts, 1979

Nakuru District		Kiambu District	
Top 38 owners of 40 individually owned large mixed farms (>500 acres)	Number	Top 44 landowners holding over 30 per cent of all Africanized land in Kiambu District	Number
Members of Parliament	6	Members of Parliament	5
Senior Government	5	Senior Civil Servants	4
Administrators	5	Other Government Officials	4
Senior Police Chiefs	2	Ambassadors	3
Land Board Members	2	Executives of Parastatals	7
County Council Officials	2	Church Officials	2
Former Chiefs	1	Farmers, Traders, Professionals	19
Ambassadors	1		
Company Executives	14		
Farmers, Traders			

Source: Kaplinsky 1983 Ownership and Equity in Kenya Institute of Development Studies, Sussex University mimeo cf Hunt 1985 287-88[18]

The implication of the situation as described above is that the political constraints to carry out a real land reform is very high indeed. Yet, as Hunt highlights in her study, all encompasing land reform reducing farm sizes in the large, gap and smallholder farm sectors alike in combination with other measures both in the agricultural sector and outside it, is the most important option to make a really substantial contribution to alleviating poverty and unemployment in Kenya, at least for the next decade to come. This will be very necessary as the projections concerning population size, the potential labour force, (un)employment and poverty are calling for action.

Kenya's population will have grown from 5.4 million to 45 million people between 1948 to 2013. By the year 2000 the labour force will have increased to 14.1 million people, while some 12 million people out of a total of 30 million are estimated to be living in poverty. Since independence, part of the

[18] Of the 38 owners of Nakuru eight were having additional land in Kiambu District, one of the most densely populated areas having an average 0.25 hectares per person in 1979 Furthermore, three others had extra land in Nakuru District through their membership of land owning companies

rising labour force has been absorbed through land transfer and the growth of the modern and informal non-farm sector. Up till the year 2000 these latter sectors will be able to absorb respectively 13 and 9 per cent of the new labour force entrants (since 1976) estimated to be 4.3 million by 1990 and 6.1 million by 2000. Consequently this leaves 75 to 80 per cent of the labour force increase which will be forced to obtain an income from agriculture.

A redistributive land reform which imposed a 3 hectare ceiling for existing farms and created new farms averaging 0.75 ha of high-potential land to 4.5 ha of low-potential land could provide a sufficient number of holdings to absorb 6.2 million new labour force entrants. Assuming an average of two labour force members per holding would mean that the resulting incomes would be above the poverty line (see Hunt 1985:278).[19] Off-farm employment could also be sought as these farms would not provide full employment throughout the year. Meanwhile, as stated above, other measures such as a reduction of the growth of the population and the creation of more non-farm employment will be necessary as beyond the year 2015 the absorption capacity of the agricultural sector will have been completely used up.

The time of implementation is of the utmost importance. By 1990, it would still be possible to provide a living for the 4.3 million new labour force entrants (since 1976) seeking employment within the agricultural sector. Also, all the agricultural labour force already living in poverty from 1976 and numbering some 1.75 million by 1990, could be helped. By the year 2000 the number of new entrants will have grown to 6.1 million people. Early implementation would lower the cost of compensation, estimated to be some K£ 132 million in 1979, allow for slightly larger farm sizes and provide the opportunity for farmers living in the low-potential areas to move to high-potential lands.[20] Any delay in progressing with this proposed radical land reform will raise the cost and produce either plots that are not viable or leave a large number of people without land.

If a short term and impressive land reform is not be carried out, and hopeful signs have not yet appeared, a process by which the poor may sell land to their wealthy neighbours and migrate to the semi-arid areas will, in all probability, continue and intensify. In the dry areas these immigrants compete with a fast growing young generation of landseeking pastoralists and with those Kenyans interested in land speculation (see Migot-Adholla 1981:44).

[19] Using a 3 ha ceiling redistribution of land in Kenya and taking into account the mimimal farm sizes needed would release a predicted 1.9 million ha of high potential land in the large and gap farm sector and an additional 0.7 million ha of variable potential land in the smallholders sector. This could generate 3.1 million new farms ranging from 0.75 ha to 4.5 ha depending on the land potential. Because it is expected that a 1-1.5 ha farm needs an input of 0.64 man years per hectare there would not be full employment, although the output could be enough to provide a living above the poverty line as defined by Collier and Lal.

[20] For this calculation Hunt used a ceiling land price of Ksh. 1,200/- per hectare (Ksh. 500/- per acre) allowing for the redistribution of 2.2 million hectares. The compensation money needed (K£ 132 million) represented 90 per cent of the Kenya Government new long-term borrowing in 1980 (see Hunt 1985:284-6). High-potential land prices in 1990 averaged some Ksh. 50,000/- per acre! (author's estimate is based on mean land prices of agricultural plots offered for sale in the Kenyan daily newspapers).

2.5 Summary and Conclusion

This chapter has explored the national and international context for the livestock producing economy of Maasai pastoralists. We started this exercise by analyzing the economic, demographic and physical features of Kenya. Modestly populated by some 23.5 million people, but experiencing one of the highest population growth rates in the world (3.8 per cent), the Kenyan population is expected to increase to a total of 34 million people by the year 2000 and approximately 62-64 million by 2025. The country's labour force is expected to rise from 9 million people in 1989 to an estimated 14 million people by 2000. Over this period, the total number of people living in poverty will probably double to some 12 million (approximately 35-40 per cent of the total population).

Some 80 per cent of the Kenyan population is concentrated in the medium and high-potential zones covering only some 10 per cent of Kenya's land area. The rapid population growth will increase the demand for the limited supply of *good* agricultural land. Over half of the 1989 Kenya population (i.e. 11.8 million people) was in the 0-14 years of age-cohort, a world record. Kenya thus faces a large influx of new jobseekers in the years to come. However, the Kenyan economy is primarily characterized by a large percentage of its population living in rural areas (78 per cent by 1988). As non-agricultural opportunities are limited the new jobseekers will mainly be searching for a small piece of land in order to make a living.

After Independence in 1963 Kenya inherited a largely rural economy based primarily on subsistence agriculture. Commercial and industrial activities had been modest and had already started to collapse. In the aftermath of Kenya's independence and up to the early 1980s, the Kenyan economy performed very well. Both the agricultural and industrial sectors contributed to the overall 6.8 per cent annual growth rate. The establishment of a mixed economy involving newly created parastatal organizations turned out to be a successful approach until the economic difficulties of the 1970s showed. Development slowed down to 4.2 per cent a year for the 1980-90 period. Kenya's export-oriented agricultural economy faced decreasing world prices for coffee and tea. These products together were responsible for 48.8 per cent of the country's total export earnings in 1988. The growth of the industrial sector also lagged behind.

The Kenyan economy was ranked 25th among the lowest-income economies

of the world by 1990. The average per capita GNP was US$ 370 only. Still, Kenya has a relatively favourable position in comparison to other Sub Saharan countries.

Special attention was paid to Kenya's livestock sector. Some 12-14 million head of cattle, 10-15 million head of small stock and almost 1 million camels graze Kenyan pastures covering some 50 million ha. The livestock sector is characterized by a huge diversity in the aspects involved such as the object of production, technology, characteristics of producers, pastures and livestock species. The commercial cattle sector can mainly be found on large farms in the disease free, higher-rainfall zone. These ranches are mainly owned by companies, co-operatives or rich individuals. Land is either owned or leased from the government. Livestock, improved beef or high-grade dairy animals, are kept under capital intensive methods.

The group of smallholders residing in the western better-watered regions of Kenya keep a large number of Kenya's improved dairy animals for subsistence as well as for commercial purposes. Most animals, however, are found in the Rift Valley and Eastern Provinces covering mainly the pastoral areas. Livestock production in Kenya is faced with a decreasing availability of land (approximately 1.6 million ha between 1975-90), poor marketing facilities, low prices, harsh climatic conditions, diseases (esp. Foot & Mouth) and competition from wildlife species. In fact, by the 1980s a domestic deficit of meat was prophesied. No clear solution could be provided if this situation did indeed occur as several contradicting production estimates for the 1980s were circulated. Still, by early 1990 a renewed warning for a livestock deficit for the year 2000 was made.

Kenya's aim of becoming a major livestock exporting country is seriously hindered by these local problems. Though more live animals were transported in the latter half of the 1980s, their value decreased. The export of meat and meat preparations dwindled in both quantity and value. The breakdown of the export-oriented Kenya Meat Commission will also probably have contributed to this. Only the export of hides and skins, Kenya's most important source of livestock earnings, increased over the 1980s.

Besides domestic problems, Kenya faces stiff competition on the world meat market as a result of overproduction and hygienic requirements. The European Community is the main importer of Kenyan meat and horticulture products. However, in spite of Kenya enjoying a special agreement with the EC for meat exports which allows for exemption of duty, exports to the Common Market have been virtually non-existent.

In order to combat poverty, Kenya is in urgent need or job creation. At present the agricultural sector is still of the utmost importance for the provision of employment. The Kenyan government's strategy for creating new jobs is based on import substitution, export-oriented manufacturing and increased production

from small farms. Eventually, Kenya wants to become an industrialized nation. It is supported in this wish by the World Bank, which sees the diminishing labour absorbing capacity of the agricultural sector. Others disagree with this policy which they believe to contribute only marginally to the creation of new jobs.

Two alternative options are being offered, both within the agricultural sector: bringing new land under agricultural production and making intensified use of existing arable lands in the high-potential areas. The opportunity for expansion towards the semi-dry regions is not thought to be viable. The second alternative is considered to be more hopeful. Drainage of poorly-drained land, replacing forest with tea and irrigation would create some 3 million jobs.

Other authors underline the unequal distribution of land. This distorted ownership is a legacy of the colonial period during which high-potential arable and good pasture land was reserved for Europeans. Some land reform programmes had started shortly before and after Independence. However, except for the Million Acre Scheme, it was not the landless who profitted from these but the more prosperous Africans. By the late 1970s it was estimated that some 2.4 per cent of Kenyan holdings owned some 32 per cent of Kenya's total arable land.

Landlessness in Kenya is estimated to affect some 10 per cent of the total population by 1990, and is increasing by at least 1.5 per cent annually. Landlessness is thought to be the result of the privatization of land, absentee landownership, expulsion of squatters from large farms, forced land sales and widowhood or divorce. Strategies used by the landless are to migrate away either to settlement schemes, large farms, urban areas or, most importantly, semi-arid lands.

Migrations from Central, Western, Nyanza and Eastern Province towards the few medium- to high-potential areas within the Rift Valley and Coast Province are especially common. Nakuru, Uasin Gishu, Trans-Nzoia, Laikipia, Narok and Kajiado are among the receiving Rift Valley districts. All but Kajiado District were among the group of districts having the highest high-potential land equivalents by the late 1960s. However, by the late 1980s this situation could be said to have changed dramatically. Over this period the availability of high-potential land equivalents per capita in the districts mentioned above decreased between 58 (Uasin Gishu) and 76 per cent (Trans-Nzoia). Nation-wide this figure stood at 48 per cent. Though Narok District (2.66 hple/cap) is still considered to have the most favourable position, Kajiado District by contrast, has now dropped to the least advantageous position in terms of high-potential land equivalents available for its population (0.18 hple/cap). Nowadays, 26 districts have less than 0.5 ha/pp of good agricultural land as compared to 12 districts in 1969.

In order to deal with this problem of diminishing land availability organizations like the World Bank have urged breaking away from the system

of Trust land ensuring certain groups exclusive rights of ownership over vast tracts of land. Instead a free land market should be created in order to enable more people to migrate away from the most to the less densely populated regions (especially towards Narok District).

Besides the transfer of land formerly held by Europeans to African farmers and the creation of settlement schemes, the Kenyan land use policy has so far been directed at the adjudication and registration of land in the "non-scheduled" areas. The rationale for this replacement of customary land rights into individual tenure arrangements was to create a collateral for loans and the encouragement of long term investments. A negative consequence, however, has been the creation of a group of landless, as land became increasingly concentrated in the hands of a happy few. This newly emerging elite of African farmers is constituted particularly of businessmen, politicians and civil servants. This was exemplified in the Nakuru and Kiambu districts by the late 1970s where, in the case of the latter region, 44 landowners, mostly representatives of the above mentioned groups, possessed over 30 per cent of all Africanized land. This probably explains the high political constraints for a real land reform policy within Kenya. Only recently has a more serious attitude been taken by the Kenyan Government to the land problem. At least the process of and links between land concentration, speculation and underutilization are now being officially recognized.

Among the solutions proposed to deal with this situation are the imposition of land ceilings, taxation, higher interest rates on capital loans and increased control over land acquisition. According to Hunt redistributive land reform imposing a 3 hectare ceiling and the creation of new farms in the released lands alone could provide a sufficient number of holdings to absorb 6.2 million new entrants to the labour force. If this was realized by 1990 it would mean that all the needs of those living in poverty and those looking for land to be cultivated could be met. Early implementation would also reduce the costs involved in the acquisition of large farm land. Unfortunately, the installation of yet another Land Use Commission to review these questions and advise on optimal land use patterns is illustrative of the Government's indecisiveness on this issue. Given the rocketing high-potential land prices, any delay in accomplishing the proposed land reform will make it less possible a substantial contribution to be made from this approach.

According to Leo (1984:181) 'Land is Kenya's obsession, as order is Germany's and self-sufficiency is Israel's'. Other authors have made similar statements concerning the importance of land in the Kenyan context (see e.g. Hellen 1977, Zwanenberg & King 1975). The Kenyan land question is a steadily ticking time bomb and a very hot issue. For now, some relief is provided by migration of landless people to the high-potential zones within the semi-arid areas. Let us turn to these dry areas of Kenya, home of the pastoralists and increasingly the asylum of the "spontaneously" landseeking Kenyan farmers.

CHAPTER 3

THE ARID AND SEMI-ARID LANDS (ASAL) OF KENYA

3.1 Introduction

A general outline of the arid and semi-arid areas of Kenya has been discussed in chapter 2. In this chapter a more detailed presentation of the characteristics and developments taking place in the semi-arid districts is presented. This allows for making a judgement concerning Kajiado District's position within this group of semi-arid areas. In chapter 4 the Kajiado District qualities in the fields of population, physical geography, economy, infrastructure and land use will be discussed in more detail.

3.2 Location and Main Characteristics of Arid and Semi-Arid Kenya

Several criteria and definitions exist to distinguish arid and humid zones. Figures for rainfall, evaporation and altitude can be found in several combinations and given weighted significance to produce a map of the dry and wet zones of a region (see e.g. Sombroek et al. 1982:43). Different terms have been used by various authors to designate essentially the same kind of zone. The resulting maps differ mainly in detail and the location of boundaries and intermediate zones like semi-arid and sub-humid regions. More problematic is the sometimes overlapping categorization providing difficulties of comparability. Dietz (1987:36), for example, found that what was called 'semi-arid' by a UNESCO-map covered the 'semi-arid' as well as partly the 'arid' zone locations of the Kenya Soil Survey map of 1982. Moreover, within one category, areas are included which vary in respect of certain specific characteristics. For example, comparable *average* rainfall figures can be the result of a low but year round rainfall pattern or of a high but concentrated period of precipitation. In combination with soil characteristics this will be of utmost importance for the possibility or impossibility of producing certain crops. The ecological zone IV (sub-humid to semi-arid) in particular differs in terms of vulnerability to drought.

Figure 3.1 presents the semi-arid zone and district boundaries for Kenya. The map, which includes ecological zones VI, V and risky IV, stresses the low agricultural potential of Kenya. The position of the semi-arid areas in demographic, economic and social respects as compared to other regions and Kenya as a whole has been presented by Dietz and Koninx (1984). A summary of this exercise has been displayed in Dietz (1987). As the 1989 Kenyan population census is still not published Dietz' figures are the most update

available now.[1]

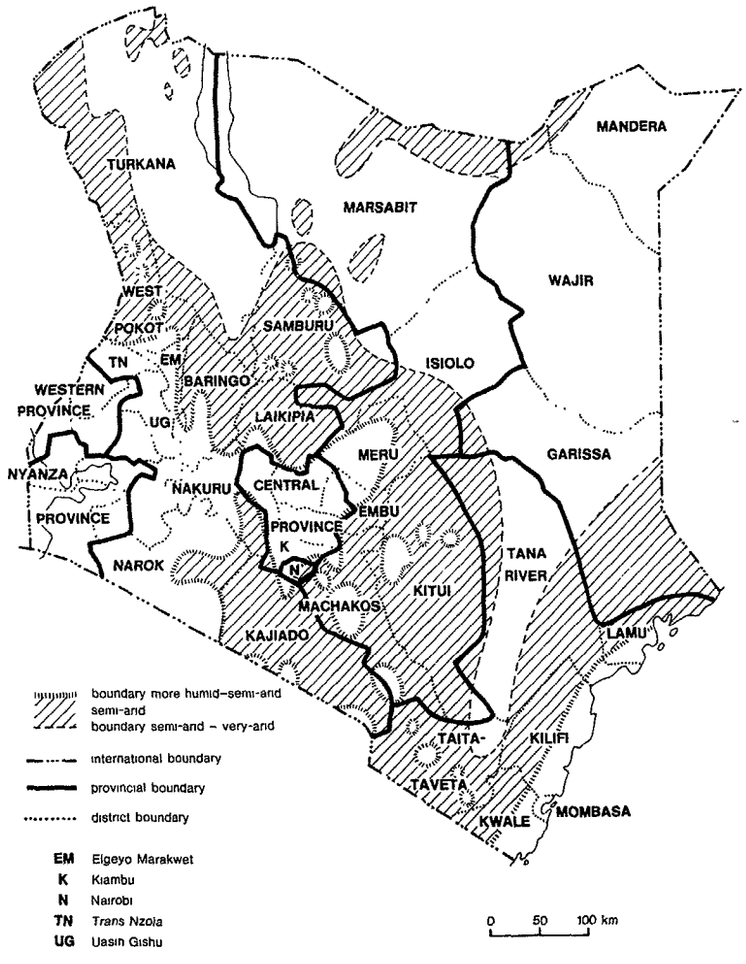


Figure 3.1 Kenya: Semi-Arid Zone and District Boundaries
Source: adapted from Dietz 1987 figure 2.5

[1] Another spatial classification has been made by Tomlinson (1981) dividing Kenya into core and peripheral areas. He uses income levels, agricultural potential, production modes and population density figures of the early 1970s to define five typical regions.

In Kenya as a whole 45 per cent is arid while 38 per cent of the land area is classified as semi-arid. Nine districts have more than 75 per cent of their area in the *semi-arid* zone: Kajiado, Samburu, Kitui, Laikipia, Taita-Taveta, Machakos, Baringo, Lamu and West-Pokot. Table 3.1 compares the position of these semi-arid districts within Kenya on a variety of variables.[2]

Table 3.1 Ecological, Demographic and Socio-Economic Position of Kajiado District and the Semi-Arid Districts in Kenya as at 1979

	KD	SAD	AD	HD	KEN
Total area (km² x 1,000)	21	138	321	55	536
Percentage arid and semi-arid area	94	91	100	4	83
Population density (inh/km² 1979)	7	18	21	70	27
Sex ratio (M/F 20-50 years 1979)	0.98	0.82	1.01	0.82	0.95
Population growth 1969-79	1.73	1.44	1.37	1.39	1.40
Wage labour (as % of population 15-60 year 1979)	9	9	4	14	16
Wage labourers in private sector (as % of all wage earners 1979)	35	41	15	58	56
Wage income per capita 1979 (Ksh.)	362	282	216	416	763
Estimated agricultural production value/capita (in Ksh. for 1977)	314	395	112	925	733
Civil servants per 1,000 people (1979)	25	20	16	22	28
School attendance (% of all eligible children 1979)	38	60	12	70	62
Educated people (% of all people 1979)	30	44	10	53	49

Source: compiled from Dietz 1987 tables 2.2, 2.3, 2.4, 2.5 and appendix 2.1
Note: KD = Kajiado District, SAD = Semi-Arid Districts, AD = Arid Districts, HD = Humid Districts, KEN = Kenya. Urban Districts (Nairobi and Mombasa) are not presented in this table but are included in the Kenya total. Narok, Meru, Embu, Elgeyo Marakwet, Kilifi and Kwale are left out of this analysis and excluded from the Kenya total as well due to their mixed ecological potential which prevents a clear categorization of these regions.

From this data it can be concluded that the group of 'semi-arid districts' on most variables, except for the intercensal annual population growth rate, scores between the humid and the very-arid groups. Kajiado District is also shown. Among the group of semi-arid districts it is in a relatively weak position in respect to education. Table 3.1 also stresses Kajiado's relatively high population growth rate which is mainly the result of immigration, although overall population density is still low. The highest densities in semi-arid areas can be found in Machakos and parts of Kitui.

Due to continuing immigration and relatively higher population growth rates of agricultural groups, the balance between pastoralists and non-pastoralists is changing in favour of the latter. For example, the percentage of non-Maasai in

[2] Dietz (1987) grouped Turkana, Garissa, Isiolo, Mandera, Marsabit, Tana River and Wajir as the arid districts, who together make up some 45 per cent of Kenya's territory. The provinces of Central, Nyanza and Western and of the Kericho, Nakuru, Nandi, Trans Nzoia and Uasin Gishu districts of the Rift Valley Province made up the group of humid districts, the main suppliers of the merely 17 per cent of Kenya's territory classified as 'humid'.

Kajiado and Narok districts has increased from 31.4 and 33.5 for 1969 to 37.2 and 43.8 by 1979, respectively (see section 4.3.2). After comparing projected district population totals with figures for maximum farm population, Senga concluded that Kajiado, Kitui, Samburu, Turkana, Nakuru and Kericho would, by the year 2000, have populations too high for every family to earn an annual Ksh. 2,000/- in addition to subsistence from farming (see Senga et al. 1980:41).

3.3 Cultivation in Kenya's Semi-Arid Lands

In most of the semi-arid districts small islands of population concentrations can be found reflecting the scattered pockets of available good agricultural land: Ngong, Chyulu Hills, Nguruman and Loitokitok in Kajiado, Mnagei in West Pokot, Taita Hills and Mbooni in Machakos, Kitui town in Kitui, Tugen Hills and the Eldama Ravine in Baringo, the Coast region and islands of Lamu and the southwest of Laikipia. Most of these regions are to be found in the higher altitudes or near swampy regions which allow some simple irrigation. Figure 3.2 shows the extent of cultivated area within Kenya.

It reveals that in addition to almost the entire high and medium-potential zones which are already under cultivation, (rainfed) farming has also extended beyond these agro-ecological zones into the semi-arid zone which is less suited to cultivation. For the 1972-1982 period, Epp and Kilmayer estimated an 8 percent increase of the cultivated area in Kitui District largely at the cost of the marginal land zone of the district (see Kliest 1985:80). For Kenya as a whole, the FAO estimates indicate an expansion of the cultivated area of some 4.8 per cent between 1974 and 1981 (see Kliest 1985:101). This would mean that Kenya's cultivated area is extending at a rate of some 0.5 per cent per year. A major part of this increase is taking place in less suitable regions. As the production potential of these new areas is minimal, the increase in agricultural output from the expansion of the cultivated area alone will probably be less.

From Muchena's listing of soils present in semi-arid Kenya it can be concluded that, in some parts, relatively favourable Fluvisols, Cambisols, Vertisols ("black-cotton"), Ferralsols and Nitosols are available. However, in general, the soils occurring in the arid and semi-arid lands (ASAL) have topsoils with a low organic matter content which tends to form a strong surface crust or cap under rain drop impact (see Muchena et al. 1988). This can increase both the run-off and the erodibility of the soil.

Part of this erosion stems from natural causes, such as wind, water, cold and heat. Of more importance, however, is man-made erosion. To prepare the field for planting of cereals, the farmers cut down trees and clear the land completely of all weeds and grasses to secure every drop of water for the cereal plants. In most cases land is ploughed too deep. Furthermore, fallow periods are shortened and, because of the low moisture holding capacity of the

soils and the leaching of nutrients, abandoned farmlands in the ASAL do not recover quickly and sometimes not at all. Irrigation sometimes leads to salinization of the soil. Finally, high concentrations of people lead to the destruction of trees in the near surrounding for building material and firewood. The annual fuel-wood consumption of African cultivators is estimated to be 1 m^3 per person, which is some ten times as high as that for nomadic pastoralists (see Lusigi & Glaser 1984:24). In most cases the cutting of trees takes place in vulnerable water-catchment areas, increasing the risk of local soil erosion.

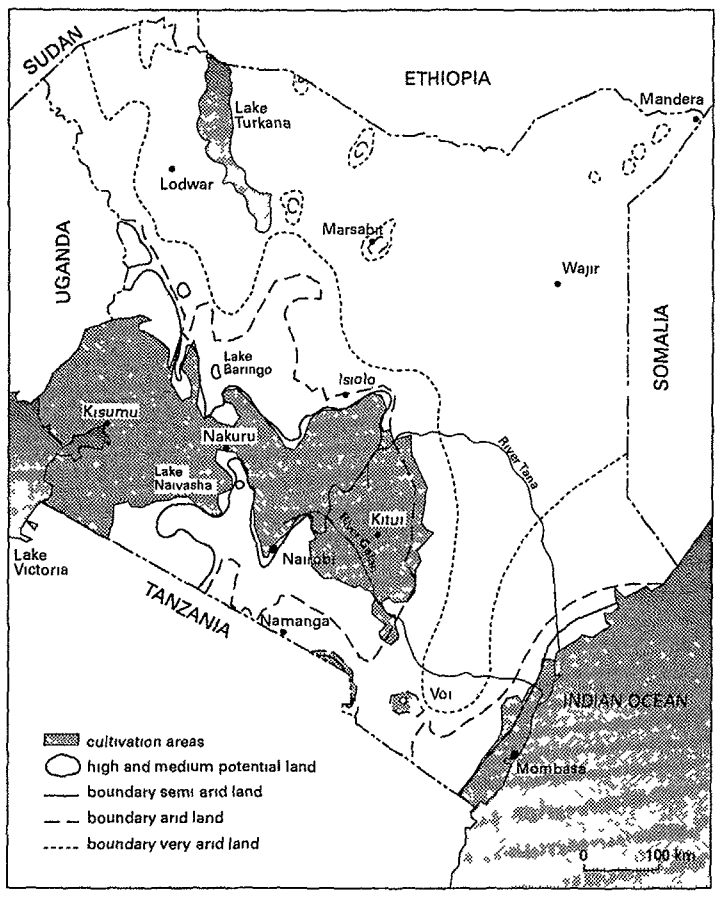


Figure 3.2 Cultivation in Kenya's Semi-Arid Zone, 1979/80
Source: Kliest 1985 cf Epp and Kilmayer 1982

Worldwide, O'Keefe (1983:302) estimated man-made erosion to be a factor 1.5 higher than natural erosion. Replacement of natural vegetation or grasses for cereal cultivation will lead to an increase of the washing away of tons of soil as well as the loss of water through increased runoff.[3] It is estimated that under the existing erosion rates the life of soils in the semi-arid areas of Kenya is between 50 and 2000 years (see Muchena et al. 1988:25-7). Observation in the ASAL has revealed that the cultivation of areas which should preferably be used as grazing lands leads ultimately to the formation of gullies and badlands, particularly in Machakos, Kitui, Kajiado, Baringo, Samburu, Turkana, Meru and Marsabit (see Obara 1988:27 cf Brown 1963).

Possible measures to stop these negative effects are terracing, i.e. changing the length of a slope; contour-stripping, i.e. wide strips with alternating crops under rotation through which it is tried to prevent runoff and soil loss; water-spreading and ley-farming whereby periods of arable cropping are followed by a period of planting grass and legumes utilized for livestock production. This latter practice, for example, is applied in Narok District whereby land under wheat after 5-8 years is turned to grass again.

Other methods are applied to lower crop failure risk and to increase crop yields. Water-harvesting methods in Machakos, Kitui and Turkana have been applied using sand-made bunds and small ditches to concentrate water for trees and cereals (see Rutten 1985:125). Also, increasingly multi-purpose trees are planted. These are fastgrowing, drought-resistant, fruit-bearing, fuel-wood and fodder-supplying trees which additionally fix nitrogen, add organic matter and improve the soil. Special drought resistant crops, such as Katumani maize and certain bean varieties, having a short growing season or high drought resistance, have been introduced.[4] Agro-forestry, combining the growing of trees and crops, is another method which tries to combine both objectives of soil protection and crop production.

Nevertheless, as has been demonstrated in Machakos and Kitui by Wisner (1978) and Kliest (1985), smallholders of the marginal areas face high risks of total crop failure, sometimes ultimately resulting in famine. During the period 1950-1976 26 per cent of all harvests in the long rainy season failed in part and 33 per cent failed completely in the Kitui District. Eleven out of the 27 recorded years could be characterized as being severe famine years (see Kliest 1985:82).

[3] Soil erosion tests in Tanzania over a two-year period on 50m² red sandy loam soil on a pediment slope of 3.5 gradient concluded that, for ungrazed thicket, 0 tons of soil and 0.4 per cent of rainfall were lost by water runoff. For grass these figures were 0 tons of soil and 1.9 per cent runoff, while millet (78.0 tons of soil/26.0 per cent runoff) and bare fallow (146.2 tons of soil/50.4 per cent runoff) showed a dramatic increase of erosion (see O'Keefe 1983:303).

[4] According to Kliest (1985:76) early maturing bulrush millet, posho and foxtail millet and early maturing sorghum *should* be the leading grain varieties instead of maize which is *still* widely planted.

Another problem resulting from the extension of cultivation in the semi-arid areas is the growing tension between pastoralists and the invading agriculturalists. The latter settle on the better watered dry season pastures and push the former towards the drier parts of the area. While the total area confiscated in this way may be small, its impact is much larger as it is a vital link in the chain needed in times of drought stress for the survival and resting of the lower potential areas. Sometimes settling is allowed for a temporary period by the pastoralists, as in most regions land is held under trust and cannot be sold. For the "invading" farmers this is a very insecure situation, as they can, in principle, be moved out at any moment. In areas where land has been turned into private ownership, for example the Ngong area of Kajiado District, a process of selling out can be observed. In fact, a large part of the Kenyan land problem has moved from the centre to the periphery where the landless, migrant farmers and pastoralists, all belonging to the poor of Kenyan society compete over the same scarce land resources. Often, this competition turns into a conflict whereby people are seriously wounded and sometimes even killed (see chapters 5 and 7).[5]

The fact that group ranches are in a process of subdivision opens an alternative for invading groups of cultivators to settle legally and securely with a title deed. Some fear that, as a result of the exclusion of vital areas from the pastures, the viability of the pastoral sector, considered to be the most viable option for the arid and semi-arid zones, will be undermined. This will force pastoralists to search for alternatives to at least counterbalance the negative effects of the loss of their grazing areas.

This reduced availability of land and livestock for an ever growing human nomadic pastoral population lies, as stated in the introduction and chapter 1, at the heart of our survey. Before dealing with the official Kenyan policy towards the arid and semi-arid areas let us consider in more detail the pastoral groups of Kenya.

3.4 Livestock Production in Kenya's Arid and Semi-Arid Lands

Kenya houses nine main pastoral peoples: Somali (383,000 people), Maasai (241,500), Turkana (207,000), Pokot (170,000), Samburu (73,500), Borana

[5] In the Narok District particularly, fights between the Kipsigis and the Kisii against the Maasai have continued for some decades causing severe injuries and deaths almost every year. In Kajiado District the Maasai clash mainly with the Kamba, the Kikuyu and the Chagga from Tanzania. From the Kalembwani and Rombo areas in Kajiado District in particular reports of conflicts are repeatedly brought forward. Otherwise Kajiado District is relatively peaceful. Worldwide, most profound conflicts between groups of cultivators and Fulani pastoralists resulting in large numbers of people killed are reported from Niger (see Volkskrant 08/11/91).

(69,000), Orma (32,000), Gabbra (30,500) and Rendille (22,000).[6] Except for the Maasai and the Pokot, most of these nomadic pastoral groups inhabit the arid areas of Kenya (see figure 3.3).

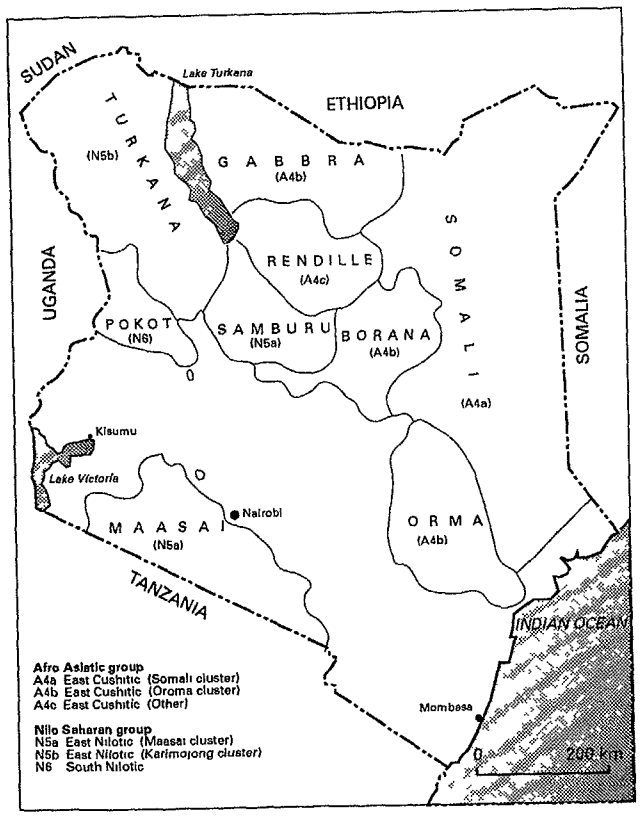


Figure 3.3 Pastoral Groups of Kenya
Source: adapted from Dyson-Hudson 1982

[6] The numbers presented here include all members of these ethnic groups disregarding their actual occupation and place of residence in 1979. As such the total number of group members actually engaged in livestock keeping will be lower. The numbers presented here are restricted to Kenyan citizens. Somali, Pokot, Maasai and Gabbra also live in the neighbouring countries of Somalia, Uganda, Tanzania and Ethiopia, respectively. The Turkana are closely related to the Karimojong and the Jie in Uganda. In times of stress these groups practice in and outmigration, which can somewhat blur the total population figures either positively or negatively. This happened, for example in 1979, when many of the Turkana fled to Uganda to escape starvation and hostile pastoral groups from the Sudan (see Rutten 1985).

Table 3.2 summarises for each major nomadic pastoral group living in the arid or semi-arid area the *total* number in Kenya for 1962, 1969, 1979 and the estimated for 1989. The main district(s) which more or less function as the home area for each group is also mentioned. Finally, the number of each group living outside their main district(s) as per 1979 is given. The semi-arid districts not mentioned in table 3.2 -Machakos, Kitui, Taita Taveta, Laikipia and Lamu- are the home of agro-pastoral groups such as the Kamba, Taita, Taveta or of hunter-gatherers like the Ndorobo in Laikipia and fishing people/agriculturalists like the Bajun. Furthermore agro-pastoral groups can be found particularly in Elgeyo-Marakwet, Kericho, Nandi and Uasin Gishu Districts.

Table 3.2 Human Population Trends of Nine Major Nomadic Pastoral Groups in Kenya 1962-89

Ethnic Group	Inhabited Districts	Population (x 1,000)				outside "core" districts
		1962	1969	1979	1989@	(1979)
Somali	Garissa/Mandera/Wajir	249.5	315.5	383 0	465.0	32%
Maasai	Kajiado/Narok	154.0	155.0	241.5#	375.0	12%
Pokot	West Pokot/Baringo	76.5	93.5	170.0	309.0	3%
Turkana	Turkana	181.5	203.0	207.0^	211.5	34%
Borana	Marsabit/Isiolo	58.5	34.0	69.0*	139.0	25%
Samburu	Samburu	49.0	55.0	73.5	98 0	12%
Orma	Tana River	11.5	16.5	32.0	62.0	4%
Gabbra	Marsabit	11.5	16.0	30.5*	58.0	23%
Rendille	Marsabit	13 5	18.5	22.0	25.5	10%
Total		705 5	907.0	1,228.5	1,743.0	

Source: Population Census 1962 Vol III; 1969 Vol I & IV; 1979 Vol I & II and Dietz 1987

@ Estimated, using intercensal growth rates for 1969-1979, meaning that in all probability the numbers of Borana and Maasai will be overestimated while those for Turkana will be underestimated.

\# Some 30,000 Maa-speaking Ndorobo, hunter-gatherers, registered themselves as Maasai in 1979.

^ At the time of the 1979 census many Turkana had left the district looking for green pastures in neighbouring districts and Uganda.

* Declines followed by high growth rates for Borana and Gabbra are probably in the main due to the unreliability of the coverage (undercounting) in the 1969 census and frequent boundary crossings into Ethiopia and vice versa.

Table 3.2 clearly shows the rapid increase of most nomadic pastoral people during the last decades. Nonetheless, part of this growth is due to undercounting in former population censuses and incorporation of small related groups to larger bodies of related peoples. Overall, the annual growth rate of the nomadic pastoral population is thought to be between 2 and 3 percent which is below the national average of 3.8 per cent. The increasing availability

of medical facilities, better sanitary provision and famine relief are among the main causes for the rise in the number of nomadic pastoralists.

In section 2.2.2 we showed that for Kenya the total number of livestock was estimated by the FAO to be about 13 million cattle, 15 million sheep and goats and 0.8 million camels by 1990. Slightly more than half of the Kenyan cattle and sheep can be found in the high potential areas and the more humid parts of the medium potential rangelands. Goats (54 per cent) and camels (100 per cent) stay mainly in the arid or semi-arid zones (see also Jahnke 1982:236-39).

According to Bekure et al. (1987:23) the area of the Kenyan rangelands (zones IV, V, VI and VII) is 88 per cent, which is slightly above the 83 per cent estimate made by Dietz (see section 3.2). Bekure et al. made a division of the Kenyan *rangelands* into two regions: the pastoral areas, i.e. south-east (Kajiado and Narok), north-east (Mandera, Wajir, Garissa and most of Tana River and Isiolo) and north-west (Turkana, Samburu and Marsabit) and the mixed-farming areas, i.e. west (Baringo, West-Pokot, and Laikipia), east (Kitui, Machakos, Meru, Embu and part of Isiolo) and coast (Taita, Kwale, Kilifi, Lamu and part of Tana)). They concluded that by 1983 the three pastoral regions, comprising 75 per cent of the total rangeland area, contained 27 per cent of the human population and 69 per cent of *rangeland* livestock units.

It has been estimated by the Ministry of Livestock Development that for Kenya as a whole some 50.31 million hectares were available for grazing in the mid-1970s. This amount was expected to decline to about 48.7 million hectares, a 3 per cent decrease, due to increasing cultivation and other land uses by 1990. This loss of pastures reduces the carrying capacity by 14 percent from almost 12 to about 10 million livestock units, because the withdrawal of land from grazing is expected to affect mostly the higher potential areas with a higher carrying capacity. The actual reduction in livestock production is even thought to be as high as some 20 per cent, because of the higher productivity of higher potential areas (see MoLD 1980:11).

We would like to add that a loss of the small portions of high potential land in the semi-arid areas would even undermine the viability of the livestock system in its very essence. Although the land available for livestock keeping is decreasing the demand is expected to rise. The FAO total Kenyan herd estimate for 1975 was some 6.7 million Tropical Livestock Units while for 1990 this had almost doubled to 13.0 million Tropical Livestock Units.

Unfortunately, as livestock figures are provided by district and not by ethnic group, it is necessary to concentrate on those districts populated almost exclusively by pastoralists in order to be able to deduce a trend in livestock numbers and, more importantly, of pastoral livestock wealth. For this we analyzed ten arid and semi-arid districts inhabited primarily by the nine groups of nomadic pastoralists mentioned above. Table 3.3 provides available

livestock figures of cattle, camels, sheep and goats taken from aerial flights from 1969 to 1988.

Table 3.3 Livestock Numbers and Trends for Selected Arid and Semi-Arid Districts 1969-88

	1969			1977			1985			1987/8		
(x '000)	cattle	camel	shoats	cattle	camel	shoats	cattle	camel	shoats	cattle	camel	shoats
Mandera	80.0	90.0	143.0	33.7	105.3	451.7	18.2	43.3	48 3	61.3	76.0	308.9
Garissa	361.0	10.0	74.0	382.3	50.8	279.7	184.6	59.6	194.4	257.9	42.5	273.1
Wajir	156.0	76.0	74.0	197.6	119.5	304.9	70.3	133.1	242.5	130.4	153.4	497.1
Marsabit	230.0	149.0	508.0	120.4	115.0	452.8	100.7	45.6	347.5	125.4	92.2	923.9
Isiolo	210.0	10.0	34.0	115.9	155.0	371.9	69.9	20.9	278.3	122.5	52.9	423.8
Turkana	110.0	169.0	625.0	482.8	97.6	2022.5	n.f a	n f.a	n.f.a	197.3	102.1	1446.3
Tana River	139.0	-	88.0	241.5	43.1	305.2	n.f.a	n f.a	n.f.a	305.2	52.4	402 8
Samburu	448.0	12.0	318.0	177.7	9.5	293.0	92 0	5.3	229.3	146.4	13.2	460.0
West Pokot	150.0	-	158.0	168.9	-	96.9	n.f.a	n f.a	n.f.a	124.2	0.5	133.5
Kajiado	687.0	-	371.0	373.1	-	626.8	n.f.a	n.f.a	n.f a	475.8	-	639.0
Narok	649.0	-	484.0	512.8	-	411.5	n.f.a	n.f.a	n.f.a	565.9	-	437.2
Baringo	207.5	-	685.7	172.9	-	260.9	n.f.a	n f.a	n.f.a	141.8	0.5	311.7
Total	2778.5	516.0	3562.7	2979.6	699.7	5877.8	1684.8	418.5	2900.5	2654.1	587.7	6247.3

Source: Statistical Abstract 1976, Peden 1984, Mbugua 1986, Grunblatt et al. 1989, Said et al. 1989

[1] Totals for 1985 include Turkana, Tana River, West Pokot, Kajiado, Narok and Baringo District by a reduction from 1988 figures using livestock growth trends of the other districts.

When comparing these figures, it can be concluded that over the 1969-1988 period the total livestock numbers did not follow the near doubling of the human population figures but remained instead more or less constant. Some of the major disasters in the mid and late 1970s and the 1984 drought were responsible for this and resulted in huge drops in the number of animals in the arid and semi-arid areas of Kenya. The 1988 data indicate that some recovery has occurred but has not reached the 1969 level, except for small stock which have fast reproduction and relatively low mortality rates. In general, a trend can be seen in the Kenyan rangelands of an ever increasing shoats/cattle ratio. This ratio increased from 1.28 in 1969 to 2.35 in 1988. The abundance of camels in the most arid areas of the country is also shown.

If livestock figures are combined with demographic data derived from the human population censuses of 1969 and 1979 the levels and trend in per capita availability of livestock numbers can be calculated. For this we reduced the total district population with all ethnic groups not belonging to one of the nine major pastoral populations as the former are thought to be non or minor livestock owning people. As a consequence, we had to leave out those semi-

arid districts having a (too large) component of agriculturalists.[7] The outcome of this exercise is provided in table 3.4.

Table 3.4 Average Availability of Livestock per Capita for the Pastoral Population of Selected Arid and Semi-Arid Districts 1966-88

	TLU (x 1,000)[1]				Nr of pastoralists (x 1,000)				TLU/CAP[1]			
	1969	1977	1985	1988	1969	1977	1985	1988	1969	1977	1985	1988
Mandera	165.9	183.4	68.5	158.7	91.0	89.8	104.3	123.8	1 82	2.04	0.66	1.28
Garissa	277.2	357.0	220 3	257.9	62.2	101.1	127.6	139.4	4.46	3.53	1.73	1.85
Wajir	208.8	308.1	228.6	315.8	84 5	61.2	77.2	84 3	2.47	5.04	2.96	3.75
Marsabit	381.0	258.3	152.9	272.1	49.8	82.7	104.4	114.1	7.64	3.12	1.46	2.38
Isiolo	165.6	298.5	99.1	183.6	23.1	35.4	44.7	48.8	7.17	8.43	2.22	3.76
Turkana	357.0	642.7	n.f.a	401.1	163.7	131.5	165.9	181.3	2.18	4.89	n.f.a	2.21
Tana River	106 4	248.7	n f a	313 1	16.4	39 8	50 3	54.9	6 59	6.25	n.f a	5.70
Samburu	359.9	166.7	90.5	157.8	65.9	68.3	86.2	94 2	5.46	2 44	1.05	1.68
West Pokot	119.4	129 0	n.f.a	100.4	74.0	133.3	168.3	183.8	1 61	0.97	n.f.a	0.55
Kajiado	521.4	329.7	n f.a	395.9	59.5	90.0	113 6	124.1	8.76	3.66	n.f.a	3.19
	2,662.6	2,922.1	1,633.3	2,556.4	690.1	833.1	1,042.5	1,148.7	3.86	3.51	1.57	2.23

Source: author's compilation from population census 1969 and 1979; Dietz 1987; table 3.3[2]

[1] Totals for 1985 include Kajiado, West Pokot, Turkana and Tana River District through extrapolation from 1988 using growth trend of the other districts. Figures for 1969 exclude donkeys, which in general make up some 1-2 per cent of total TLUs only.

[2] District *pastoral* population figures for 1979 have been estimated to be in Mandera: 95,194; Garissa: 107,208; Wajir: 64,883; Marsabit: 87,739; Isiolo: 37,529; Turkana: 139,441; Tana River: 42,246; Samburu: 72,468; West Pokot: 141,387 and Kajiado: 95,425. Population figures for 1977, 1985 and 1988, using a 3 per cent average annual growth rate are based on this 1979 census estimated *pastoral* population and were derived using a 0.94, 1.19 and 1.3 multiplier, respectively.

From table 3.4 it can be concluded that Kenyan pastoralists do not have a special position but are part of the trend noted in our introductory words of a diminishing livestock related base for making a living. In fact, if we take a 4 TLU per capita availability to be an absolute minimum level, it will be clear that since the early 1970s, several Kenyan pastoral groups, notably Turkana, Samburu, Somali and Pokot pastoralists are no longer able to sustain a purely livestock-based existence. It should be noted, however, that the figures are mainly presented to show a trend in overall livestock ownership and that one should be careful in drawing too strict conclusions as far as minimum levels

[7] It is presumed that estimation of the real average availability of livestock per capita will be as correct as possible if the non-pastoral group is very small. As a consequence, unjustified inclusion of livestock belonging to this group will be minimal and will be offset by incorrect inclusion of all members of the nine major pastoralists group as being involved in livestock keeping.

are concerned. For example, livestock figures were collected using aerial countings which, in general, are some 15 per cent below real numbers. Moreover, we did not recalculate our human population in adult equivalents. Both adjustments would probably raise the TLU/Cap figures by some 30-35 per cent.

Also, we used the same TLU conversion rates for every species while differences between for example the small Maasai Zebu and large Boran cattle, or the small Turkana camel and the larger Somali camel do exist. On the other hand, as a result of crossbreeding, the quality of the pastoralists' herds, has definitely increased in the last decades resulting in a higher milk/meat output per animal. This should be taken into account when comparing livestock numbers over time.

Finally, competition from wildlife for grazing resources is often overlooked, but should, in my opinion, be included in dealing with carrying capacity estimations. The extent of the competition for grazing for several arid and semi-arid districts is shown by comparing livestock and wildlife TLU densities as shown in table 3.5.

Table 3.5 Livestock and Wildlife TLU Densities for Selected Arid and Semi-Arid Districts 1977-88

District	Area	TLU/km²		Wildlife TLU		Wildlife TLU/km²		Total TLU/km²	
	(km²)	1977	1988	1977	1988	1977	1988	1977	1988
Mandera	26,470	6.9	6.0	10,549	3,637	0.4	0.1	7.3	6.1
Garissa	43,931	8.1	5.9	91,281	45,852	2.1	1.0	10.2	6.9
Wajir	56,501	5.5	5.6	35,681	19,742	0.6	0.3	6.1	5.9
Marsabit	73,952	3.5	3.7	56,915	27,009	0.8	0.4	4.3	4.1
Isiolo	25,605	11.7	7.2	40,255	17,592	1.6	0.7	13.2	7.9
Turkana	63,304	10.4	6.3	25,564	5,336	0.4	0.1	10.8	6.4
Tana River	39,072	6.4	8.0	109,931	37,466	2.8	1.0	9.3	9.0
Samburu	17,521	9.5	9.0	44,062	16,381	2.5	0.9	12.0	9.9
West Pokot	9,305	14.2	10.8	192	410	0.0	0.0	14.2	10.8
Kajiado	21,852	16.8	18.1	114,451	67,302	5.8	3.1	22.7	21.2
Baringo	10,732	15.1	11.8	1,633	450	0.2	0.0	15.3	11.8
Laikipia	9,666	21.9	14.1	63,323	55,781	6.5	5.8	28.4	19.9
Lamu	6,153	1.0	1.0	76,259	36,020	11.7	5.9	12.7	6.9
Narok	7,832	25.4	25.1	255,747	164,255	15.9	9.2	41.2	34.3

Source: author's compilation based on Mbugua 1986; Grunblatt et al. 1989; Said et al. 1989; Peden 1984

The Maasai area (Narok and Kajiado districts) is inhabited by several wildlife species like wildebeests, giraffes, zebras, gazelles, impalas, elephants and the like. For example, in Kajiado District a mean of 3.1 TLU per km² or 14.6 per cent of the total TLU figure for the district, is made up by wild species. This reduces the availability of grazing and water resources for domestic animals.

Besides being direct competitors for grazing and watering, wild animals kill livestock, transmit diseases to domesticated animals resulting in livestock losses and the avoidance of certain grazing pastures for some time of the year. This latter aspect also counts for the effect of tsetse infested areas. In the last decades the setting apart of large areas in the arid and semi-arid areas for national parks has also reduced the area actually available to livestock-keeping. Lack of watering points in certain areas and agricultural activities further diminish the range open for livestock-keeping.

With the loss of many traditional drought grazing reserves due to expanding dry-land agriculture and the establishment of National Parks and Reserves as well as Forest Reserves the drought risk for cattle production has considerably increased. This, together with the increase in the human population, has reduced the self-reliance in terms of food production of the pastoral population, especially during drought periods.

To counterbalance this trend national and international authorities and researchers have proposed solutions in the commercialization of livestock production in the arid and semi-arid zone (see section 3.5). Offtake from the "traditional herd" is usually said to be as low as 9-10 per cent, attributable to lack of interest by the herders. As Raikes (1981:97) points out this reluctance 'is at least in part due to low prices and poor organization of marketing'. Aldington and Wilson (1968) found an overall average offtake rate of 13.3 per cent in Kenya, ranging between 27.5 per cent in the commercial ranching area and 7.5 per cent in the most arid pastoral areas (see Raikes 1981:116). On average the marketed offtake within the "traditional herd" is estimated to be around 12 per cent.

Cattle offtake figures provided by White and Meadows for Kajiado District over the 1962-1978 period range between 10 and 38 per cent. Following the major drought in 1960/1 offtake ratios dropped to a low of 10 per cent for 1962/3, while, at the height of the 1975/6 drought period it reached 38.4 per cent (see Evangelou 1984:110). Patterns of offtake also vary among households. Although "rich" households in an absolute sense marketed most animals "poor" households have higher offtake ratios. In addition to low market prices and poor market organization, it seems clear that 'range conditions and herd size set general levels of market involvement, but the particular production circumstances which each pastoralist faces -and his perception of opportunities and costs- ultimately determine the sale decision' (see Evangelou 1984:111).

Schwartz studied these aspects for Northern Kenya, the breeding pool for immature cattle to be fattened in the ranching areas, concluding that 'pastoral livestock production in Northern Kenya is still subsistence oriented. Sales of animals for slaughter or fattening do not guarantee a sufficient income during dry seasons and drought years to stimulate a market-oriented livestock production' (Schwartz 1981:63). Imposition of quarantine regulations makes

traders reluctant to buy animals in large numbers at reasonable prices. This means that many pastoralists have no choice of compensating for the shortage of milk in a dry season or year by purchasing of other foodstuffs even though they have sufficient animals ready for sale. As a consequence they are condemned to employing their traditional strategy of keeping large numbers of female stock to guarantee a minimum milk supply throughout the year. Despite substantial inputs for water development and steadily increasing marketing facilities for both immature and slaughter stock, stock sales from the Northern rangelands have more or less stagnated since the mid sixties. The major reason for this are the recurring drought periods which adjust the supply of and the demand for immature cattle.

3.5 Government Policy Towards the Arid and Semi-Arid Lands

As stated before, the conservation of fauna is of major importance, not only from an ethical point of view, but also because wildlife is one of the most important attractions of the Kenyan tourist industry. Since the late 1980s this sector of the Kenyan economy has become Kenya's main foreign currency earner. Other economic contributions from the arid and semi-arid areas, include soda ash mining from Kajiado, commercial ranching from Laikipia mainly, commercial arable farming like wheat from Narok and the provision of cheap labour from Machakos and Kitui. Before we turn to a detailed description of Kajiado District and its socio-economic and physical characteristics let us consider the policy of the Kenyan Government towards the arid and semi-arid areas.

In her analysis of poverty and the Kenyan land problem, Hunt explicitly states that 'we shall not consider the difficulties and opportunities that pertain to raising incomes from pastoralism [because this] so far proved particularly intractable' (Hunt 1985:162). She is rather pessimistic about the future of nomadic pastoralists, who are thought not to have enough land and cattle to absorb their growing numbers, even if immigrant smallholders were to withdraw from the arid and semi-arid zones.

Many years earlier, the British Colonial Government showed a remarkable similar attitude as it was not interested in the development of the ASAL areas either. Migot-Adholla (1981), Ngutter (1981), Raikes (1981), Wiggins (1985) and Dietz (1987) have all reported on (post) colonial development policy towards the rangeland areas in Kenya.[8] The ever present and overlapping tone in these reports is one of a general outcry concerning the neglect of the dry

[8] A detailed analysis, with special reference to the Maasai area, is provided in chapters 5 and 6. Here we will just review the main periods in the history of development policy in the arid and semi-arid lands in short

zones in Kenya. Nonetheless, since the beginning of the 1980s a change in this policy to the betterment of the dry zones can be seen as Dietz (1987·64) has observed.

With the exception of Somalia, Niger and Mauritania, pastoralists are generally, minority communities in the new states of Africa. In Kenya, also, pastoral societies are geographically, politically and economically peripheral for an economic and social system dominated by agricultural groups. A century earlier the pastoralists were, politically, economically and geographically, at the centre of what became the Kenya of today. Droughts, diseases and famines have undermined their power which has ultimately been reduced as a result of the arrival of the Europeans in the interior of the country. The colonists started a policy which favoured settler agricultural and ranching interests, at the cost of the wellbeing of the pastoralists.

Early colonial policy towards the nomadic pastoralists was mainly concerned with pacification, collection of taxes, discouragement of socio-cultural traditions such as circumcision, the establishment of reserves and the setting aside of large areas for ranching purposes. Besides semi-arid areas the pastoralists, especially the Maasai and the Pokot, lost important humid lands. Quarantine regulations prohibiting the legal movement of cattle and some years later veterinary campaigns to reduce the incidence of disease in native livestock were started. In fact, both measures were designed primarily to protect the European livestock economy (see Ngutter 1981:27).

Since the early 1930s, another factor, i.e. land conservation, was added to the list of dry area policies. As a result of the veterinary improvements and, according to the Administration, the pastoralists' wish to own as many animals as possible, pressure on the available grazing resources had increased considerably. Baringo, Maasailand and the Kamba areas (Kitui and Machakos) in particular were thought to be heavily overpopulated and overstocked (see Dietz 1987:53). Instead of opening up closed areas or allowing the herders to move to those traditional areas confiscated but seldom used by the Europeans, an attempt was made to reduce livestock numbers belonging to Africans. Heavy taxation proved to be only partly successful. By the late 1930s the Kamba herdsmen of Machakos were even forced to sell part of their stock, a practice that was stopped after a fierce protest that reached as far as the House of Commons in London. Alternative destocking measures proposed included the establishment of markets replacing the practice of itinerant traders as the channels for stock export. However, the prices paid were much too low and illegal trade flourished. During World War II the pastoralists "donated" huge numbers of animals to support the war.

After the war interest in the "African areas" increased. Until this time developments in water and education for the dry areas in particularly had been minimal and in fact financed by the pastoral groups themselves via taxes. Apart from a lack of development funds, shortage of technical staff also

undermined any substantial improvement in the dry regions. The "Ten-Year Development Plan (1946-1955)" called for the total development of African land, crops, livestock and water. This time finances where available as the result of a post-war economic boom which strongly increased Government revenue. The African Land Development Board (ALDEV), established in 1946, concentrated its efforts on the semi-arid areas. In addition to water development, new campaigns for stock limitations and ecological conservation were initiated. The pastoralists were still seen by the majority of civil servants and visiting commissions as devastating the ecological balance in the dry regions. The establishment of Game Reserves and National Parks which restricted grazing use especially for Maasai, Borana, Somali and Kamba pastoralists in the semi-arid areas soon after the war was recognized as being a new blow to the herding societies of Kenya, but this did not weaken this conservationist approach. Special African Livestock Marketing Boards were set up to purchase stock from the dry areas, without much success, however.

By the mid-1950s a more integrated approach was adopted. The "Swynnerton Plan" initiated the intensification of the development of African agriculture, including the semi-arid areas. These areas were "discovered" to be able to provide a substantial contribution to the economy of Kenya. The ALDEV-programme was integrated in the new plan and supported by an increased pool of money mainly in the form of loans and staff. Grazing schemes, establishing of boreholes and cattle dips, education in modern husbandry practices, reseeding trials and pasture research were added to the continuing effort of limiting the number of livestock. Still, it should be realized that, in comparison to the more humid regions of Kenya, the pastoral regions received only marginal attention and that most efforts with respect to range management failed.

Moreover, rainfed agriculture and minor irrigation schemes supported by the Government were started in the better-watered areas of the dry regions especially in the Machakos and Baringo districts, in response to overcrowding in the fertile regions and stimulated through the introduction of newly developed drought resistant crops. Most of these schemes, however, failed unless a high priced commercial crop was established and market accessibility assured. Irrigation schemes also started to appear in the arid lands, though on a minor scale. 'By 1961 only 1,500 families had been settled on some 6,388 acres in Embu, Baringo, Machakos, Elgeyo, Taita and Tana River districts' (Migot-Adholla 1981:47).

Independence in 1963, heralded the breakdown of tribal boundaries and the disbanding of a number of restrictive regulations towards the livestock sector in the arid and semi-arid areas. A new and integrated approach was looked for. 'Ideas were formulated to organize a stratified beef industry. Arid areas would raise calves. After that, ranches in the semi-arid areas would fatten the cattle. In the vicinity of the market, in more humid surroundings, the fattening would be finished, producing heavy-weight, high quality animals' (Dietz 1987:56). In

practice, however, this was not a big success, except in some parts of Maasailand and in Somali-area. Low beef prices have, in general, seemed to be the major obstacle in developing the livestock sector in Kenya (see also section 2.2.2).

The country-wide drought of the early 1960s had resulted in increased attention being paid to the ASAL areas. Reports of those days concerning the semi-arid areas (e.g. Brown 1963, Lawrance et al. 1966) and for the Maasai area particularly (Fallon 1962, Jacobs 1963) called for an institutionalised form of territorial organization using traditional indigenous structures.

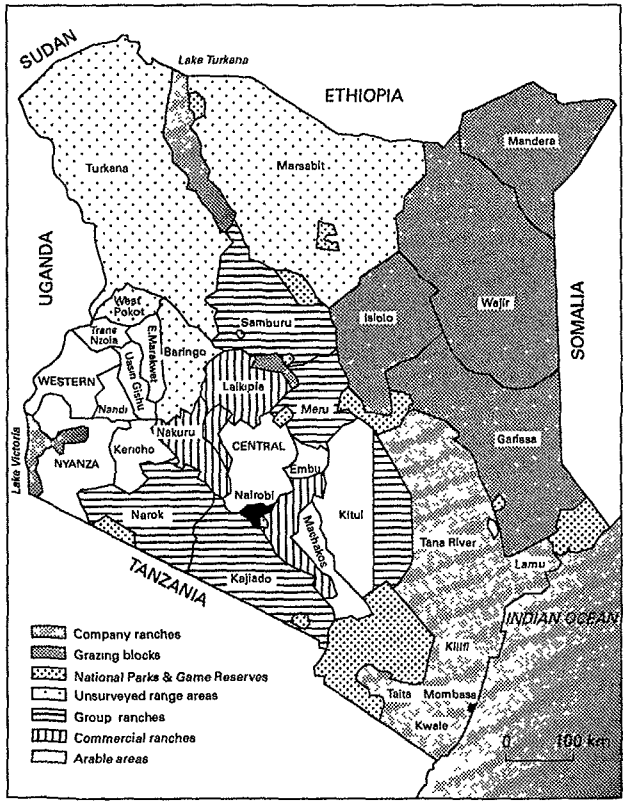


Figure 3.4 Types of Ranching in Kenya
Source: Oxby 1981

By the late 1960s, group ranches (established on trustland in the pastoral areas with a title deed vested collectively in groups of some 30 to 450 pastoral households being the traditional users of the land) were formed in the northern fringe of Kajiado District and later also in parts of Narok (see Doherty 1979a), Samburu (see Fumagalli 1978), Kwale, Pokot (see Livingstone 1975), Laikipia and Baringo (see Wales et al. 1979). Other forms of ranching such as commercial ranches (leased or owned on freehold basis, mainly in Laikipia, Nakuru and Machakos), company ranches (land leased for a collectively held herd owned by a private company chiefly found in Laikipia, Nakuru and Machakos), co-operative ranches (run on profit sharing arrangements primarily in Taita-Taveta, Tana River, Kwale and Kilifi districts) and grazing blocks (in north-eastern Kenya) were started as well (see figure 3.4).

A major stimulus for these new developments came from the Kenya Livestock Development Project (KLDP) initiated in 1969 to enhance the development of livestock production in Kenya. The objectives were to increase meat production, enhance employment in the livestock sector, ensure conservation etc. Funding for the project came from the World Bank (IBRD), USAID (United States Agency for International Development), IDA (International Development Association), SIDA (Sweden), CIDA (Canada) and ODA (United Kingdom). A major aim was to implement strict grazing management in combination with infrastructural developments like boreholes, dips, firebreaks and waterdams. Loans were provided and were scheduled to be repaid by the fattening of steers bought from the arid regions and resold to the Nairobi meat market at a profit. However, management problems and the drought period in the beginning of the 1970s resulted in severe problems for the group ranch concept which, at least in Kajiado, had been initiated without *having had a firm and properly established sociological and ecological base* anyway.[9] A second phase of the KLDP was started in 1974, though with less enthusiasm and financial support. The first two phases of the project affected about 200 Kenyan beef ranches, out of a total of 450 to 500 in the country (see Wales et al. 1979:3).

In 1976 a Marginal/Semi-Arid Lands Pre-investment Study team was established. It had already been argued in 1972 by the International Labour Office (ILO) that the dry regions should receive more Government attention in order to develop the area and to co-ordinate activities such as like forestry, wildlife, agriculture and livestock keeping where potential conflict could arise. The droughts of 1971-73 and 1976 which resulted in severe problems in the (semi)-arid lands activated foreign donors and the Kenyan Government alike. The latter acknowledged the fact that the neglect of the dry regions throughout the colonial period had persisted during the 1960s and early 1970s (see RoK 1988:132). Experimental integrated development projects were started in Machakos, Kitui and Baringo districts. In 1979 the nationwide "Arid and Semi-

[9] Chapter 7 describes in detail the history of group ranches in Kajiado District.

Arid Lands Programme" was launched. It aimed at the improvement of the welfare of the people in the ASAL by:

- developing productive potential and creating income-earning opportunities;
- providing basic needs services;
- conservating of resources;
- improving integration of ASAL areas within the national economy.

Foreign donors financially "adopted" an ASAL programme which mostly began in specific administrative regions. For example, Norway concentrated in Turkana, Switzerland in Laikipia, the Netherlands in West Pokot, the USA in Kitui, the United Kingdom in Embu, Meru and Isiolo and Denmark in Taita Taveta. International donors, like EEC and World Bank also provided funds for ASAL programmes. By the end of the 1980s some 19 programmes were operating or planned for in 22 districts. Most ASAL programmes operate over a broad range of development activities stretching from road building, small scale irrigation and livestock improvement to rural health, adult education and support of women groups. In table 3.6 some details are presented.

Table 3.6 ASAL Programmes in Kenya, 1989

DISTRICT	DONOR	YEAR STARTED	ARIDITY RANKING	BUDGET 1988/89 (K£)
Machakos (MIDP)	EEC	1978	13	348,700
Baringo	IDA	1979	14	27,160
Embu/Meru/Isiolo (EMI)	United Kingdom	1980	19/20/4	34,460
Turkana*	Norway#	1980-91	5	1,065,450
Kitui	USA	1981-87	9	
	Denmark	1988		12,050
West Pokot	Netherlands	1982	16	157,020
Elgeyo Marakwet@	Netherlands	1982	22	43,200
Kiambu@	Netherlands	1983-88	24	600
Laikipia	Switzerland	1984	12	296,200
Kwale/Kilifi	IFAD	1984	18/17	72,900
Taita Taveta	Denmark	1985	8	144,000
Siaya	IFAD	1986	-	?
Bungoma*	Norway	1987	-	?
Kajiado	Netherlands	1987	11	77,500
Samburu	Proposed (Germany)		10	
Narok	Proposed		23	
Marsabit	Proposed (UNESCO)		3	
Lamu	Proposed		15	
Tana River	Proposed		7	

Source: RoK 1989; van Klinken 1988 (table 2)

* Norwegian aid was stopped in 1991 by the Kenyan Government in reaction to continuous criticism concerning Kenya's violation of human rights.

\# Of this budget UNDP provided K£ 40,000/-.

@ Dutch assistance in Kiambu stopped in 1988. Finances for operating expenses in 1988/89 were provided by the Kenyan Government. The Elgeyo-Marakwet Programme was halted between 1988-1990 due to management problems.

According to Wiggins (1985:92) 'six years after the detailed planning of the first programme began, the record looks patchy. [There is] too little technical success, slow planning and lack of community involvement in planning'. Lack of support for the drylands among the politicians and technical difficulties of raising dryland production do indeed seem to be the major obstacles faced by the ASAL programmes.

A variation in operational approaches exists between programmes, even those financed by the same donor. In some cases strong co-operation with the existing local administrative machinery is sought (e.g. in Kajiado), while in others a new more independently operating device is created (e.g in Turkana). In cases where local Government capacity is underutilized and well-suited the former approach might be most advantageous. However, in the case of difficulties, either managerial or political, it may be better to operate as independently as possible from the local apparatus (see van Klinken 1988:5).

Recently it has been tried to streamline the huge heterogeneity of programme activities and implementive approaches. A new Ministry of Reclamation and Development of Arid, Semi-Arid and Wasteland was created in 1989, replacing a special task force within the Ministry of Planning and Development. This will probably change the present structure whereby ASAL Programmes are completely left on their own in formulating their policies and strategies. The second generation of ASAL programmes will have to learn from the mistakes of the past and expand their strength in flexibility. Every effort to streamline the programmes should learn from the lessons learned of the past.

Besides the appearance of the ASAL Programmes, attention to the dry areas in Kenya has also increased within the sectoral ministries. Dryland research and development activities within the Ministries of Agriculture, Livestock, Water Development, Tourism and Wildlife, Natural Resources and Education were expanded. Projects initiated by several Non-Governmental Organizations (NGOs), especially those by missionaries, have also been very important. In some dry districts their efforts have only recently become available to the people. The growing importance of the dry regions within the overall Kenyan and international development policy is illustrated by table 3.7.[10]

[10] Not every ministry included information concerning the specific areas of operation. This is the major reason for the discrepancy between the Kenyan total budget figure and that for all districts. In addition, not all funds are presented in the Printed Development Estimates. International donors sometimes use their own channels for financing. By contrast, not every approved allocation will indeed be spent in the district. For example, an analysis for Kajiado District of 41 projects (K£ 15,056,125) approved at the national level for 1988/9 showed that only 29 of these projects (totalling K£ 752,867) actually appeared in the Kajiado District Final Development Budget Allocation of 1988/9. In addition, 15 new projects were presented with a total budget allocation of K£ 742,750. In other words, only some 5 per cent of the originally approved estimates for 1988/9 were actually implemented in that same year (see Rutten 1990:164). It is nevertheless felt that the results of the analysis are interesting and eye-opening.

Table 3.7 Approved District Development Budget Allocations 1986-89

District	Approved Allocation (in mln Ksh.)				Average Allocation for	Estimated Population	Ksh. per Capita	Compared to Rural Districts
	1985/6	1986/7	1987/8	1988/9	(1986-89)	(x 1,000)		(Ksh. 201)
Semi-Arid Districts	*807*	*557*	*596*	*1013*	*743*	*3112*	*239*	+
Kajiado	22	43	76	445	146	201	726	++
Taita Taveta	22	28	32	52	34	188	181	-
Lamu	40	61	48	41	48	64	750	++
Kitui	90	67	114	84	89	598	149	-
Machakos	340	114	122	125	175	1351	130	--
Baringo	181	150	114	165	152	253	601	++
Samburu	35	19	18	28	25	91	275	+
Laikipia	36	32	24	42	34	211	161	-
West Pokot	41	43	47	30	40	243	165	-
Arid Districts	*485*	*297*	*241*	*366*	*347*	*1076*	*322*	+
Garissa	27	20	17	26	23	201	114	--
Isiolo	11	30	69	94	51	56	911	++
Mandera	16	24	21	27	22	126	153	-
Marsabit	25	20	28	32	26	144	181	-
Tana River	218	160	38	119	134	137	978	++
Turkana	169	35	46	50	75	228	329	+
Wajir	18	6	22	17	16	184	87	--
Humid Districts								
Central Province	531	439	470	701	535	3105	172	-
Western Province	267	185	270	358	270	2388	113	--
Nyanza Province	342	250	291	607	372	3279	113	--
Rift Valley Highlands	868	717	901	1329	954	2803	340	+
Kenya Rural Districts	*3938*	*2887*	*3128*	*5029*	*3745*	*18618*	*201*	
Urban Districts	*979*	*912*	*812*	*909*	*909*	*1576*	*577*	++
Kenya Districts	*4917*	*3799*	*3940*	*5961*	*4654*	*20194*	*230*	
Total Dev. Budget	8,187	10,749	12,476	16,123	11,884		588	

Source: 1985/6 data from Dietz 1987; 1986-89 author's calculations from RoK 1987, RoK 1988b, RoK 1989

Note: "Kenya Rural Districts" includes the humid/arid districts of Narok, Elgeyo Marakwet, Embu, Meru, Kilifi and Kwale (est. average allocation: Ksh. 229/- per capita) (figures are rounded).[11]

Table 3.7 shows the per capita allocation of area-marked approved budget estimates over the 1985-89 period. Most striking is the increase in the approved development budget allocation for Kajiado District in the 1985-88

[11] It should be noted that in some cases allocations for certain districts serve a regional or even national interest, such as agricultural research institutes or hydro-electrical power plants. This applies mainly to the Urban Districts (especially Nairobi) and Rift Valley Highlands (especially Nakuru and Uasin Gishu Districts).

period. A rise from Ksh. 22 million to Ksh. 445 million means a 1,923 percent growth. Compared to the national average of 21 percent increase over the same period an explanation of this is urgently required! This is found in part in that some huge programmes have been started during this period like the Kilimanjaro-Machakos (Noolturesh) water project.

This project does not only serve Kajiado, but also maybe primarily Machakos District. In other words, in fact it is not a district-specific project. A total of over Ksh. 1,000 million has been allocated for this project that is to pipe water from the Noolturesh spring at the foot of Mt. Kilimanjaro up to Machakos district first and then back to Kajiado. Italy acts as a soft loan creditor for financing this investment. A total of almost Ksh. 270 million (i.e. over 60 per cent) was allocated for the 1988/9 financial year. Another major allocation during this year was for road improvement projects (Ngong-Isinya: Ksh. 50 million and Loitokitok-Emali: Ksh. 43 million). Still, even without inclusion of these projects the district total has increased tremendously as compared to the 1985/6 budget.

It seems that the "Economy of Affection", described by Goran Hyden (1983:8), as 'a network of support, communications and interaction among structurally defined groups connected by blood, kin, community or other affinities' has been at work during the 1986-89 period favouring the Maasai from Kajiado District. In other words, the major reason for the increase in the Kajiado District development budget is political. The Vice-President, Prof. G. Saitoti, who is also the Minister for Finance, is the Member of Parliament for Kajiado North. He has held the post of Finance Minister since 1983 and that of Vice-President since 1989. Since he took up a position in the Kenyan Government there has been a considerable increase in the allocation of funds for his constituency, especially the Ngong area, for the ministries of Public Works, Health and Water Development. Instead of having a considerable number of development projects still pending at the end of the financial year due to lack of money, equipment or manpower, the situation in Kajiado District has now turned to one in which new non-scheduled projects are started because the workplan had been finished early. It will be no surprise that most of these unplanned projects are situated in the Ngong area. It should also be realized that funds allocated in this way are not included in the Printed Development Estimates.

The high score for Baringo District can also be included under the "Economy of Affection" explanation as this is the home base of President Moi. Roads, water, health and electricity are specifically cared for. Other well off districts within the group of arid and semi-arid areas are Lamu (settlement schemes, hospital), Isiolo (hospital), Tana River (irrigation scheme and causeway), Samburu (food security project) and Turkana (ASAL). However, it should be noted that for these latter regions mainly grants by foreign donors are responsible for one time favourable allocations.

3.6 Summary and Conclusion

In this chapter we have tried to place Kajiado District within the group of arid and semi-arid lands in Kenya. In terms of aridity Kajiado District ranks 11th. Though having an estimated total of 94 per cent of its area in the arid and semi-arid zone the district's overall carrying capacity is not unfavourable when compared to other arid and semi-arid districts.

The 1979 population census revealed for Kajiado District's population a rather low density in comparison to Kenya's semi-arid districts. Its population growth from 1969 to 1979, however, was above the national average and even every other agro-climatic region in Kenya (see table 3.1). In respect of its sex ratio, being balanced suggesting a minimal importance of out- or in-migration of (male) jobseekers, its position was more comparable with the arid than semi-arid regions. In terms of school attendance and literacy levels Kajiado District takes an intermediate position.

Livestock ownership per head of the Kajiado pastoral population is relatively high. Figures presented seem to suggest, however, that this position is slowly deteriorating. By 1969 an estimated 8.76 TLU were available for Kajiado pastoralists as compared to a mean figure of 3.86 TLU per capita for other pastoral peoples in Kenya. By 1988, these figures had dropped to 3.19 TLU/capita and 2.23 TLU/capita, respectively (see table 3.4). The district's livestock density (18.1 TLU/km^2 by 1988) is also higher than in most other dry regions, though less pronounced as livestock ownership would suggest.

In addition, it should be realized that wildlife numbers in Kajiado District are also top ranking. For 1988 3.1 wildlife TLU/km^2, which is some 14.6 per cent of the total 21.2 TLU/km^2 density, was approximated. Only Narok district had a higher overall livestock and wildlife density.

Finally, attention was paid to the development policies exercised in Kajiado District by the Government and international (non-governmental) organizations. From the situation of sheer neglect that prevailed for most of this century a remarkable change had occurred by the end of the 1960s (introduction of ranching types). By the late 1970s the Kenyan dry regions became the focus of (international) attention in order to improve the quality of life of their inhabitants. Isolated and timebound policies geared at destocking, land conservation and quarantine regulations were now replaced by an integrated development approach. Under the umbrella of the "Arid and Semi-Arid Lands Programme" development of productive potential, provision of basic needs services, conservation of resources and integration within the national economy were promoted. Indeed, in terms of approved allocated funds these regions in general had a favourable position for the 1985/6-1988/9 period. Some districts in particular showed extremely favourable allocations which were partly explained by foreign donor preferences or by the powerful position held by district representatives within the Kenyan government. In the following chapter specific attention is paid to the features of Kajiado District.

CHAPTER 4

KAJIADO DISTRICT: THE EASTERN HOME OF THE MAASAI

4.1 The Physical Environment and Natural Resources

Kajiado District stretches out just south of the equator from 1°10' to 3°10' south and between 36°05' to 37°55' east. It is located in the southern part of the country in the Rift Valley Province and is bordered by Tanzania to the south-west, Taita-Taveta district to the south-east, Machakos district to the north-east, Nairobi, Kiambu and Nakuru districts to the north and Narok district to the west. Kajiado District comprises a total area of 22,106 km^2 which is equivalent to some 3.5 per cent of Kenya's land surface. Its highest point is at 2,761 m (Ol Doinyo Orok near Namanga) and the lowest point is just under 500 m near Lake Magadi. Kajiado District can be divided into four physiographic sectors (see figure 4.1):[1]

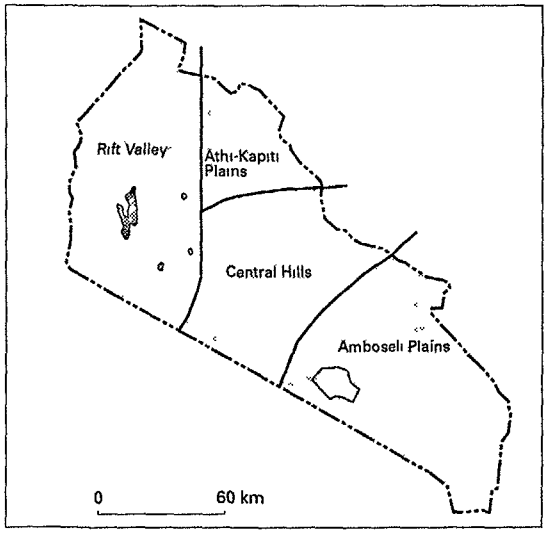


Figure 4.1 Kajiado District Physiographic Zones
Source: Bekure et al. 1987

[1] Soil classification units refer to the exploratory soil map of Kenya, 1980 as published by the Kenya Soil Survey. Landforms are also referred to (e.g. A = Floodplains; B = Bottomlands; F = Footslopes; H = Hills and minor scarps; L = Plateaus and high-level structural plains; Ls = Step-faulted floor of the Rift Valley; Ps = sedimentary plains; Pn = Non-dissected erosional plains; R = Volcanic footridges; Um = lower middle-level uplands; Up = Upland/high-level plain transitional lands; Ux = Uplands undifferentiated levels; Y = Piedmont plains (see Sombroek et al. 1982).

1. the *Rift Valley* in the west; this depression covering some 7,000 km^2 forms part of Africa's famous Great Rift Valley, a system of faults containing a chain of lakes and volcanic mountains running 5,600 km from the Red Sea to Mozambique, along which East Africa is slowly drifting apart. In Kajiado the Rift is some 50-60 km wide and it includes Lake Magadi, which has substantial deposits of soda ash, and the extinct volcanos Mount Suswa and Olorgesailie. Tertiary and Quaternary volcanics and patches of Quaternary sediments as well as a basement complex (precambrian rocks) in the south-east are the geological features found.

   The soils are predominantly stony, well drained, calcareous loam Cambisols (Ls1), with some patches of imperfectly drained, clay Vertisols (B4) in the bottom lands. In the south-western part, well drained, silty clay loam Fluvisols (A2) are present. A ridge on the western side of the Rift, the Nguruman Escarpment, separates Kajiado District from neighbouring Narok District. Originating from the Nguruman Escarpment, three main perennial streams (Oloibortoto, Entasopia and Sampu) provide the possibility of irrigation. These also feed the Euaso Ng'iro river, which starts from the southern flank of the Mau Escarpment and drains much of Loita Hills in Narok District. The river ends in the Engara Ng'iro swamp near Shompole, at the Tanzanian border.

2. the upland *Athi-Kapiti plains* in the north; in the district this area of some 2,000 km^2 consists mainly of open rolling land. Geologically, the Athi-Kapiti plains derive from Tertiary volcanics. The soils are extremely varied though dominated by stony, imperfectly drained, very deep, black clay Vertisols (L11) as well as other types of deep 'black-cotton' Vertisols and Planosols (e.g. L14, L15, L26). It rises to the west, the highest peaks being the Ngong hills. From Ngong hills the Mbagathi (or Embakasi) and Kiserian streams drain eastwards towards the permanent Athi River.

3. the *Central Broken Ground Hills*; the south-eastern edge of the Athi-Kapiti plains give way to a generally steeper east-falling slope of the precambrian Basement System rocks. The area comprises some 4,400 km^2. Numerous gneiss and crystalline limestone hills extrude from the slope, the largest of which is Ol Doinyo Orok (2,800 m) near Namanga. The eastward slopes are much dissected and divided by water courses like the Selenkei and Olkejuado rivers. However, none of these water courses hold surface water throughout the year.

   Soils developed on the Basement System rocks in the western footslopes and piedmont plains are very well drained, very deep, dark reddish brown, loose, sandy loam to firm, sandy clay Luvisols with luvic Arenosols (F13 and Y8). Well drained, shallow to deep, brown, sandy clay loam chromic Luvisols and Cambisols exist on the lower-middle uplands of undifferentiated Basement System rocks in the north (Um25). In the higher-level southern uplands the dominating soil type is an association of chromic Luvisols with, on the lower slopes, imperfectly drained, deep, black, firm, clay, eutric Planosols (Up8). On the hills, stony, shallow, reddish-brown, friable, sandy clay loam Regosols can be found. Finally, a complex of predominantly loamy to firm, cracking clay, calcaric Fluvisols and chromic Vertisols along the rivers (A12/A8).

4. the *Amboseli* plains in the south-east; the overall slope of this 6,300 km^2 section is from north-west to south-east. The gently undulating plains in the western half are an extension of the Basement System of the Central Broken Ground. In the southwest Quartenary sedimentation can be found near Lake Amboseli, which is mostly dry. The eastern and southern part of the Amboseli plains are of Quartenary volcanic origin. Towards the south they are flanked by the snowcapped Mount Kilimanjaro, the highest (Pleistocene volcanic) mountain in Africa (5,894 m) at the Tanzania-Kenya border. In the north-east the more recent volcanic Chyulu Range forms the natural border with Machakos District.

   Soils in the western part are mostly deep reddish-brown clay loams (Luvisols Pn13, FY2). The eastern part has well drained, deep red-brown silty clay loam though rather stony (R8). The northern area shows a complex of chromic Luvisols and chromic Cambisols (Ux2, Ux8).

4.1.1 Rainfall, Evaporation and Temperatures

Rainfall is the single most important factor influencing agricultural activities, whether crop or livestock production, in Kajiado District. Norton-Griffiths (1977:iii) has shown that annual rainfalls in Kajiado District are strongly influenced by mountains, hills and the Rift Valley. High rainfalls occur around the Ngong, Machakos and Chyulu Hills, the slopes of Mt. Kilimanjaro and the western wall of the Rift Valley, with even isolated hills such as Namanga (Ol Doinyo Orok) producing locally higher rainfall.

The rangelands of Kajiado District are characterised by lower rainfalls, particularly around Lake Magadi, to the north of Kajiado Town, and in parts of the Amboseli basin. This is either due to rainshadow effects from neighbouring hills and mountains or, as in the Amboseli case, to divergent wind flows between mountain ranges (i.e. Chyulu Hills and Mt. Kilimanjaro). Table 4.1 shows mean rainfall figures for a number of years recorded at some selected stations in the district. The high altitude stations of Ngong and Loitokitok also show the highest recorded average precipitation, whereas Magadi represents the opposite situation. Another station in Magadi located at a high altitude of 1,859 m recorded over a period of 25 years a mean annual rainfall of 757 mm. In Loitokitok, however, at an altitude of 1,845 m an average precipitation of 926 mm was recorded. This information is presented to illustrate the importance of elevation as well as to demonstrate the local character of the rainfall pattern.

Moreover, as Potter (1989:2-4) stresses, the historical rainfall data have been collected at relatively few (62) and predominantly high altitude stations located near small townships and so are hardly representative of the general situation of the plains in Kajiado District. Only nine gauges are situated in the rangeland areas of Kajiado, which make up some 90 per cent of the District. Moreover, these nine rangeland gauges are not representative of the seasonally used pastures (see Norton-Griffiths 1977:4).

Table 4.1 Mean Rainfall Recorded at some Selected Meterological Stations, Kajiado District

Station	Altitude (m)	Annual average (mm)	No of years	Zone
Kajiado	1738	502	39	IV/V
Magadi	613	414	45	VI
Loitokitok	1982	728	29	II
Ngong	2043	791	46	III
Mashuru	1585	509	18	V
Namanga	1372	599	32	III
Kiboko	976	572	27	V
Athi River	1509	603	58	IV
Konza	1655	447	54	IV/V

Source: TARDA 1984:6; Norton-Griffiths 1977:21; KDDP 1988:2

With the above points in mind, some general comments on the rainfall patterns of Kajiado District can, however, be made. Three quite distinct types of seasonal rainfall patterns are found in Kajiado District.

Type 1: centred around the Ngong Hills; heaviest rainfall occurs in April and May.

Type 2: occurs around the Chyulu Hills and Mt. Kilimanjaro slopes; heaviest rainfall in November-December

Type 3: found throughout the rangelands of Kajiado District; a small rainfall peak in December and a single high peak in April.

Four seasons are distinguished in each of the above described types. The "short rains" of November and December; an intermediate period in January, February and March; the "long rains" in April and May; and a major dry season lasting from June through to October.

Rainfall intensities are generally low in Kajiado District, ranging from 4.4 mm/h in the northern Athi-Kapiti's to 6.0 mm/h at Lake Magadi (see UNDP/FAO 1978:43). It is estimated that some 20 per cent of the rain falls at very high and potentially damaging intensities, only.[2] Most of the rains fall at

[2] Dunne (1977) has demonstrated that the rates of runoff and erosion are more strongly determined by rainfall intensities, hill slopes and soil characteristics than they are by the type and cover of the vegetation (see Norton-Griffiths 1977:17).

night at an intensity that maximises infiltration and minimises runoff and evaporation.

As with precipitation, temperatures in the district vary with altitude. Average monthly temperatures vary between 30°C at Magadi and 16°C at Loitokitok. The coolest months are July-August while the hottest months are February and March. Average minimum temperatures for Magadi and Loitokitok are 23°C and 10°C. Mean maximum temperatures for these locations are 35°C and 21°C, respectively. Average annual potential evaporation (Eo) ranges from about 1,700 mm in the Ngong and Loitokitok areas to about 2,500 mm in the Magadi area. Figure 4.2 presents the mean annual rainfall and evaporation figures for Kajiado District.

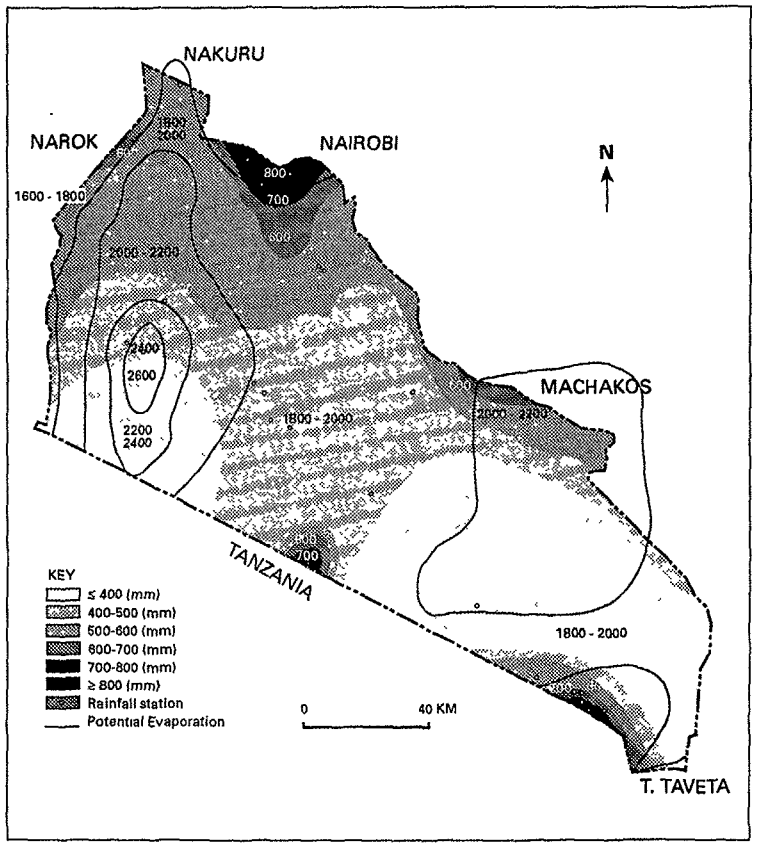


Figure 4.2 Kajiado District Mean Annual Rainfall and Evaporation
Source: Kajiado District Atlas 1990 (draft)

4.1.2 The Vegetation of Kajiado District

The close relationship between rainfall and primary production which is prevalent in rangeland areas like those of Kajiado District has been stressed by Norton-Griffiths (1977:4). The vegetation of Kajiado District has been analyzed by Mumiukha as part of the UNDP/FAO Wildlife Management Project (see Mumiukha 1976).[3] Table 4.2 is drawn from Ecosystems Ltd. (1982) which used the Wildlife Management Project data to determine the percentage distribution of vegetation categories for each of the physiographic zones of Kajiado District.

Table 4.2 Kajiado District Vegetation Types as Proportion of Each Physiographic Zone

Category	Rift Valley		Athi-Kapiti		Central		Amboseli		Kajiado District	
	km²	%	km²	%	km²	%	km²	%	km²	%
Grassland	617	9	1,451	71	622	14	2,318	37	5,008	26
Wooded & Bushed Grassland	5,070	74	-	-	444	10	-	-	5,514	28
Bushland	685	10	593	29	89	2	3,196	51	4,563	23
Wood & Bushland	411	6	-	-	3,152	71	376	6	3,939	20
Woodland	-	-	-	-	89	2	125	2	214	1
Forest	-	-	-	-	44	1	-	-	44	1
Swamps	-	-	-	-	-	-	188	3	188	1
Soda Lakes	69	1	-	-	-	-	63	1	132	1
Total Area	6,852	100	2,044	100	4,440	100	6,266	100	19,602	100

Source: Ecosystems 1982:17

- Rift Valley

Rainfall in the area is very low (300-500 mm). This is reflected by the vegetation being limited to stunted thorn bushes and small patches of grass. In the north of the Rift the dominant plants and grasses are *Tarchonanthus camphoratus* and *Themeda triandra*. In the most southern parts, the dominant shrubs and trees are *Acacia* species. Ecosystems Ltd. did not include the Euaso Ng'iro swampy area which totals some 70 km², and which is characterised by extensive beds of *Typha* and *Nymphae*.

- Upland Athi River

The vegetation is mainly grassland and wooded grassland. The mean annual rainfall is between 500-800 mm with the highest figures recorded on the Ngong hills. *Themeda* grassland sometimes bushed with the *Acacia*

[3] More recently, Touber (1983:106) presented a detailed description of the Amboseli Plains vegetation only.

drepanolobium shrub is the most dominant vegetation found in this sector. Some small patches of forests can be found near Ololua, Embakasi and Ngong on the northern edge of the Athi-Kapiti plains.

- Central Broken Grounds

The vegetation is dominated by wood and bushland both mixed and separate, with a wide range of trees and shrub species (predominantly *Acacia* species). Some parts have grassland or wooded/bushed grassland. The Central Broken Grounds receive between 500 and 600 mm rainfall a year.

- Amboseli Plains

Vegetation of the Amboseli plains is dominated by bushland and by open grassland (*Acacia* and *Commiphora* species mainly). Swampy areas can be found mainly at the foot of the slopes of Mt. Kilimanjaro. Rainfall varies considerably with the northern half receiving some 500-700 mm annually, while the middle southern and eastern parts receive less than 400 mm a year. An exception must be made for the slopes of Mt. Kilimanjaro which receive from 500 up to 800 mm annually.

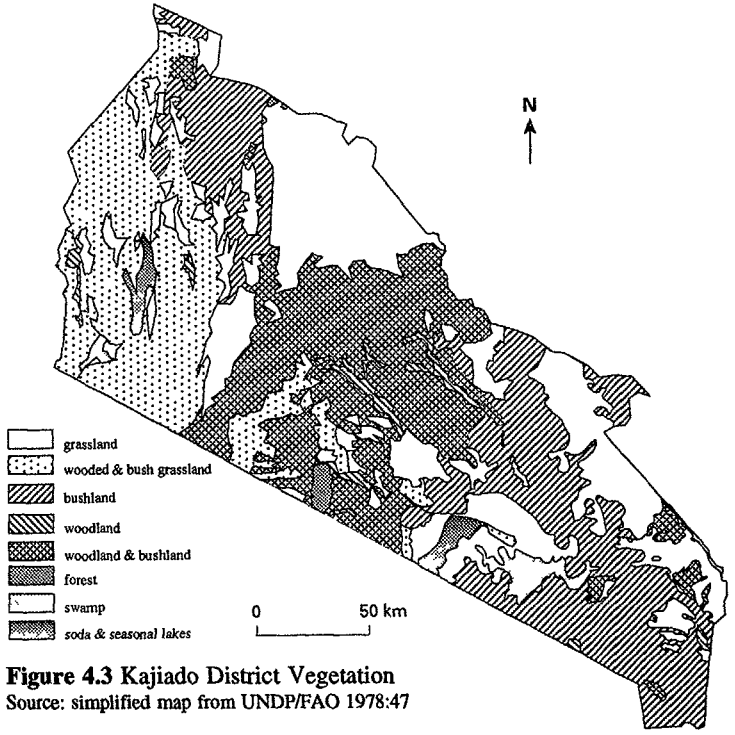


Figure 4.3 Kajiado District Vegetation
Source: simplified map from UNDP/FAO 1978:47

4.1.3 Agro-climatic Zones and Carrying Capacity

As stated before, out of 41 districts Kajiado District ranks eleventh in terms of aridity (see table 3.6). Roughly speaking half of the district is in the semi-arid zone, one third is arid and only 6-8 per cent have some reasonable potential for cultivation. Most of this higher potential land is situated near Ngong and other parts of the Athi Kapiti Plains, near Mt. Kilimanjaro, Nguruman, Namanga and Meto. The Kenya Soils Survey has produced an agro-climatic zone map that combines rainfall, evaporation and temperature characteristics for the establishment of the area's suitability for agricultural purposes (see Sombroek et al. 1982). Figure 4.4 presents the Agro-climatic Zones of Kajiado District.

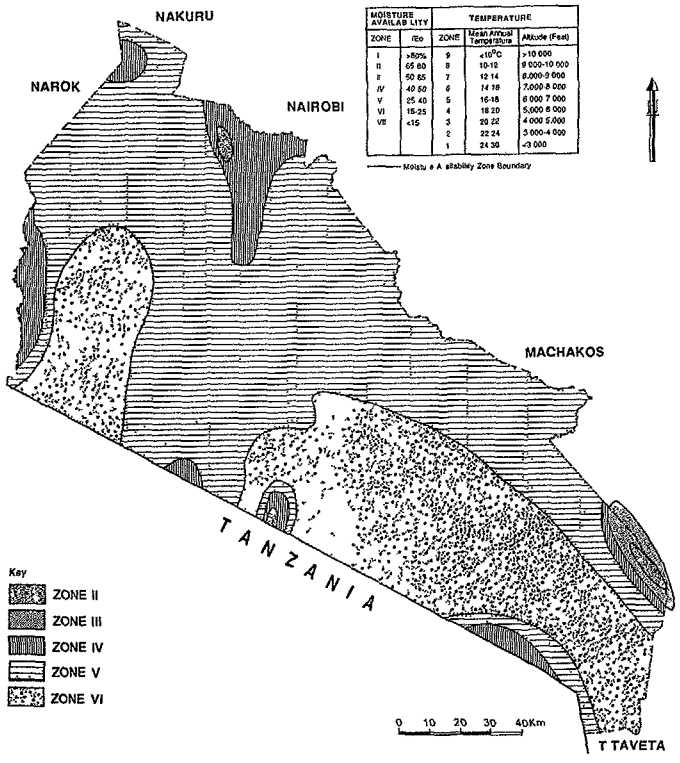


Figure 4.4 Kajiado District Agro-Climatic Zones
Source: Kajiado District Atlas 1990 (draft)

Table 4.3 provides an overview of the estimated availability of agro-climatic zones for each of the physiographic sectors of Kajiado District.

Table 4.3 Distribution of Agro-climatic Zones over Kajiado District

Agro-climatic zone	IV	V	VI	Total Area
Physiographic sector	(per cent)	(per cent)	(per cent)	(km^2)
Rift Valley	7	71	23	6,850
Athi-Kapiti	31	69	0	2,040
Central Hills	14	69	27	4,400
Amboseli	15	26	69	6,270
Kajiado District	8	56	36	19,560

Source: Bekure et al 1987

In chapter 1 the concepts of carrying and grazing capacity have been discussed. For Kajiado District several authors have provided an estimation of the optimal or maximum number of livestock and human population (e.g. Holland 1986, Campbell 1979a, Ecosystems 1982, Bekure et al. 1987, MoLD 1988). The percentage distribution of agro-climatic zones can be used to calculate a potential livestock carrying capacity of the district by applying different stocking rates for each and specific zone expressed in stock units per hectare (SU/ha). Table 4.4 shows the outcome of this exercise.

Table 4.4 Kajiado District Potential Carrying Capacity

Agro-climatic zone	Ha	SU/ha	Potential Carrying Capacity (in SU)
IV	156,500	1-2	156,500 - 313,000
V	1,095,400	0 25-1	273,850 - 1,095,400
VI	704,100	0 05-0 25	35,205 - 176,025
Total	1,956,000		465,555 - 1,584,425

Source: Sombroek et al 1982, Bekure et al 1987
Note: one Stock Unit (SU) is a 300 kg liveweight animal consuming 3,000 kg Dry Matter/year

The range in the (safe) stocking rate figures per zone expresses the variety of the potential carrying capacity between the dry and wet season. Local soil conditions also influence the carrying capacity. The outcome of this exercise suggests that Kajiado District is able to support between some 465,555 to 1,584,425 Stock Units. For the whole of Kajiado District this is equivalent to a mean requirement of land per SU of 1.2 ha in the wet and 4.2 ha in the dry season.

The Ministry of Livestock Development in Kajiado District, however, propagates an average stocking rate of 6 ha per SU as a safe one. Using this 6 ha figure the Ministry of Livestock Development is of the opinion that the

district's long term maximum carrying capacity is only 331,537 SU. This means that, according to the 1988 Livestock Census which reported a total of 515,633 stock units, the district was thought to be overstocked by some 55 per cent at that time. This actual average stocking rate of some 4 ha/SU is, however, within the limits of the potential carrying capacity estimate of Sombroek et al.. Support for the latter is provided by Bekure et al. who concluded that for Olkarkar group ranch (10,000 ha) a long term carrying capacity of 1.7 ha/Livestock Equivalents (LE) would be reasonable.[4] For Kajiado District in general they estimated stocking rates of 1.5 ha/TLU for the wet and 4.2 ha/TLU for the dry season (see Bekure et al. 1987:161-3 and section 8.2.2). As a result a rough estimate for the Kajiado District rangelands would place the fluctuating potential carrying capacity at 465,700 for the dry and 1,304,000 TLU for the wet season.

Besides the climatic conditions the aspect of mobility will also influence the actual safe stocking rate. Potter, for example, showed the acceptability of a 2 ha/TLU stocking rate for the Athi plains under pastoral conditions, though he considered 4 ha/TLU to be a safer stocking rate for a 100 ha enclosed farm in the Athi Kapiti zone (see section 8.2.2 note 5). Croze et al. (1978:iii), who studied the Athi-Kapiti plains during the 1975-76 drought period, reported that, in general, the Athi-Kapiti ecosystem is not overstocked. Only during prolonged drought periods does the nutrient supply fall below demand, more because of inhibited plant growth than of high herbivore density.

Other authors (e.g. Holland 1986, Campbell 1979a) - using different classifications and varying distribution of ecozones as well as other maximum (uniform) stocking rates - present lower potential stocking levels than Sombroek, Potter or the ILCA team.[5] For example, Campbell, taking into account the seasonality aspect, estimated a maximum livestock carrying capacity of 219,613 Standard Stock Units (SSU) for the dry and 544,991 SSU

[4] For the ILCA survey a model was produced to determine the development of livestock numbers and range condition for Olkarkar group ranch (10,000 ha in zone V) over a 30 years period. It was found that, at a stocking rate of 1.7 ha/LE, the ranch would be seriously overstocked for only 5 years while for 22 years the ranch was under or correctly stocked. The 1.7 ha/LE ratio was the actual stocking rate found during 1981-3 (see Bekure et al. 1991:133). The Ministry of Livestock Development, however, recommended a stocking rate of 7.0 ha/SU (5.7 ha/LE) for Olkarkar.

[5] These authors mainly use the ecozone classification presented by Pratt & Gwynne (1978). Kajiado District is subdivided in Ecozone II (22,050 ha), III (13,900 ha), IV (783,072 ha) and V (1,390,578 ha). The required hectares per livestock unit by ecozone are 0.8, 1.6, 4.0 and 12.0, respectively. The resulting maximum carrying capacity per zone is 24,699, 13,125, 186,000 and 105,900 livestock units making a total of 329,724 units for the whole of Kajiado District (see Holland 1986:73). Unfortunately, confusion exists between the exact livestock equivalent ratios for Pratt & Gwynne's livestock units. Holland speaks of "Standard Stock Units" (a 450 kg liveweight steer) whereas Pratt & Gwynne's stocking rate figures seem to refer to the 'Zebu Unit' of 300 kg. It should also be noted that the district area used by Ecosystems (i.e. 1,956,000 ha) is different from that used by Campbell and Holland (1,992,672 ha for zones IV and V only).

for the rainy season (Campbell 1979a:6).[6] Croze et al. (1978:2) states that Pratt and Gwynne's carrying capacity estimate, the first district-wide approximation ever for Kajiado District, emerged from a circular argument; carrying capacities were assigned to zones rather than derived from first principles, making the source and/or authority of data unclear. In other words, the potential carrying capacity of Kajiado District is a complicated and much debated phenomenon, and it is highly unlikely that there is one single number of biomass which can be supported. In any case, the threshold used by the Ministry of Livestock of 331,537 SU is, in my opinion, considered to be too strict. Higher stocking rates are thought to be possible as theoretical and empirical evidence provided by Potter, Croze et al. and Bekure et al. suggest.

Relating the actual stocking rates of Kajiado District, as presented in tables 3.4 and 3.5, to the potential carrying capacity shows that in general terms and for most years the stocking rates seem to be within the safe range. Nonetheless, in some years the dry season threshold level is exceeded by the actual number of livestock present, especially when taking into account wildlife densities (e.g. it was estimated that 521,400 TLU populated the district in 1969). To overcome these periods of stress several options are open; one can move out of the rangelands into the higher zones or even leave the district. Selling one's animals is another possibility. In the past all of these measures have been practised indeed, although damage to livestock and pastures (i.e losses in weight or even mortality and overgrazing) also occurred. Moreover, loss of access to the high-potential zones and reduced mobility in the rangelands would put further strain on these anti-drought or anti-disease strategies.

Starting out from the estimated maximum stocking rates, several researchers (e.g. Campbell 1979a and 1986, Sindiga 1986, Holland 1986) tried to determine the potential human carrying capacity of Kajiado District under full subsistence pastoralism. Performing this exercise implies the need to determine the variable of human (food) needs expressed in minimum livestock requirements per head of the population.[7]

Sindiga estimated that an average Maasai household of 4.5 adult equivalents would need 42 SU in the humid and 45 SU in the arid to semi-arid zones of

[6] Campbell recalculated Pratt & Gwynne's hectare requirements per livestock unit for each of the ecological zones: zone IV wet season 2.5 ha - dry season 5.5 ha/livestock unit; zone V wet 6.0 - dry 18.0 ha/livestock unit. Like Holland, Campbell named these livestock units 'Standard Stock Units' (i.e. the 450 kg liveweight steer). In other words, in terms of the 300 kg 'Zebu Unit' the carrying capacity figures for both wet and dry seasons should be raised, roughly speaking, by 50 per cent (see Campbell 1979a:6 and Pratt & Gwynne 1978:43/279).

[7] Considering the variability of needs and the heterogeneity of the human population in terms of age and sex, it will be clear that this will additionally raise the uncertainty of reaching a correct estimation of carrying capacity concepts. The following statements concerning potential human carrying capacity should be considered with this restriction in mind.

the district to be able to meet its milk ration, eat meat and have some Ksh. 4,000 cash on an annual basis. He took into account a situation of unimproved livestock and pastures (see Sindiga 1986:225).[8]

Further he determined a land/household requirement for each agro-climatic zone by relating (Sombroek's) carrying capacity ratios to his average 42-45 SU per household livestock requirement. The resultant figures for zones IV, V and VI were 22.50-45.00 ha, 45.00-180.00 ha and 180.00-900.00 ha. Sindiga then related the size of his sample of Kajiado District sublocation areas to an estimated number of households residing there in order to determine the potential availability of land per household. For zone V sample sublocations he reached a surplus population of 54 per cent while for zone VI this figure was as high as 89 per cent above his estimated potential carrying capacity.

It should be noted that Sindiga made this calculation using dry season requirements only. Applying the land requirements for the wet season provides a picture of underpopulation for the zone V sublocations of 46 per cent of its potential. For zone VI sublocations the situation in the wet season would still result in a situation of overpopulation of 47 per cent. However, in these sublocations (i.e. Orok Kiteng and Kuku) many non-Maasai cultivators are resident who inhabit the better watered highlands and swampy locations of the rangelands. In other words, the estimated subsistence-oriented livestock keeping population has probably been overestimated by Sindiga.

Holland estimated that Kajiado District rangelands (i.e. ecozones IV and V) would be able to support only 84,903 human beings under subsistence pastoralism conditions. He concluded that this number had already been reached before 1979 when a total of 93,560 Maasai were counted in Kajiado District (see Holland 1986:79).

Campbell (1979a:10) reached a figure of 92,931 people (or 76,561 adult equivalents) as the maximum human carrying capacity, during the dry season, taking a 3.5 SSU/adult equivalent ratio. He estimated that this figure would be exceeded by 1986. When taking into account an estimated loss of almost 14 per cent in the dry season livestock capacity due to the influx of non-Maasai farmers into the high-potential zones, a maximum population of 66,061 adult equivalents (some 80,186 people) was estimated by Campbell. In his view the demands of the pastoral population would exceed the capacity of land by 1980 rather than 1990. Campbell (1979a:13) concluded that in the period 1980-2000 a crisis would develop in both the pastoral and agricultural communities of Kajiado District over access to resources - even if those communities were at a subsistence level of livestock and land ownership.

[8] Sindiga (1986:222) refers to Pratt & Gwynne's 'Zebu Unit' of 300 kg liveweight animal. However, the standardization factors used by Sindiga (0.65 for mature cattle, 0.45 for 1-3 years old cattle, 0.2 for calves and 0.15 for shoats) are different from the ratios given by Pratt & Gwynne and seem to be more in line with the 'Livestock Units' used by Jaetzold & Schmidt (1983:215) for Kenya.

Box 4.1 Major (natural) disasters timetable 1890-1990

1891/92	severe drought and major Rinderpest (*Olodua*) epidemic killing some 90 per cent of Maasai stock. Epidemic smallpox (*Entidiyai*) outbreak by the middle of 1892 causing large numbers of human victims in selected areas of Maasailand (*Olmeita pee einosi Isirkon*)
1897	outbreak of Contagious Bovine Pleuro Pneumonia (*Olkipiei*) in the Ngong area
1898	failing rains and reappearance of rinderpest among cattle of Naivasha Maasai (lasted until mid-1900)
1909	East Coast Fever (*Oltikana*) outbreak in the southern Maasai reserve
1911/12	movement of northern Maasai of the Laikipia area towards the southern Maasai Reserve resulting in huge animal losses
1915/16	lack of rains leading to groups of Maasai wanting to return to the northern Reserve
1918	period of drought and livestock diseases (especially Rinderpest) resulting in heavy losses of stock and consequent raiding of neighbouring groups
1925-27	loss of stock following severe drought and shortage of grass especially in the Magadi area. Great famine in Maasailand (*Olameyu Loolonito*)
1929	severest drought in the whole of the district in the last thirty years further exacerbated by locust infestations. In spite of quarantine regulations concessions were granted to the Maasai to water and graze their cattle outside the district's zone of that time. Some 50,000 cattle lost. Provision of famine relief in certain areas
1933-35	great famine (*Olomeyu Looloyik*) due to drought and locust invasion, some 35 per cent loss of livestock
1938/39	serious drought
1943-46	severe drought and hopper infestations. Great famine (*Eboot Enkurma Nanyokie*). Complete failure of 1944 harvest on Government run Wheatlands near Kitengela
1948-50	failure of rains, army worm outbreak and rinderpest epidemic (esp. in Kaputiei)
1951	Plenty of rain - flooding (*Olari Loonkariak*)
1952	outbreak of Foot & Mouth (*Oloirobi*) placing the whole of Kajiado District under quarantine regulations
1953	ECF in south-eastern Kajiado District leading to losses of up to 75 per cent
1953-56	period of drought. Famine relief provided
1956	heavy losses due to ECF in the north-western area of Kajiado District
1959	beginning of a severe drought and CBPP outbreak
1960/61	extremely severe drought with stock losses up to some 70 per cent. Famine relief, involving international organizations provided to some 40,000 Kajiado Maasai. It took until 1965 for most drought victims to recover from this disaster (*Eboot Enkurma Sikitoi*)
1963	Plenty of rain - flooding (*Olari le Nteke*). Food relief supplied by helicopters
1968	outbreak of rabies in an area north of Amboseli
1969	below average rainfall
1973-76	severest drought since 1961, 1976 especially was a bad year when an estimated 150,000 cattle as well as thousands of wild animals died. Outbreaks of rabies and anthrax were reported in 1975 in the whole of south eastern Kajiado District. Some 60,000 people (40 per cent of the district population) received famine relief (maize meal) at the height of the drought. Rainfed agricultural production failed during most seasons in this period, except on the higher slopes of Mt. Kilimanjaro and because of irrigated agriculture in the plains farmers were able to produce a reasonable crop
1979/80	failing rains
1984	severe drought and outbreak of ECF resulting in the loss of about half of livestock
1985	devastated pastures due to outbreak of army worms forcing herders to move to neighbouring districts and Tanzania
1986	outbreak of CBPP, probably imported from Tanzania
1987	(local) invasion of wildebeests forcing herdsmen to search for other pastures
1988	favourable rains but outbreak of army worms in most of the district and rinderpest in the Ngong area necessitating the closure of livestock markets

4.2 Administrative and Political Units

Administratively, Kajiado District is part of the Rift Valley Province and divided into five divisions, i.e. Central, Ngong, Loitokitok, Magadi and Mashuru. The latter division was installed only in April 1989 after splitting the Central Division into two parts. Because the data available all refers to the pre-1989 situation referral will be made in this book mostly to the old administrative set up.[9] The four divisions are further subdivided into 21 locations and 54 sublocations (see table 4.5 and figure 4.5).

Table 4.5 Distribution of Locations and Sublocations by Division, 1988 (1989)

Name of Division	Locations	Sublocations
Central	12 (8)	28 (20)
Ngong	4	11
Magadi	2	5
Loitokitok	3	10
(Mashuru)	(4)	(10)
Kajiado District	21 (21)	54 (56)

Source KDDP 1988, District Atlas Kajiado 1990 (draft version)

The 'Provincial Administration' forms the backbone of this administrative system through a hierarchy of Provincial and District Commissioners, District Officers (division), Chiefs (locality) and Assistant Chiefs (sublocality). The Provincial Administration is the main executive arm of the Central Government operating under the direct supervision and authority of the Office of the President. The other technical ministries (Agriculture, Livestock, Education, Water, Health, Co-operatives, Wildlife) are also represented by their own officers at various territorial levels. Kajiado Town (6,000 inhabitants) located in Central Division is the district's headquarters. Here the ministries are primarily represented with some also having offices in the Divisional headquarters of Ngong, Loitokitok and Magadi.

Co-ordination of development efforts is sought through the District Development Committee (DDC), headed by the District Commissioner (DC) assisted by the District Development Officer (DDO) and furthermore composed of the heads of all ministries, representatives of local authorities, local members of parliament, chairmen of Divisional Development Committees, officers of development-related parastatals and the district KANU executive officer (until recently KANU was the only Kenyan political party - see Rutten 1990:157-8).

[9] The restructuring of administrative boundaries is an ongoing process (e g Magadi Division was installed only by 1984) The number of locations and sublocations is also under review

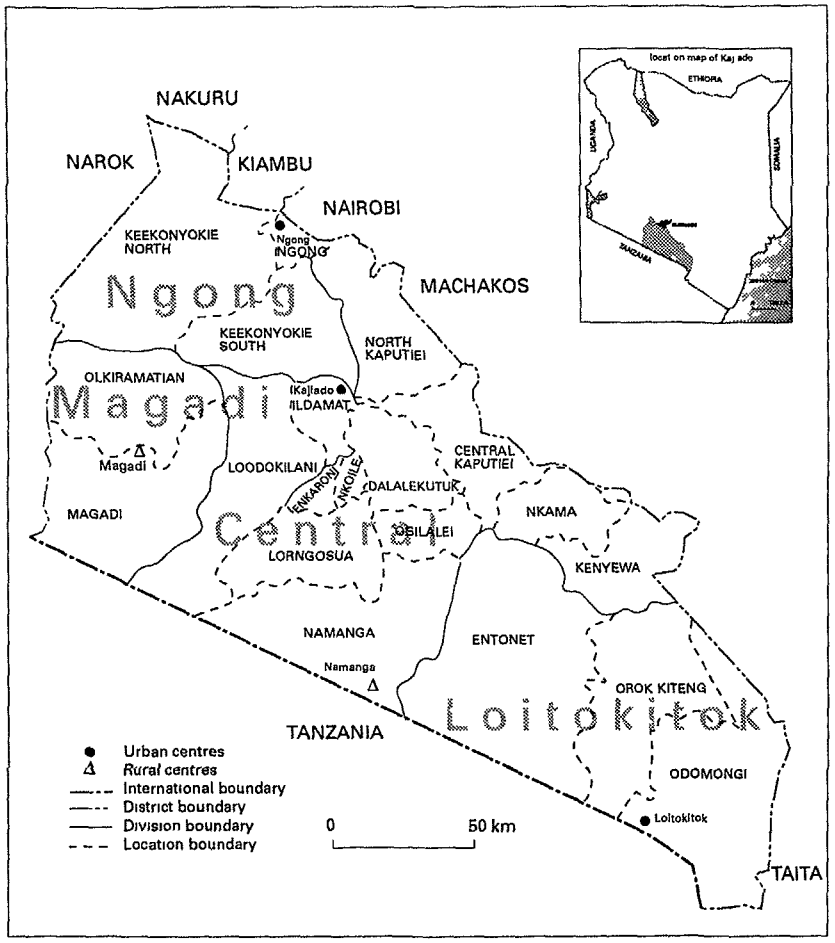


Figure 4.5 Kajiado District Administrative Boundaries 1989

The DDC meets at least four times a year. Technical support for its activities is provided by the District Executive Committee (DEC), which meets at least once a month. Day to day co-ordination is taken care of by the office of the District Development Officer and the newly installed District Planning Unit (DPU).

Alongside the DDC, DEC, DPU and the ministries, several special purpose subcommittees operate in a specific field of development (e.g. the District Agricultural Committee, District Education Board, District Land Control Board). The Divisional Development Committee (DvDC) operates at divisional level.

The Locational Development Committee (LDC) and Sublocational Development Committee (SLDC) ought to represent the grassroots-level community and are responsible for the discussion of community needs and the initial identification of projects and activities to address those needs.

In addition, there are two local authorities in the district namely Olkejuado County Council (OCC) whose area of jurisdiction coincides with that of the district, except for the area covered by the second local authority namely the Kajiado Urban Council. These administrative bodies are of a more political nature as, apart from some nominations, most councillors are elected. Activities performed are in the sphere of the charging of fees, running of livestock holding grounds and market centres and housing development. However, due to limited funds their impact is far less pronounced than that of the district administration.

4.3 Kajiado District Human Population

4.3.1 Maasai Origin and Socio-Culture: Myths and Facts

In the opening pages of this book the map of the Maasai traditional territory (i.e. before the arrival of the European adventurers and settlers) was presented (see figure 0.4). However, the Maasai have not always occupied this area. Their geographical origin has been much debated. Related to this puzzle of the Maasai's "place of birth" is the question of the Maasai's origin as a distinct ethnic group. One stirring theory held by Merker, a German colonial officer stationed in Tanganyika at the end of the 19th century, stated that the Maasai are probably one of the lost tribes of Israel. Merker postulated that famine as a consequence of overpopulation which outpaced the fertility of the soil, drove individual 'semitic tribes' away from the Arabian Peninsula over a period of thousands of years towards either Asia or into Africa (see Merker 1904:1). This is a much contested and not convincing theory (see Mol 1980:4).

Archaeological excavations have revealed evidence of livestock domestication in various parts of Maasailand beginning as early as the first millennium BC. This is supported by both Greek and Chinese records referring to milk-drinking pastoralists in the interior of East Africa as early as 130 B.C and A.D. 838 of whom the Maasai may be descendants (see Jacobs 1975:410). However, linguistic evidence and the oral traditions of the Maasai point to the Nile Valley, somewhere in the Sudan-Uganda border area as the original birth-place of the Maasai (see Mol 1980:4).

Because of pressures building up in the area the group decided to move southwards into the Rift Valley, probably around A.D. 1400. During their migration they displaced, by-passed and absorbed several peoples (e.g. the Iltatua a southern-Nilotic speaking pastoral group) inhabiting the plains before them. After a temporary residence west of Lake Turkana in the Kerio Valley, the Maasai reached the Serengeti Plains in northern Tanzania probably by the 17th century. The Maasai have several stories about their origin and past, that more or less accord with these assumptions (see box 4.2).

Box 4.2 Maasai Myths

Some of the Maasai myths refer to the origin of life on earth or more specifically to the birth of the Maasai as a pastoral people. Voshaar (1979:107) stresses that several versions exist, which vary per section, family, individual, time and occasion. Still, all of the stories have similar aspects in common.

One story reveals how the Maasai obtained their cattle from Naiterukop (a kind of half-God also called Maasinta "founder of the Maasai"). One day Naiterukop dropped a rope from heaven and let cattle down which were then collected by the Maasai. The Maasai moved away with all cattle leaving the Ndorobo empty-handed. From there the Ndorobo had to shoot wild beasts for their food (see Hollis 1905:270-71).

One of the most famous myths is presented by Sankan (1971:67-69). He tells us how in the beginning, all Maa-people found themselves in a low, dry land, suffering from famine and drought. One day the people discovered green grass that had been dropped by a bird. Scouts were sent to follow this bird, and look for fresh pastures. So they did. Upon reaching an escarpment (Kerio) a bridge was built to let all the people and domestic animals pass. When half the people had reached the other side the bridge collapsed. Those who had reached the rich pastures became the Maasai pastoralists, while those who failed became *Ilmeek*, the non-Maasai agriculturalists. Only a few groups, like the Somali, managed to later ascend the escarpment to become non-Maasai pastoralists.

Hollis (1905:280-81) tells us how the Maasai, directed by Naiterukop from the area round Mount Kenya further south reached a cave at Athi River. Some of the Maasai entered the cave and travelled for ten days before they emerged again and settled in the vicinity of a salt-lake. These people were said to be the *Lumbwa* Maasai who, in appearance are similar to the Maasai, but are agriculturalists.

Finally, the Maasai reached the hills of Ngong. They found a little orphan boy, Kidoing'oi lloibonok, sitting on top of the hill. He is said to have been dropped onto the Mountain of Muya (Ngong Hills) by Naiterukop. The child was adopted and, after becoming a grown man was found to possess extraordinary powers of prophecy, healing and blessing. He became the first *oloiboni*, the first ritual expert of the Maasai (see Galaty 1982a:12 and Mol 1980:6).

Determining of who does and who does not belong to the group of Maasai is less easy a task than one would expect it to be. From a linguistic point of view it is a less complicated exercise. The people speaking Nilotic languages (of the Nilo-Saharan stock) are subdivided into River-Lake Nilotes, Highland Nilotes and Plains Nilotes. The latter group includes three separate clusters: the Bari cluster (e.g. Latuka of Sudan), the Itunga cluster (e.g. Teso of Kenya and

Uganda) and the Maa-speaking cluster (see Voshaar 1979:15).[10] The Pastoral Maasai, Samburu, Il Chamus (Njemps) and some groups of the 'Ndorobo' of Kenya as well as the Baraguyu, Il Arusha and Pastoral Maasai of Tanzania belong to the Maa-speaking cluster. These groups all speak a certain dialect of the Maa language and have much in common from a cultural point of view.[11] All those speaking the language of 'Maa' could thus be called Maasai.[12]

However, it is possible from an ethnic point of view to distinguish between the 'Maasai proper' (Pastoral Maasai) and 'Maasai-like' groups. Each of these groups has its own set of social beliefs and practices as well as economic organization. For example, the Ndorobo are hunter-gatherers and the Il Arusha and Il Chamus are more oriented towards cultivation than the Maasai proper. Samburu and Baraguyu are more close to the Maasai proper. The Maasai-like are sometimes called '*Iloikop*', '*Ilumbwa*' or '*Ilkuafi*' as against '*Ilmaasai*' a name used for the Maasai proper.[13]

According to Jacobs (1975:406-8) until the early 1960s the majority of the Pastoral Maasai not only rejected the non-livestock based alternative modes of subsistence available to them, but they possessed strong prohibitions against the eating of agricultural and other non-pastoral foods. Their diet is said to

[10] Another distinction is often made between Western (= River-Lake), Southern (= Highland) and Eastern (= Plains) Nilotic speaking groups. In Kenya, the Western Nilotes are represented by the Luo near Lake Victoria. The southern Nilotic-speaking Kalenjin (i.e. Pokot, Kipsigis, Nandi, Tugen, Elgeyo, Marakwet, Sabaot) mainly occupy the intermediate zone between highlands and plains of the Rift Valley. The Eastern Nilotic are represented by the Turkana, Teso, Maasai, Samburu, Il Chamus and 'Ndorobo' (see Kaplan 1984:92). It should be noted, however, that cultural differences between groups of Nilotic people can be quite profound. For example, the Nilotic Luo, with their egalitarian society and mixed economy of agriculture and animal husbandry, resemble their Bantu-speaking neighbours Kisii more closely than some of the other Nilotic groups (see Gulliver 1969b:36).

[11] According to Jacobs (1975:411) the Maasai split from the Samburu probably some thousands years ago. Sim (1980:12) concluded that both groups are able to understand each though younger generations face more difficulties since both groups were separated from each other by the colonial authorities at the beginning of this century. Gulliver (1969a:224) reports that the Il Arusha was founded in about 1830 as a settled and recognizable group when a few small groups of Maa-speaking people came to settle on the lower edge of the forested, south-western slopes of Mt. Meru in what is now northern Tanzania. These settlers were refugees from Maasai internecine wars of the early nineteenth century. Rigby (1985:53) places the separation of the Baraguyu at the late 18th and early 19th century from the same mutually hostile relations.

[12] According to Galaty (1982a:4) the word Maa stems from a characteristically polite utterance used by Maasai people as an introduction for a statement. Other explanations are that Maa-sai means "I will not beg" or that Maasai stems from "isaen" a term for the beads. This last explanation is probably not correct (see Mol 1978:99).

[13] The use of the name '*Iloikop*' still is object of discussions. The Samburu, for example, name the Maasai proper also '*Iloikop*' (see Galaty 1982a:9). Apparently use of this term depends on the relative position the user takes. In general '*Iloikop*' seems to be used to refer to the 'other Maasai' or even 'the enemy' (see Mol 1978:99, Galaty 1982a:9, Voshaar 1979:25-7).

have been based solely on milk, meat and blood and some naturally growing fruits. It is said that this is slowly changing and that except for pig meat maybe the Maasai diet is quite varied nowadays and includes cereals, vegetables and even chicken. Still, evidence exists that, especially in times of stress, Maasai did eat agricultural foods either traded for or even grown by themselves (see Lawren 1968:578).

By 1979, of 241,395 Kenyan Maasai the majority resided in Narok (48.9 per cent) and Kajiado District (38.8 per cent). Kenyan Maasai were projected to number some 350,000 persons by 1989. Kenyan Maa-speakers totalled 329,766 in 1979 and were estimated to rise to some 455,100 people by 1989. Including Tanzanians our total estimate is approximately 742,900 Maa-speakers for 1989.

Table 4.6 Maa-speaking Population in Kenya and Tanzania

	1919	1948	1962	1969	1975 (Jacobs' estimate)	1979	1989 ('000) projection	1999 ('000) projection
Maa-Kenya		97,624	221,888	237,372	251,000	329,766	455.1	630.9-729.7
-Ilmaasai	46,000	67,201	154,079	154,906	164,000	241,395	335.3-376.1	462.7-586.0
-Samburu		20,000	48,750	54,796	58,000	73,625	98.9-101.6	132.9-140.2
-Il Chamus		3,423	4,681	6,526	7,000	7,546	8.7-10.4	10.0-14.3
-Ndorobo		(7,000?)	14,378	21,034	22,000	7,200	2.5-9.9	0.8-13.7
Maa-Tanzania		103,309	(161,000)		188,000	229,100	287.8	366.4
-Ilmaasai		47,276	78,000	78,000	62,000	90,000	111.0	140.0
-Baraguyu		3,223	8,000	(?)	29,000	32,000	39.8	51.0
-Il Arusha		52,020	(75,000?)	(?)	97,000	107,100	137.0	175.4
Total Ilmaasai		114,477	232,079	232,906	226,000	331,395	466.7	664.4
Maa-speakers		(200,100)	(383,000)	(?)	438,000	558,861	742.9	1,046.7

Source: Population Census 1948, 1962, 1969, 1979; Jacobs 1975; Huntingford 1953; Ominde 1984; Peberdy 1969; Sindiga 1986; Sandford 1919; Århem 1985

Note: The 1948 census underestimates the African population probably by as much as 30 per cent (see Ominde 1984:35). The 1962 census is based on samples. Jacobs 1975 estimate is based on the Tanganyika 1958 census and the Kenya 1969 census, adjusted and brought up to date by a 2 per cent annual increase for the Kenyan Maa-speakers and the Tanzanian Maasai and a 2.5 per cent increase for the Arusha and Baraguyu. The Tanzanian census does not provide information on ethnic groups. Figures provided are the best guestimates and are district-based.

For all Kenyan Maasai the average annual growth figure for the 1969-79 period was 4.6 as compared with 3.8 per cent for the total Kenyan population. This is in strong contrast with generally accepted human population increases of 2.0-2.5 per cent for pastoral groups (see Campbell 1979a:5 - giving a figure of 2.2 per cent for Kajiado Maasai). Several causes could have contributed to this high intercensal growth figure. Besides improved health facilities the main reason, in my opinion, can be found in the status of the 1969 figure.

This is thought to be an underestimate as the Kenyan Maasai number for 1969 (154,906) was just slightly above the 1962 figure of 154,079 people. Other factors thought to have affected the high 1969-79 intercensal growth rate are the improved recording at the time of the 1979 census; Ndorobo being

recorded as Maasai in 1979 as opposed to 1969 (explaining the sudden drop of Ndorobo in the 1979 census, see table 4.6 and note 16); (increased) assimilation of non-Maasai women by way of marriage (especially Kikuyu women); non-Maasai (especially Chagga and Sonjo from Tanzania) and Tanzanian Maasai pretending to be Kenyan Maasai in order to legalize their residence.

Another issue blurring the definition of Maasai-like and Maasai-proper people stems from the fact that the latter are further subdivided in so-called *il-oshon* (sing. *ol-osho* meaning 'plateau') (see figure 4.6 and box 4.3). The clan (*olgilata* pl. *ilgilat*) and age-group system (*olporror*) also need some clarification (see box 4.4).

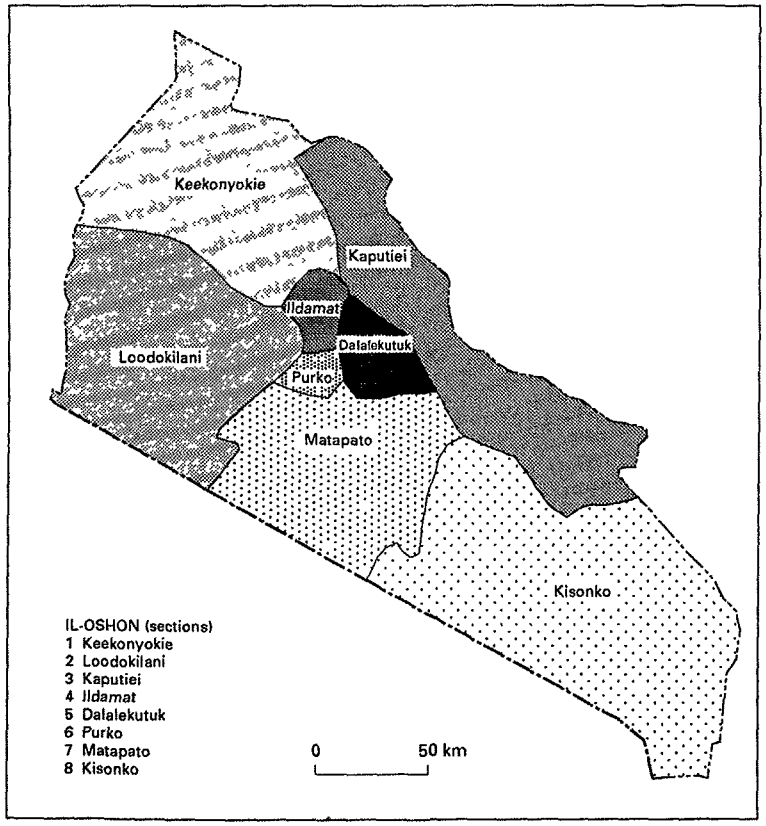


Figure 4.6 Kajiado Maasai *Il-oshon*

Box 4.3 Il-oshon (Maasai Sections)

The pastoral Maasai *il-oshon*, sometimes called tribes, sub-tribes or sections, number fourteen to date. In addition, some authors include the Samburu as a distinct *ol-osho*. The original meaning of the word *ol-osho* is 'plateau'. Initially, in order to distinguish between the various 'plateaus', the inhabitants of such a plateau were given a specific name. Gradually the word acquired the extended meaning it has today, whereby it refers to an independent group of people, having their own name, specific territory with well-defined boundaries, peculiarities of dress, beadwork, speech, housing, celebration of ceremonies and even having their own defence force (see Mol 1978:100). Some of the *il-oshon*, are numerous, others fairly small in numbers. The Kisonko-Maasai seem to be the overall largest group and the Moitanik the smallest. To date, the following sections are distinguished:

Table 4.7 Maasai *il-oshon*

Country/District	*Ol-osho*	Region of Habitat	Est pop. 1979
Kenya	Loodokilani	around Lake Magadi (SW Kajiado)	14,988
Kajiado District	Kaputiei	from Athi-River to Chyulu (N Kajiado)	16,041
	Matapato	around Namanga (S Kajiado)	14,486
	Keekonyokie	from Suswa-Ngong downwards (NW Kajiado)	15,636
	Dalalekutuk (or Kankere)	around Enkorika (Central Kajiado)	5,601
	Kisonko (or Loitokitok)	Amboseli and Rombo area (SE Kajiado)	42,781
	Ildamat	surrounding Kajiado Town (C Kajiado)	5,492
	Purko	around Bissel (C Kajiado)	1,808
Kenya	Loita	around Loita Hills (SE Narok)	
Narok District	Purko	Lemek area (Central Narok)	
	Ildamat	near Cis-Mara, Mau (NE Narok)	
	Uasinkishu (or Kirasha)	around Kilgoris (W-NW Narok)	
	Moitanik	Shartuka, Masarura (SW Narok)	
	Siria	around Lolgorien (SW Narok)	
Tanzania	Kisonko	from Lake Natron to Mt. Kilimanjaro southwards	
	Sikirari	west of Mt. Kilimanjaro	
	Laitayiok	Serengeti south of Lake Natron	
	Loita	west of Lake Natron	
	Purko	west of the Loita and Lake Natron	

Source: Mol 1978:99; Voshaar 1979:295

In addition to these *il-oshon*, mention should be made of some of the Maasai sections that are extinct. Among the best known are the Iltaarromodoon, Ilosekelai, Iloogolala and the Ilaikipiak. These groups have been rooted out by other Maasai during the *Iloikop* wars of the 19th century. Most of these groups either joined Ndorobo groups or other Maasai sections. For example, it is said that survivors of the Ilaikipiak joined the Purko and Uasinkishu Maasai (see Mol 1978:99).

CLANS

Maasai society is also subdivided along the lines of clans and sub-clans (*moieties*). The first division is in two major *moieties*: Orok Kiteng and Odo Mongi. Each of these is further subdivided into seven major clans (Ilmakesan, Ilmolelian, Iltaarrosero, Ilukumai, Ilaiser, Ilmamasita and Ilaitayiok). Theoretically, every sub-clan can be represented in every *ol-osho*. Membership of a certain clan is determined by birth into the father's clan. A Maasai does not marry within his own sub-clan (see Voshaar 1979:53; Mol 1978:43).

Box 4.4 Age-Group System

The age-group system (*olporror*) of Maasai society is an important aspect of Maasai society. In the Maasai literature several descriptions of the age-group system exist, all having their own slightly different interpretations. Indeed, the details and various names of age-groups and age-sets are rather confusing (see Mol 1978:17 who provides an overview of these various interpretations drawn from Hollis, Fosbrooke, Jacobs and Sankan). In the words of Voshaar (1979:58) the age-group system: 'integrates Maasai society more than all the other structures mentioned so far. (...) It is a system of religious thought and practice expressed in rites and ceremonies. (...) It is a system of political organization, of bonding and intimate friendships. It is a system that secures unity and well-being in the land of Maa.'

Generally speaking an age-group refers to a group of peers that, as a generation, are some seven years ahead or behind the following or previous age-group. During the span of time an age-group will be promoted into a new age-grade by way of ceremonies from 'boyhood' via 'warriorhood' (*emurrano*) to 'elderhood'. These accompanying ceremonies are circumcision (*emurata*), *eunoto* and *olng'esher*, respectively. In general there are six age-grades:

Maasai Age-Set Chronology

		Iltalala	1881-1905		
1. early boyhood	appr. 1-7 years	Iltuyioki	1791-1811	Iltuati II	1896-1917
2. later boyhood	appr. 7-15	Ilmeinshan	1806-1826	Iltareto	1911-1929
3. junior *olmurrani*	appr. 15-22	Ilkidotu	1821-1841	Ilterito	1926-1948
4. senior *olmurrani*	appr. 22-30	Iltuati I	1836-1856	Ilnyangusi II	1942-1959
5. junior elder	appr. 30-45	Ilnyangusi I	1851-1871	Iseuri	1955-1978
6. senior elder	appr. 45+	Ilaimer	1866-1886	Ilkiseeyia	1970-1990

As shown in this list the group of junior elders totals a period of 15 years. This is the result of the coming together of two age-groups combining to become one age-set (*olaji*). An age-set is a generation some fifteen years removed from the former and latter age-sets. It should be noted that the 7 and 15 years periods are variable as is the actual age of the age-mates belonging to a certain age-group or age-set. Often one can find a person belonging to a younger age-group which is older than a member of an older age-group. This is the result of the fact that one (i.e. mostly the father of the boy) is somehow free to choose to which age-group he wants to belong.

Each newborn age-group is given a name that mostly differs for each *il-oshon* (only the final elders age set have a uniform name all over (Kenyan and Tanzanian) Maasailand. Formation of a new age-group starts when the one above the one in formation feels the latter has grown large enough. This is reported to the members of the group above them, who are considered to be the protectors of the new group. They will actually close the recruitment for the new group. Once the group is formed the creation of a completely new group will start. This time the intermediate age-group (i.e. the youngest but one) will be recruiting their boys. In other words, a system of rotation exists, whereby alternating groups are linked to each other.

Periods of recruitment and circumcision take up some three to four years. After another three to four years after closing the circumcision there is a second group of boys who will start their period of circumcision. This means that there are so called right hand and left hand age-groups. Only at the time of *olng'esher* will these two age-groups form one single age set (*olaji*) (see for more details of the age-group system and related ceremonies the description by Voshaar 1979:58-97).

According to the age-group there are several taboos on the use of food and social behaviour. For example, traditionally the warriors left their parents home to live together in one single large camp called *manyata* (pl: *imanyat*). They were not allowed to drink milk and the eating of meat in the presence of women was prohibited. Only after the *olng'esher* ceremony were these taboos lifted and the newborn (junior) elders were allowed to marry. Nowadays, the *emurrano* stage still exists but is restricted in duration and residence as the Kenyan Government no longer allows the building of *imanyat*. The warriors (*ilmurran* -sing. *olmurrani*) having lost their task as defenders are stimulated to go to school instead. To this end a Maasai traditional leaders meeting at Sultan Hamud passed a resolution ending the practise of *emurrano* by April 25th 1985 (see DN 27/04/85).

4.3.2 Population-Numbers and Structure

The 1979 population census provides the most up to date information concerning the Kajiado District population size, distribution, composition by age-group and ethnic variance.[14] A total of 149,005 people were counted for the Kajiado District in 1979 whereas there had been 85,903 inhabitants in 1969. This is the equivalent of an annual growth rate of 5.66 per cent for this period. Recent projections for 1989 estimate a total district population of some 250,000-260,000 people, rising to some 400,000-450,000 by the end of this century (see table 4.8).

Table 4.8 Kajiado District Population and Ethnic Composition 1927-2010

Year	Total Population	Maasai	%	Non Maasai	%	Kikuyu	Kamba	Others
1927	14,799	12,781	86.4	2,018	13.6	253	272	1,493
1948	28,234	25,748	91.2	2,486	8.8	1,354	95	1,037
1962	68,411	53,219	77.8	15,192	22.2	6,233	3,975	4,984
1969	85,903	58,961	68.6	26,942	31.4	16,258	4,321	6,363
1979	149,005	93,560	62.8	55,445	37.2	33,630	8,798	13,017
1989	262,585*	148,462	56.5	114,123	43.5			
	162,000-206,000 (DSPP nd)							
	213,000 (Livingstone 1986)							
	249,849 (CBS-Kajiado 1988)							
	254,078 (RoK/CBS 1983)							
1999	470,482*	235,581	50.1	234,901	49.9			
2000	400,360 (TARDA 1984)							
2009	857,321*	373,822	43.6	483,499	56.4			
2010	401,954 (Ecosystems 1982)							
	646,157 (TARDA 1984)							

Source: KDAR 1927, 1949; Population Census 1962, 1969, 1979; Livingstone 1986; RoK/CBS 1983:128; Ecosystems 1982:39; TARDA 1984; DSPP nd:33

* author's projections based on 1969-79 growth trend. The group of "others" includes especially Luo, Luhya and Somali.

As highlighted by table 4.8, Kajiado District is also populated by several non-Maasai groups of which the Kikuyu and the Kamba (both Bantu ethnic groups) are the most numerous. The districts recognized as being traditional Kikuyu areas are Nyandarua, Nyeri, Muranga, Kirinyaga and Kiambu situated to the north of Kajiado District in Central Province. The Kamba can mainly be found in the Machakos and Kitui districts to the east of the Kikuyu country and

[14] Unfortunately the latest 1989 census experienced some logistic difficulties. A proposed renewed attempt was not conducted. Sample studies made 6 months later, however, suggested that overall the 1989 Census was reasonably correct. For Kajiado an estimate of 259,000 people is rumoured. Still, official figures are not yet available. This means that our analysis of population numbers and other demographic characteristics is hindered and at best offers projections based only on assumptions however careful calculated. Note that these projections do not take into account an expected rise in mortality due to AIDS, and an increase in immigration as a result of group ranch subdivision (see chapter 7).

north-east of Kajiado District in Eastern Province (see figure 2.1). By 1979, the Kikuyu (3,202,821) and the Kamba (1,725,569) ranked at first and fourth position, representing 20.9 and 11.3 per cent of the Kenyan population, with the Maasai totalling only 1.6 per cent. Compared to the 1969 situation (2,201,632 Kikuyu and 1,197,712 Kamba) the annual growth rate of the nationwide increase in Kikuyu and Kamba was 3.82 and 3.74 per cent, respectively.

The absolute and relative importance of this group of non-Maasai in Kajiado District has increased tremendously since the 1960s (see figure 4.7). The average annual growth figure for the whole of Kajiado District was 5.7 per cent for the 1969-79 intercensal period. The net growth in the number of Kajiado Maasai for this timespan amounted to 34,599 people (4.7 per cent/year) and the number of non-Maasai more than doubled with a rise of 28,503 persons (7.6 per cent/year).[15] These non-Maasai mainly settle in the high-potential agricultural areas and the major urban centres.

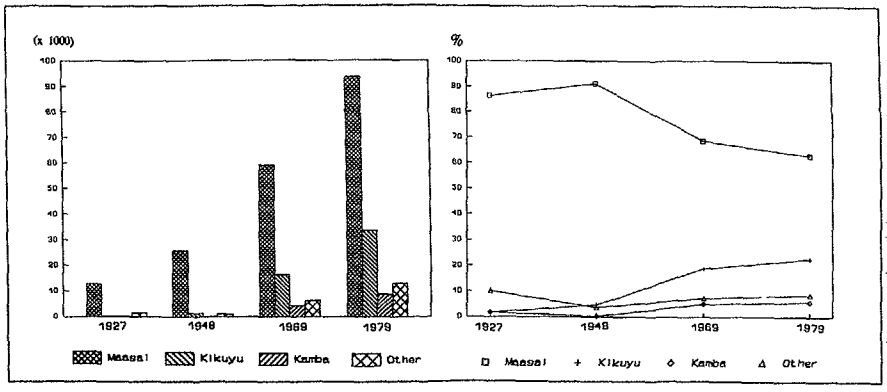


Figure 4.7 Kajiado District Population Growth and Ethnic Composition 1927-79

According to the 1979 population census from the 120,166 Kenyans born in the Kajiado District a total of 109,635 people still resided in the district. In other words, 10,531 had migrated away, either temporarily or permanently to

[15] It is thought that the actual growth of the Maasai population is not as high as 4.7 per cent. Campbell estimated this to be 2.2 per cent. This probably means that the 1969 figure of the number of Maasai is an underestimate (see Campbell 1981b:55).

other districts. As the total enumerated population was 149,005 immigration must have totalled 39,370 people. Unfortunately, these figures do not discriminate as to ethnicity. However, even if we consider the outmigrants to be only Maasai this figure is rather low. It is thought that Kajiado District, unlike some other districts in Kenya, has contributed minimally to the labour market in the country (see DSPP nd:131). Dietz (1986a:23) estimated for Kajiado District a zero percentage of male labour migration for 1969 as well as 1979. In my opinion, if outmigration occurs, it will mainly be for temporary reasons like education or rebuilding one's herd by looking for a job as a watchman in Nairobi (as happened again en masse after the 1973-76 drought). Another group of outmigrants will be those Maasai joining the army and those moving to neighbouring Narok district.

Comparing the 1979 figures with those of 1969 does not show a fast growing increase in outmigration as a proportion of those born in the area. Van Doorne (1980:176) presented data showing that out of 68,850 Kajiado born Kenyans, 3,647 or 5.3 per cent no longer were living there by 1969. With the Kenyan mean outmigration figure at 16.6 per cent the Kajiado figure was the lowest for the 24 districts analyzed. The destination of the group of outmigrants was Nairobi (20.1 per cent), other Rift Valley Province districts (46.2 per cent), Central Province (19.3 per cent), Eastern Province (5.6 per cent), Coast Province (4.8 per cent), Nyanza Province (2.9 per cent) and Western Province (0.8 per cent) (see Holland 1988:26 cf Rempel 1974:50-51). Ominde (1984:74) has provided data for the group of 1,686 people who migrated from Kajiado District to other Rift Valley districts. This confirms our idea of the importance of Narok District as an important target for Kajiado outmigrants as 937 people or 55.6 per cent of the intraprovincial migration was directed to Narok District. Other important receiving districts were Nakuru (19.8 per cent), Turkana (6.7 per cent) and Uasin Gishu (6.0 per cent). Narok (32.5 per cent) and Nakuru (21.4 per cent) were also the most important Rift valley districts with respect to the birthplace of this specific group of Kajiado District immigrants, totalling 1,516 people by 1969.

By 1979 the percentage of outmigrants from Kajiado District had increased to 8.8 per cent. The effects of the 1976 drought period will certainly be one of the major causes for this rise. Holland (1986:113) also concluded that the 1979 percentage of 12.3 per cent of all Maasai living outside Kajiado and Narok districts (not necessarily because of migration) is not unusually high. In addition he pointed out the lack of data concerning the occupation and education of Maasai living in other districts. In a more recent article, however, he was rather outspoken after relating the 1979 figure of 12.3 per cent with the 1969 figure of Maasai staying outside the two districts (8.2 per cent). Holland (1988:29) states that this seems to indicate dramatic migratory movements of the Maasai. However, we would like to point to the problem of the Ndorobo-

Maasai switch, especially in Laikipia, referred to earlier.[16] Furthermore, lack of detailed information does not allow for an analysis of the destination of the group of Kajiado District leavers.[17]

Several sources expect that for the Kajiado District over the next decades there will be continuous immigration into the district on a substantial scale, raising population densities and leaving little land under-utilised (see e.g Ecosystems 1982:40). The Kajiado District Development Plan for 1989-93 foresees even faster rates of immigration because of group ranch subdivision and an increasing number of Nairobi city workers moving towards the nearby small towns of Ngong and Central Divisions.

Table 4.9 Divisional Population Distribution and Density, 1979-90

Division	Area (km²)	Population 1979	%	Projection 1990	%	Density 1979 (pers/km²)	Density 1990 (pers/km²)
Central	8,546	50,963	34 2	89,537	34 2	6.0	10.5
Ngong	3,412	45,680	30.7	80,374	30.7	13.4	23.6
Loitokitok	5,726	42,781	28.7	75,138	28.7	7.5	13.1
Magadi	1,921	9,581	6.4	16,756	6 4	5.0	8.7
Total	19,605	149,005		261,805		7.6	13.4

Source: KDDP 1988:18

Divisional population figures are presented in table 4.9. The average population density for Kajiado District in 1979 was 7.6 persons/km² as compared to 4.4 p/km² in 1969. Within Kajiado, the availability of high-potential land is also reflected in that Ngong Division is the most densely populated, with 13.4 p/km² (and even as high as 212 p/km² in Ngong *location*), followed by Loitokitok (7.5 p/km²), Central (6.0 p/km²) and Magadi (5.0 p/km²). This is rather low as compared to its neighbouring (high-potential) districts of Kiambu (280 p/km²), Nakuru (90 p/km²), Machakos (72 p/km²), Narok (13 p/km²) and Taita-Taveta (8 p/km²) (see Statistical Abstract 1988).

[16] In 1969, Ndorobo were mainly in Nakuru (10,636 persons) and Laikipia (7,315 persons) districts. By 1979 these figures were 3,979 and 181, respectively. By contrast the number of Maasai changed from 3,892 to 4,540 in Nakuru and from 1,125 to 10,116 in Laikipia (see RoK 1970a; RoK/CBS 1981).

[17] Assuming that most outmigrants will be Maasai some conclusions can be drawn from analyzing the number of Maasai residing outside Kajiado and Narok districts. Figures do not allow for separating Narok from Kajiado Maasai. In 1979 Maasai were counted in Nairobi (3,425), Central (1,850), Western (2,132), Coast (1,509), Eastern (854), Nyanza (442), North Eastern (57) and the Rift Valley Province (excluding Narok and Kajiado) (19,475 especially Laikipia (10,116), Nakuru (4,540), Tranz Nzoia (2,185) and Uasin Gishu (1,349) districts. As compared to the 1969 figures the relatively largest increases occurred in Nairobi ('69: 970), Coast Province ('69: 439 Mombasa-effect?), Eastern Province ('69: 258) and the Rift Valley district of Laikipia ('69: 1,125 Ndorobo effect?).

For the year 2010 densities for Kajiado District are expected to rise to 19 persons/km². Projections for neighbouring districts are: Narok (35 p/km²), Machakos (194 p/km²), Nakuru (243 p/km²) and Kiambu (755 p/km²) (see Ecosystems 1982:39).

Table 4.10 shows us the structure of the Kajiado District population and its pyramid-like shape, having a very young population. Indeed for 1979 the group of 0-19 year of age made up 89,240 people or 59.9 per cent of the Kajiado District population. Their number is expected to have risen to 160,199 people or 63.1 per cent by 1989.

The 5-14 years age-cohort totalled 44,132 by 1979 and is expected to rise to 76,732 by 1989. The active population cohort (15-59 years of age) is projected to have changed from 68,800 to 111,885 by 1989. The group of retired people above 60 years of age is predicted to grow only modestly from 6,560 to probably 7,990 Kajiado District inhabitants. This means that major efforts must be devoted to provision of schooling facilities and employment opportunities.

Table 4.10 Population Age-Groups and Sex Ratio, 1979-89

Age group (years)	Census 1979	%	m/f ratio	Projection 1989	%	m/f ratio
0-4	29,513	19.8	0.98	57,471	22.6	1.00
5-9	25,381	17.0	1.03	43,944	17.3	1.05
10-14	18,751	12.6	1 14	32,788	12.9	1.15
15-19	15,695	10 5	0.98	25,996	10.2	1.04
20-14	13,186	8.9	0.94	21,684	8.5	0.97
25-29	10,709	7.2	0.99	16,647	6.6	0.99
30-34	7,928	5.3	0.93	12,688	5.0	0.87
35-39	6,333	4.3	0.96	10,939	4.3	0.96
40-44	5,125	3.5	1.03	8,316	3.3	0.95
45-49	4,120	2.8	1.21	6,638	2.6	1.08
50-54	3,281	2.2	1.10	4,999	2.0	1.01
55-59	2,423	1.6	1.16	3,978	1.6	0.97
60-64	1,988	1.3	1.05	3,165	1.2	0 93
65-69	1,540	1.0	1.13	2,117	0.8	0 80
70-74	1,230	0.8	1.02	1,553	0.6	0.82
75+	1,802	1.2	0.99	1,155	0.5	0.79
Total	149,005	100.0	1.02	254,078	100.0	1.01

Source: RoK/CBS 1981; RoK/CBS 1983

4.3.3 Education

The 1979 census revealed that in Kajiado District 62 per cent of the 5-75+ age group had never attended school. For men this figure was 54 per cent and for women even as high as 70 per cent. This situation placed Kajiado in the group

of Kenyan districts having the lowest rates of literacy (21-39 per cent).[18]

By the end of the 1980s enrolment rates in primary (65 per cent) and even more in secondary school (18 per cent) are still rather low. School attendance by girls is particularly poor. Approximately 57 per cent of the girls as against some 74 per cent of the boys in the district were attending a primary school by the end of the 1980s. In the past this ratio had been even more distorted (see table 4.11).

Table 4.11 The Expansion of Primary Education in Kajiado District 1927-88

Year	Schools	Pupils	Boys	Girls	Participation rate
1927	1	87	87	0	2%
1948	5*	294	279	15	4%
1957	20*	546	442	104	?
1963	22	3,000	?	?	15%
1969	40	6,687	4,242	2,445	20%?
1974	60	15,923	?	?	40%
1979	94	26,135	?	?	?
1983	123	30,987	17,510	13,477	?
1988	148	38,205	21,829	16,376	65%

Source: Beecher et al. 1949; KDAR 1927, 1948, 1957, 1969, 1974; Gorham 1977; Eshiwani et al. 1988; Seitah nd; RoK/MEO 1988

* excluding two missionary schools with an unknown number of pupils located in Ngong.

Table 4.11 also shows that over the years school attendance has increased. It is important to realize, however, that higher rates of school attendance among groups of non-Maasai are partly responsible for this development. In the past most schools were located in the small towns and rural centres, where the Maasai were outnumbered by non-Maasai. For example, out of the 6,363 people making up the 1962 Kajiado District 'urban' population only 510 were Maasai (see RoK 1966:170-74). Secondly, an unknown number of the Kajiado young people (Maasai and non-Maasai from Ngong in particular) are attending schools in Nairobi (see Seitah nd:4).

After independence, education became the responsibility of the local County Council which included taking over the staffing and equipping of mission-run schools as well as several non-African primary schools which existed in the townships (see Gorham 1977:11). From 1970 onwards education in Kajiado District was handed over to the Central Government. By 1987, of a total number of 145 primary schools in the district 127 (88 per cent) were run by churches, while only 17 schools belonged to the District Education Board and

[18] Neighbouring districts are in group 1 mainly (Kiambu, Taita 60-68 per cent literacy), group 2 (Machakos 50-59 per cent), group 3 (Nakuru 40-49 per cent), group 4 (Narok 21-39 per cent) (see Abduba 1988:13). By the early 1980s about 28.8 per cent of the Kikuyu spoke English, 23.4 per cent of the Kamba, while only 2.0 per cent of the Maasai (see DN 18/11/81).

one to the Magadi Soda company.[19]

A Presidential Decree at the end of 1973 to make the first four years of primary education free increased total primary enrolment rates by 50 per cent (see Gorham 1977:24). The result was severe overcrowding in the schools and a lack of trained, and sometimes motivated, teachers. This last problem is becoming even more urgent at the present time. By 1983 the district had 620 trained and 283 untrained teachers in the primary schools, resulting in a pupil/teacher ratio of 34. By 1988 the number of teachers has risen to 1,194 of which 692 were trained and 502 untrained teachers. This is a decrease in the relative number of trained teachers from 69 to 58 per cent over the 1983-88 period. The pupil/teacher ratio dropped to 31 (see KDDP 1988:239).

Education in Kajiado District also suffers from a high percentage of drop-outs. In times of drought or after the raising of school fees the Maasai children often leave school. In Maasai society there is also much resistance to (female) education for a number of reasons: housework has to be done, parents fear corrupting influences including prostitution when girls stay far away at an (urban) boarding school and marriage which occurs at young age (13-15 year). So, it is particularly girls who are among the group of unfinished schoolleavers.[20] Those at school do not seldom lack basic writing materials, text books, tables and chairs (see Eshiwani et al. 1988:30).

Table 4.12 Kajiado District KCPE Score 1985-89

Year	Kajiado mean	Best district score	Kajiado/ best district	Position
1985	267.55	346.87	0.77	36
1986	278.86	358.02	0.78	37
1987	271.70	347.15	0.78	38
1988	278.52	n.f.a	n.f.a	36
1989*	310.38	412.42	0.75	42

Source: Eshiwani et al. 1988:16; Standard 29/12/89

* higher score due to introduction of a new subject (max score now 700 points instead of 600).

In the light of the above pictured situation it will be little wonder that Kajiado District primary school performance rate in the national examinations over the years has been disappointingly low. Kajiado standard eight pupils scored far below the national average in the Kenya Certificate of Primary Education tests, with Maasai pupils' results below those of non-Maasai. The highest position

[19] Church sponsorship is usually small. The majority of the school income is realised from the parents *harambee* contribution (see Seitah nd:5).

[20] In 1988 Kajiado District there were 135 nursery (pre-primary) schools having 6,675 pupils (3,589 boys and 3,086 girls). This illustrates the higher participation rates of girls at a young age. In chapter 6 more attention will be paid to factors influencing school attendance in Kajiado District.

out of 45 education districts was reached in 1981 (place 30). By 1989, there seemed to be a widening gap between Kajiado and other districts (see table 4.12). As a consequence, the number of Kajiado (Maasai) students allowed to continue for (Government) secondary schools is minimal.

In 1965 the first secondary school was opened in Kajiado District. By 1980 twelve had been established rising to 21 secondary schools, mostly in Ngong Division, by 1988 (see table 4.13). These secondary schools are either run by the Government (8), *harambee* (6), private (5) or a church (1).[21] In earlier days every Kajiado District secondary student had to leave for another part of the country. This practice still occurs. It should be realized that in Ngong most of the students in private secondary schools are from outside the district. It is estimated that some 30 per cent of secondary school pupils are Maasai.

Table 4.13 Kajiado District Secondary Schools, 1987

Division	No. of Schools	No. of Students*	% Schoolgoing
Ngong	9	1,565	24
Central	7	1,308	18
Loitokitok	4	809	13
Magadi	1	86	6
Kajiado District	21	3,768	18

Source: KDDP 1988:237
* excluding number of students for one of the nine Ngong schools.

Mention should also be made of four Youth Polytechnics present in Kajiado District (Isinya, Oltiasika, Entasopia and Meto). These are all run by the Presbyterian Church of East Africa (PCEA). In 1988 seventeen courses (in the fields of carpentry, welding, agriculture, veterinary care, etc.) were offered for 181 students, 90 per cent being non-Maasai.

Whereas by the late 1970s the literacy rate of the Kajiado population from the age of five was estimated to be some 38 per cent, the percentage of literate adults in the district is thought to be as low as 12 per cent (see KDDP 1988:45). In an attempt to raise these low standards adult education classes are available, given by 99 teachers (mostly part-timers). Churches are also very active in this respect. Training concentrates mainly on Kiswahili, mathematics and agricultural issues. Attendance, however, is rather low (1,204 women and 514 men in 1987) and increasingly falling as compared to 1980 (1,751 women and 1,432 men). As Abduba (1988:11) shows this trend is nationwide (404,709 in 1980 to 158,887 in 1987), and probably caused by a weakening impact of the 1979 newly created adult education campaign. Also higher enrolment by

[21] *Harambee* is the Swahili word for 'let us unite'. The idea, propagated by Kenya's first president Mzee Kenyatta, is that people themselves take the initiative and collect funds for a school, dispensary and the like (see Maas 1986:21-22).

women is a uniform picture. Approximately 66 per cent of the students are Maasai (see Kantai 1989b:17). Kantai's study also revealed that besides the problems mentioned above for primary schools, adult education suffers from (old) men not liking to be taught by younger (female) teachers and from the absence of *ilmurran* during ceremonies.[22]

4.3.4 Health Sector

Major diseases affecting the Kajiado District human population are said to be respiratory diseases (27.1 per cent of sicknesses), malaria (26.1 per cent), diarrhoea (7.1 per cent), skin diseases (6.6 per cent) and eye-infections (5.3 per cent) (see KDDP 1988:221). These figures refer to the 1986 number of reported diseases. Kajiado District figures provided by the Nomadic Health Unit of the African Medical and Research Foundation (AMREF) for 1988 show a similar picture, with acute upper respiratory infections (11,221 recorded treatments), eye disorders (520 cases) and skin diseases (scabies 482, ascariasis 256) prevailing (see AMREF 1989:59-66). In addition, AMREF mentioned malnutrition (516 cases) as an important condition but recorded less malaria (164 cases only as against 56,920 for 1986). This is due to the fact that both 'diseases' have a highly seasonal occurrence.

Food habits, like the drinking of unboiled milk or the eating of poorly cooked food and poor sanitation and hygiene are said to be responsible for a number of the diseases mentioned above (i.e. especially eye and skin diseases as well as worms and brucellosis). It is estimated that only some 35 per cent of Kajiado District households have access to clean water and only 25 per cent have latrines (see KDDP 1988:221).

4.4 Economy, Employment and Land Use Patterns

The economy of Kajiado District is, in spite of the fast increasing importance of (irrigated) cultivation, still dominated by the livestock sector. In terms of people involved as well as land occupied pastoralism and ranching form the core of the district's economy.

The Kajiado District Development Plan 1989-93 estimated that in 1987 about 81 per cent of the population derived its livelihood from livestock production, with about 67 per cent of the total District labour force being involved (see table 4.14). The commercial and cultivation sector in particular were expected to grow fast in the 1987-1993 period. Let us briefly introduce the main economic sectors of Kajiado District as they exist today.

[22] Especially in the Loitokitok area *ilmurran* are said to flood the classes willing to learn Kiswahili and mathematics mainly because of their involvement in the trade of livestock (see Kantai 1989b:8).

Table 4.14 Kajiado District Labour Force

	1987 (nr)	1987 (%)	Target annual growth rate	1993 (nr)
Pastoralists	57,460	66.77	2.67	67,302
Agriculture (7,086 households)	17,602	20.45	18.20	48,000
Public sector	3,821	4.44	2.0	4,303
Rest of wage-employment	3,575	4.15	7.7	5,588
Self-employed/unpaid family	3,608	3.56	5.0	4,834
Total Labour Force	86,066	100.00		116,367?

Source: KDDP 1988:40

Note: "Rest of Wage employment" is a residual after subtracting public sector employment from aggregate data. Pastoralists are also calculated on a residual basis! Self-employment and unpaid family labour is based on licenses issued by the District Trade Office, The Kajiado Urban Council, and the Olkejuado County Council. Note that the 1993 total labour force figure does not match with the sum of 130,027 workers.

4.4.1 The Livestock Sector

Livestock keeping is the economic backbone of the district. In the past the predominant system was one of a nomadic pastoralism whereby the people and their herds spent within grazing distance of permanent water areas during the dry season, while spreading out during the wet season to take advantage of pastures that were otherwise unavailable. Since the early 1960s the mobility of human beings has become less as people are increasingly settling more permanently either freely or by being forced to due to the loss of dry season pastures.

In the foregoing pages some information concerning the livestock sector of Kajiado District has already been provided (see section 3.4). For example, table 3.3 and 3.4 gave numbers of the district's livestock as well as human pastoral population for 1969, 1977 and 1988. By way of aerial counts it was estimated that by 1988 a total of 475,800 cattle and 639,000 shoats (i.e. 395,900 TLU) roamed Kajiado District. These were appraised to be in the hands of some 124,100 pastoralists, meaning an average livestock ownership of 3.19 TLU/capita.

The latest livestock census conducted in Kajiado District by early 1988 reached a total of 633,338 cattle, 500,430 sheep, 466,505 goats, 17,304 donkeys, 19 camels, 82,251 chickens, 2,143 pigs, 2,245 rabbits and 1,157 beehives. This is equivalent to a total livestock population of 515,633 SU. Table 4.15 provides an overview of livestock numbers and the stocking rate on a divisional level. In terms of stock units (SU), it is clear that cattle are the most important, making up to 73.2 per cent of the Kajiado District livestock

population. Sheep and goats exist in more or less equal numbers.[23]

Table 4.15 Divisional Distribution for Different Kinds of Livestock, 1988

	Livestock population (nr)								
	cattle	sheep	goats	donkeys	camels	chickens	rabbits	pigs	beehives
Central 1,011,615 ha (46%)	270,443 (43%)	172,334 (34%)	187,440 (40%)	8,348 (48%)	9 (47%)	19,159 (23%)	180 (8%)	94 (4%)	116 (6%)
Loitokitok 652,483 ha (30%)	189,078 (30%)	77,868 (16%)	72,581 (15%)	3,882 (22%)	4 (21%)	12,800 (16%)	516 (23%)	152 (7%)	792 (40%)
Ngong 357,883 ha (16%)	136,387 (21%)	171,447 (34%)	143,133 (31%)	2,724 (16%)	6 (32%)	49,542 (60%)	1,549 (69%)	1,897 (89%)	1,044 (53%)
Magadi 188,619 ha (8%)	37,430 (6%)	78,781 (16%)	63,351 (14%)	2,355 (14%)	0 (0%)	756 (1%)	0 (0%)	0 (0%)	5 (0.2%)
Kajiado District 2,210,600 ha	633,338	500,430	466,505	17,309	19	82,257	2,245	2,145	1,957

Source: MoLD 1988:51-54

The information presented in table 4.16 also highlights the differences between divisions with Ngong and Magadi Division representing two extremes. The former has a much more diversified livestock population than the latter reflecting agro-climatic as well as sociological differences as the large presence of non-Maasai in Ngong Division is mainly responsible for the bulk of poultry, pigs, rabbits and beehives found here. Likewise dairy cattle can mainly be observed in the Ngong and Loitokitok Division and some parts of Central Division (see KDDP 1988:98).[24] The animals reared for commercial milk production, besides a few pure exotic breeds like Friesians, are mainly cross breeds of Sahiwals with the indigenous small East African Zebus. The latter still make up some 60 per cent of the Maasai herds (see KDDP 1988:98).

In general the high percentage of female cattle represent a double purpose characteristic of nomadic pastoralism geared at subsistence and selfsufficiency: milk production for domestic consumption and a high rate of reproduction.

[23] In the past, however, the importance of smallstock was said to have been minimal. Only a few households kept smallstock. With the exception of the Loitokitok Division, maybe, the importance of sheep and goats has increased significantly over the last decades. Smallstock is mainly used for home slaughter.

[24] At present the marketing of milk is constrained by a lack of marketing infrastructure. There are only two milk co-operatives in the district (Ngong and Kajiado Town). Also a lack of storage and cooling equipment is a setback. Direct milk delivery from producers to consumers is mainly undertaken near small centres dominated by non-Maasai.

Table 4.16 Kajiado District Livestock Units, 1988

	Cattle	%	Sheep	%	Goats	%	Donkeys	%	Total SU	%
Central	160,628	75 1	21,542	10 1	23,432	10 9	8,348	3 9	213,950	42
Loitokitok	116,823	83 7	9,733	7 0	9,073	6 5	3,882	2 8	139,511	27
Ngong	77,124	64 7	21,432	18 0	17,892	15 0	2,724	2 3	119,172	23
Magadi	22,877	53 2	9,848	22 9	7,920	18 4	2,355	5 5	43,000	8
Kajiado District	377,452	73 2	62,555	12 1	58,317	11 3	17,309	3 4	515,633	100

Source MoLD 1988 101-102

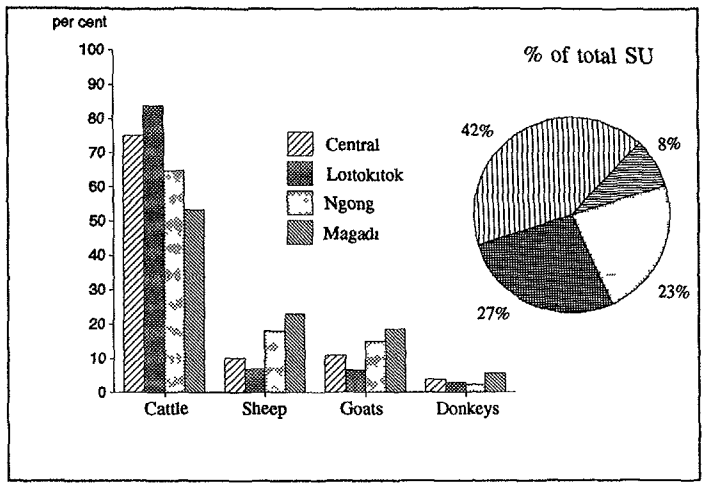


Figure 4.8 Distribution of Stock Units by Division and Type of Animal
Source MoLD 1988

Comparing the average 58.5 percentage of mature female cattle in the Kajiado District herds with figures of the past seems to suggest that the rate of commercialization by way of a meat-oriented livestock production is still modest (see table 4.17). In the latter case the percentage of steers for fattening in the producer's herd is very high.

Table 4.17 Composition of Cattle Herds by Division, 1988

	Bulls	%	Steers	%	Cows	%	Heifers	%	Calves	%	Total Cattle
Central	7,312	2 7	49,699	18 4	96,348	35 6	45,071	16 7	72,013	26 6	270,443
Loitokitok	5,514	2 9	20,462	10 8	85,362	45 2	32,869	17.4	44,871	23 7	189,078
Ngong	3,410	2 5	2,044	1 5	61,375	45 0	23,187	17 0	46,371	34 0	136,387
Magadi	949	2 5	5,982	16 0	15,471	17 0	5,898	15 8	9,130	24 4	37,430
Kajiado D	16,910	2 7	73,911	11 7	264,609	41 8	105,767	16 7	172,141	27 2	633,338

Source. MoLD 1988 69-71

The marketing of livestock is an important mechanism for the Maasai pastoralists acquiring cash which, in turn, is used to buy goods and services ranging from food, clothing, medication and schooling to the purchase of (upgraded) breeding stock and livestock production inputs (e.g. acaracides, salt, veterinary drugs). Outbreaks of diseases or periods of drought will force the pastoralists to sell. Shortly after a period of distress, herders need to rebuild their herds and flocks and are not willing to market their animals. As a result pastoral livestock offtake rates fluctuate widely over time. Official livestock offtake figures for Kajiado District are presented in table 4.18.

Table 4.18 Production and Marketing Trends, Cattle and Shoats 1983-89

	1983	1984	1985	1986	1987	1988	1989
Cattle							
Population	692,020	311,409	436,318	442,635	662,329	633,338	703,731
Sale for slaughter	60,788	126,680	56,563	47,758	51,158		56,483
Offtake %	8 8	40 7	13 0	10 8	7 7		7 7
Tons of Beef	9,119	10,029	8,785	7,164	7,674		8,472
Shoats							
Population	1,200,000	918,500	1,000,000	1,000,000	1,000,000	966,935	1,300,861
Sale for slaughter	47,899	39,400	25,032	25,632	23,844		34,809
Offtake %	4 0	4 3	2 6	2 5	2 4		2 7
Tons of Meat	958	788	513	504	477		696

Source KDDP 1988 100, MoLD/AR 1989 8

In section 3.4 reference has already been made to "normal" traditional herd offtake figures of 10 per cent as compared to some 25 per cent for commercial ranchers White and Meadows estimated normal Maasai *cattle* offtake rates of 17 per cent during the 1960s and 1970s, showing extremes of up to 38.3 per cent (249,866 cattle) and as low as 10.0 per cent (20,955) for the 1975/76 drought and 1962/63 post-drought periods. ILCA found livestock net offtake figures of 9-14 per cent. Commercial selling comprised some 64-75 per cent. Other, often neglected, grounds for extracting animals from one's herd were exchange (5-12 per cent), gifts (12 per cent) and home slaughter (12 per cent) (see Bekure et al. 1987:315). Kajiado District's livestock marketing system functions by a chain of intermediate selling places, stock traders and livestock trekkers.[25]

Unfortunately, as highlighted in box 4.5, the livestock marketing infrastructure in Kajiado District is poorly developed. Evangelou (1984:9), however, estimated that two-thirds of the beef, mutton and goat meat consumed in Nairobi comes from Maasailand (i.e Narok and Kajiado District).

[25] As mentioned in section 3 4 range conditions and an increase in cash demand were found to be major determinants for cattle sales Not surprisingly then that poor households are characterized by higher offtake *rates* than are wealthy families

Box 4.5 Kajiado District Livestock Markets

Within Kajiado District livestock is marketed at 13 centres scattered over the district, though a high concentration can be found in the north western part of the district in the Ngong region (Emali, Ilbissil, Isinya, Kajiado, Kibiko, Kisamis, Kiserian, Kitengela, Mbirikani, Mile 46, Namanga, Ongata Rongai and Rombo). Ongata Rongai, situated along the Nairobi-Mombasa road bordering Nairobi city, is (on a weekly base) the most important market of Kajiado District. It has two slaughterhouses and over 20 butcheries.

A survey conducted by ASAL at the end of 1988 in 10 operative livestock markets revealed that after correcting for differences in marketing days approximately 1,078 head of cattle were officially marketed in these centres per week. Of these 56 per cent were steers, 13 per cent bulls, 25 per cent female cattle and 6 per cent calves.

Livestock prices differ per market centre (the closer to the final buyer the higher), (season of the) year, and differences per animals in terms of sex, type and physical appearance. In general healthy, exotic, mature bulls or productive females will be most expensive, while old, sick, weak and local Zebu will go for very low prices. Average market prices for slaughter stock were Ksh. 2,755/-, Ksh. 3,068/- and Ksh. 2,129/- for steers, bulls and females. Calves for rearing were bought at Ksh. 971/-.

Small stock sales totalled some 755 a week. Kiserian and Namanga are the most important small stock markets. Mean buying prices were Ksh. 298/-, 273/-, 314/- and 319/- for a male goat (62 per cent), female goat (17 per cent), male sheep (16 per cent) and female sheep (5 per cent), respectively.

The operating days of the Kajiado District livestock markets vary from one to six days a week. Sometimes, as a result of outbreaks of disease market centres are closed for an unknown period altogether. Two types of markets can be distinguished: intermediate or terminate. In the first market the animals after being sold (large stock mostly) are transported live to other markets. In the latter case the animals are finally slaughtered in a nearby slaughterhouse. The meat is either consumed locally or transferred to other places (Nairobi mostly). The market centres in Kajiado District act as a kind of chain through which roughly speaking, livestock is transported from the inner parts of the district towards the local, Nairobi or Mombasa consumer, to Machakos District or to local pastoralists for rearing purposes. The main buyers are local butchers, livestock rearers and traders (Kamba, Kikuyu mostly as well as some Maasai and Luo). Three main types of livestock traders can be distinguished:

1. a first group of livestock traders buys to order for butchers or restaurants in Nairobi or other outside destinations.
2. a second group acts as middleman between the initial seller and the ultimate buyer. They buy at the *boma* or intermediate market (e.g. Emali) and sell at a higher price at a terminate market located near the final destination (e.g. Ongata Rongai located near Nairobi). Between the original *boma* and the final buyer an animal may have changed hands 2-6 times. This change of ownership in most cases takes place outside the official market channel simply along the trekking routes.
3. a third group of livestock traders represents those people involved in speculation. They buy and sell in the same centre a few days later. In this way they try to make a small profit.

Market centres are also visited by people willing to buy livestock for improving and rebuilding their own herd or for rearing purposes. Calves, young steers and emaciated females are used in this latter respect, when after fattening they are sold to fetch a higher price. Emali market is the leading centre for purchasing rearing animals in the district.

Live transport is the main method of getting animals to market. Though cheaper than motorized transportation it is time-consuming and reduces the animal's weight and as a consequence its price. The trekking routes are more or less fixed. After payment of a trekking fee permits are issued by the Kajiado County Council allowing transport of the animals along the route. In order to avoid this payment, animals are illegally moved by night sometimes. In general these trekkers, Maasai mainly, also charge a certain price (e.g. up to Ksh. 700/- for the Namanga-Nairobi route lasting 3 days).

Additional costs have to be paid for slaughtering, totalling some Ksh. 60/- to Ksh. 75/- for large and Ksh. 20/- to Ksh. 30/- for small stock at the time of late 1988. In other words traders have to meet costs involving transport, fees and buying prices in relation to their revenues composed of the selling prices of the animal as well as the selling of the skin, head, hoofs and intestines. Meat selling prices per kg were Ksh. 27/- or Ksh. 28/- for large stock and Ksh. 28/- to Ksh. 30/- for small stock.

It should be realized that actual offtake estimates for Kajiado District are hard to determine because of a not insignificant number of cattle illegally imported from Tanzanian Maasailand.[26] It would seem reasonable to conclude that overall Maasai herd offtake rates are not as low as often suggested.

The Ministry of Livestock Development estimated that about 58 per cent of all hides and skins in 1988 had been smuggled from Tanzania (see table 4.19). In chapter 2 we saw that the export of hides and skins was the most important revenue earner of the Kenyan livestock sector (Ksh. 271.7 million for 1989). Kajiado hide & skin traders earned over Ksh. 25.2 million in 1989 (see MoLD/AR 1989:10). Average hide prices ranged from Ksh. 20/- to 40/- per kg depending on the quality. Small stock skins sold at between Ksh. 10/- and 40/- a piece.

Table 4.19 Hides and Skin Production 1983-89 (nr)

Year	Cattle Hides	Sheep skins	Goat skins
1983	82,520	85,259	145,538
1984	83,089	69,603	131,431
1985	121,787	117,866	228,863
1986	92,395	102,367	181,443
1987	109,173	124,131	213,480
1988	154,289	162,723	245,421
1989	81,792	125,656	172,861

Source: KDDP 1988:109; MoLD/AR 1989:8

Mention should also be made of the production and marketing of milk. Commercial dairy cattle are to be found mainly in small stretches of high potential areas of Ngong and Loitokitok Division. Otherwise the majority of the cows are local less productive Zebu. The Kajiado Ministry of Livestock Department estimated a total production of 99 million litres of milk for 1988, of which only some 2 million litres were officially marketed. In other words, a mean daily production of some 271,000 litres by 264,609 cows suggests an average of one litre per adult female head of cattle. Actual daily production will be somewhat higher as the period of lactation is approximately 300 days. Production during the wet season will be higher than in the dry season. Maasai management also influences milk availability for human consumption by regulating the time calves are allowed to suckle.

Commercial milk production of some importance is currently concentrated in the high-potential zones of the district. Near urban centres like Kajiado Town, Namanga, Bissel and the like some ranchers also sell to the local population or to a co-operative. In the rest of the district surplus production is

[26] Cattle smuggling from Tanzania mainly follows the Namanga-Bissel or Meto-Bissel stock routes finally ending in Emali or the Nairobi neighbouring markets of Ongata Rongai, Kibiko and Dagoretti. Arusha or Kisonko Maasai from Tanzania act as partners for their Kenyan counterparts. Major setbacks for local producers are the importation of diseases, and low(er) livestock prices.

restricted to the wet season mainly and still subsistence oriented. A major factor hindering commercial milk production is the lack of a good marketing system and the absence of an adequate number of milk coolers.[27]

Finally, in 1988 some 2.54 million eggs, 17,612 chickens and 10 tons of honey were officially sold. While eggs and honey sales almost doubled as compared to 1984 the sale of chickens has decreased from some 30,000. Again most of this produce resulted from Ngong and to a lesser extent Loitokitok Division.

With regard to livestock production and the land tenure system Kajiado District faces a very turbulent phase. Group ranches formed from the 1960s onwards in most parts of the district are now in a process of subdivision. This will result in an enormous increase in the number and land covered by individually owned ranches. Before subdivision small individual holdings already existed, especially in the Ngong and Loitokitok Divisions, as a result of land consolidation and the selling out to non-Maasai. Large individual ranches mostly owned by Maasai covering between 300 to 800 ha can be found concentrated along both sides of the Namanga - Kajiado main road; near Konza; north of Poka (subdivided) group ranch; east of Elang'ata Wuas group ranch; near Kimana; north of Olkiramatian group ranch; west of Kitengela and otherwise in small pockets scattered all over the district (see figure 4.9).

4.4.2 The Agricultural Sector

Though Kajiado District's economy is dominated by livestock production, the importance of cultivation in terms of land occupation and, even more profoundly, by the number of producers involved is increasing rapidly.

The Kajiado District 1988 Farm Census counted a total of 7,846 farming households (59,700 people) holding a total area of some 46,841 ha. It should be noted, however, that some farmers, Maasai mainly, mentioned large chunks of land owned, with only a small part being arable or cultivated. The actual area under cultivation was therefore 13,823 ha (0.7 per cent of district surface) with only some 34,444 ha (1.7 per cent) considered arable (see table 4.20).

In section 4.1 we concluded that Kajiado District's agricultural potential is limited. This is more due to the unfavourable rainfall/temperature situation and physical impediments such as steep slopes, extreme rockiness, salinity and sodicity than to actual soil fertility.

[27] According to the Kajiado District Ministry of Livestock Development 1989 annual report two dairy co-operative societies are operative in the district (i.e. Oloolaiser in Ngong and Olkejuado in Kajiado Town. A third one called Kule was formed in Kitengela in 1989. Like Oloolaiser it received a new milk cooler of 1,200 litres capacity. In total 891,235 litres of milk were delivered to the dairy co-operatives (Ngong mainly: 809,049 litres) as compared to 489,322 litres for 1988. Milk was either sold locally or to the KCC or used to make cheese (see MoLD/AR 1989:11) (see also section 10.5.3).

Table 4.20 Kajiado District Farmer' Household Size Related to Possessed, Arable and Cultivated Land, 1988

	Central (n=954)		Ngong (n=2,314)		Magadi (n=273)		Loitokitok Rain Fed (n=2,751)		Loitokitok Irrigated (n=1,554)		Kajiado District (n=7,846)	
	mean	sum	mean	sum	mean	sum	mean	sum	mean	sum	mean	sum
HS (pp)	9.44	9,006	7.47	17,286	5.68	1,551	7.87	21,650	6 60	10,256	7.61	59,708
LH (ha)	18.54	17,687	6 32	14,624	4.15	1,133	5.28	14,525	2.54	3,947	5.97	46,841
LA (ha)	8.77	8,367	5 21	12,056	4 00	1,092	4.01	11,032	2.22	3,450	4.39	34,444
LC (ha)	1.25	1,193	1.10	2,545	1.63	445	2.83	7,791	1.19	1,849	1 76	13,823

Source: author's derivation based on raw data Kajiado District Farm Census 1988
Note: HS= household size; LH= Land holding; LA= Land arable; LC= Land cultivated.

According to Ecosystems (1982:9) a maximum of 4 per cent of the district's surface is located in agro-climatic zone IV having soils with an unimpeded high-fertility. Some 13 per cent of these good soils are located in zone V. For medium-fertile soils these figures are 2 and 14 per cent, respectively. In other words, at best some 33 per cent of the district's surface has some potential for agriculture, though with a variable need for increasing soil fertility or provision of water. This suggests that by 1990 the total cultivated area is still a fraction of its potential.

For 1980, Campbell (1979a:7) estimated a total Kajiado District farming population of 31,779 people and 4,965 farms covering 17,378 ha. His predictions for the year 2000, based on a 3.3 per cent growth rate, were 60,834 people, 9,505 farms and 33,268 ha cultivated. With regard to the number of farmers at least Campbell's predictions are probably conservative, especially considering the fact that the 1988 Farm Census did not cover some newly opened farming zones. Table 4.21 presents the variation in size of landholdings for each of Kajiado District's divisions, the area considered arable and the actually cultivated territory.

Over 53 per cent of all farmers cultivated a total tract of land of less than one hectare. As expected, the irrigating farmers cultivated small plots. An exception should be made for the Magadi region, however, where land holdings show a less biased distribution. When taking into account the ethnicity of the farmers a pattern emerges of Maasai landowners having large plots, while non-Maasai were over-represented in the 0-1 ha plots (see note table 4.21).

This presence and continuing influx of non-Maasai into Kajiado District made Ecosystems (1982) postulate a much faster growth of the cultivated area in the district. Indeed of all farming households only some 27 per cent are of Maasai origin. Kikuyu cultivators make up almost half of all Kajiado District farmers (see table 4.22).

Table 4.21 Distribution of Plot Size Categories over Possessed, Arable and Cultivated Landholdings Among Kajiado District Farmers by Agricultural Division, 1988 (%)

Plot size (ha)	Central			Ngong			Magadi			Loitokitok RF			Loitokitok IR			Kajiado District		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
0-1	38.4	41.5	58.7	34.7	35.6	62.2	9.9	9.9	32.2	33.7	34.2	35.6	46.8	48.0	74.4	35.8	36.7	53.8
1-2	22.5	25.6	28.7	22.5	23.1	24.5	17.9	17.9	39.6	24.5	24.2	26.0	25.7	27.4	18.1	23.7	24 3	24.8
2-3	10.6	11.8	8.0	18.1	18.0	8.3	16.8	17.6	14.7	15.7	15.8	16.0	13.9	13.4	4.1	15.9	16.0	10.4
3-4	2.1	3.3	1.1	4.3	4.7	2.1	10.6	11.0	8.1	5.0	5.1	5.3	4.5	4.6	1.5	4.7	5.0	3.2
4-5	5.3	4.2	1.4	5.2	5.2	1.2	11.4	11.7	2.6	6.5	6.4	5.5	2.8	2.5	1.1	5.5	5.3	2.8
5-7.5	1.5	2.7	1.1	4.7	4.5	1.0	19.4	19.8	1.5	4.6	4.9	4.6	2.6	1.9	0.3	4.6	4.6	2.1
7.5-10	3.0	2.0	0.3	2.7	2.6	0.1	10.3	8.4	0.7	1.7	2.2	2.3	0.9	0.8	0.1	2.3	2 3	0.9
10-15	2.3	0.7	0.2	2.4	2.0	0.2	1.8	2.2	0.4	3.6	3.5	2.5	1.8	0.6	0.1	2.7	2.2	1.0
15-20	0.8	0.2	0.1	1.1	1.1	0.1	0.4	0.0	0.0	1.0	1.0	0.6	0.5	0.2	0.1	0.9	0 8	0.3
20-50	3.4	2.9	0.3	2.1	1.6	0.3	1.5	1.5	0.4	2.8	2.2	1.4	0.4	0.3	0.1	2.1	1 7	0.6
50-100	2.7	1.6	0.1	1.0	0.8	0.0	0.0	0.0	0.0	0.4	0.4	0.1	0.0	0.0	0.1	0.7	0 5	0.1
>100	7.4	3.5	0.0	1.1	0.8	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.2	0.2	0.1	1.1	0 6	0.0

Source: author's derivation based on raw data Kajiado District Farm Census 1988
Note: (1) land owned or rented; (2) arable land; (3) cultivated land; RF = rainfed cultivation; IR = irrigated cultivation.

Table 4.22 Ethnicity and Tenurial Status Kajiado District Farmers (% of all)

(n=7,846)	Owner	Tenant	Sharecropper	Else	Total
Maasai	22.6	3.6	0.4	0.2	26.8
Kikuyu	33.0	14.2	0.1	1.6	48.9
Kamba	4.1	6.2	0.1	0.1	10.5
Other	1.3	12.2	0.2	0.1	13.8
Total	61.0	36.2	0.8	2.0	100.0

Source: author's derivation based on raw data Kajiado District Farm Census 1988
Note: figures have been adjusted for non-response and unknown categories.

Land tenure arrangements show that in majority land is owned (61.0 per cent) or rented (36.2 per cent).[28] The favourable position of Maasai farmers and to a lesser extent of Kikuyu cultivators is also shown.

Differences also exist among the group of cultivators in objectives of production. Table 4.23 clarifies that overall subsistence production, either solely or in combination with a market-orientation, prevails in the district. A mere 7.8 per cent of the farmers, Maasai mainly, claimed to practise commercial cultivation without producing for their own subsistence.

The non-Maasai cultivators can mainly be found in the high-potential areas of Ngong and Loitokitok divisions. Kikuyu farmers, in particular, dominate these regions. In the most lucrative, irrigated regions of Loitokitok and Magadi Division, the Maasai are still the most important ethnic group present (see also section 7.5.1 for more details). Table 4.24 also highlights the variation in the object of production over the divisions. Irrespective of the ethnicity of the farmer, production in Ngong and Central divisions is geared at subsistence level.

The Loitokitok and Magadi areas are populated by cultivators interested also in additional commercial agriculture. In total the Kajiado District 1988 Farm Census counted 55 different crop types cultivated by Kajiado farmers. Maize and beans are the most important crops grown. Farmers practising rainfed agriculture restrict themselves to these crops either in pure or in intercropped stands. The Census revealed that at least in one out of three seasons (April/May 1987, November/December 1987 and April/May 1988) 79 and 78 per cent of all Kajiado District farmers grew maize and beans, respectively. This was followed by tomatoes (14 per cent), irish potatoes (11 per cent), onions (9 per cent) and bananas (4 per cent).

[28] Sharecropping ("Kampunu") is the most dominant land tenure arrangement in the Namelok irrigated scheme. In general the Maasai landlord provides land, water, seeds, chemicals and fertilizer, while the sharecropper contributes his labour for irrigation, maintenance, weeding, spraying and guarding. Both are involved in harvesting and marketing. After selling of the produce the revenue is divided equally after subtraction of the input costs.

Table 4.23 Ethnicity and Objective of Cultivation, Kajiado District

	Total (n)	Subsistence	Commercial	Subsistence & Commercial
Maasai	2,164	12.3	3.4	11.3
Kikuyu	3,757	24.8	2.6	21.0
Kamba	873	5.5	0.7	4.8
Other	1,052	2.6	1.1	9.9
All	7,846	45.2	7.8	47.0

Source: author's derivation based on raw data Kajiado District Farm census 1988
Note: figures have been adjusted for non-response and unknown categories.

Table 4.24 Objective of Cultivation by Ethnicity and Division

	Central (954)				Ngong (2,314)				Magadi IR (273)			
	Maasai (474)	Kikuyu (122)	Kamba (339)	Other (19)	Maasai (379)	Kikuyu (1,847)	Kamba (51)	Other (37)	Maasai (132)	Kikuyu (52)	Kamba (81)	Other (8)
Subsistence	91.4	66.7	85.0	64.7	85.3	86.3	81.3	82.9	42.3	15 7	6 3	50.0
Commercial	0.5	3.8	2.0	0.0	0.8	1.2	2.1	2.9	0.8	0.0	2 5	12.5
Subs & Com.	8.1	29.5	13.0	35.3	13.9	12.5	16.7	14.3	56.9	84.3	91 3	37.5
	Loitokitok RF (2,751)				Loitokitok IR (1,554)				Kajiado District (7,846)			
	Maasai (559)	Kikuyu (1,169)	Kamba (250)	Other (773)	Maasai (620)	Kikuyu (567)	Kamba (152)	Other (215)	Maasai (2,164)	Kikuyu (3,757)	Kamba (873)	Other (1,052)
Subsistence	25.0	16.0	43.2	19.5	5.8	3 0	2 8	1 0	45.6	51.3	49 9	19.1
Commercial	0.6	1.3	0.4	1.7	43 6	31.4	27.7	35.2	12 6	5 3	6 1	8.3
Subs & Com.	74.4	82.7	56.4	78.8	50.6	65.7	69.5	63.8	41.8	43 4	44 0	72.6

Source: author's derivation based on raw data Kajiado District Farm Census 1988

Table 4.25 Production and Consumption of Some Major Crops by Settled Farmers in Kajiado District, 1983-88

Crop/Year	Production (Tons)	Consumption (Tons)	Surplus (Tons)	Surplus Value (K£)
Maize				
1983	30,354	3,562	26,792	1,568,076
1984	3,174	3,706	-532	-59,628
1985	24,478	4,994	19,484	1,794,693
1986	26,508	6,571	19,937	2,437,852
1987	37,835	6,803	31,032	3,238,534
Beans				
1983	2,460	1,781	679	90,533
1984	868	1,853	-985	-32,696
1985	16,575	2,497	14,078	3,851,010
1986	23,744	3,286	20,458	5,330,445
1987	26,887	3,402	23,485	6,132,194
Potatoes				
1983	4,704	851	3,853	319,240
1984	1,914	894	1,020	18,124
1985	3,614	1,572	2,043	212,368
1986	4,116	1,628	2,488	344,177
1987	10,443	1,637	8,806	798,704
Horticultural Crops				
1983	-	-	-	-
1984	8,309	566	7,743	1,606,673
1985	5,348	666	4,682	883,490
1986	13,541	889	12,652	3,161,735
1987	7,618	681	6,937	1,191,083

Source: KDDP 1988:50; MoA/AR 1985 for 1985 horticultural crops

Table 4.25 shows the estimated production and consumption of major crops by Kajiado District settled agriculturalists. In terms of district needs these farmers (excluding those households that practised some additional cultivation in addition to livestock keeping) were even able to produce surpluses over total district demands in 1987 with the exception of potatoes. The total surplus of agricultural production was estimated at K£ 1,200,560 (see KDDP 1988:51).

As with differences in the objects of production and the farmer's ethnicity the divisions show specific characteristics with regard to crops cultivated. It is the Loitokitok area in particular where approximately 80 per cent of food crops are produced. Least involved in crop production is Central Division, although cultivation of crops (maize, beans, tomatoes) in this division is on the increase. However, Central Division farmers often face crop failure while, for the same season Ngong, Loitokitok and Magadi claim success (see MoA/AR 1985:17).

In the irrigated areas in particular horticultural crops (e.g tomatoes, onions), "Asian vegetables" (e.g okra, chillies) and fruits (e.g melons, mangos, oranges) are grown in addition to maize and beans. In Ngong tomato growing is more important than in Loitokitok, where the cultivation of onions and Asian vegetables is concentrated. Magadi Division is famous for its mangos, oranges and other fruits.

The growing of industrial crops such as coffee, pyrethrum and cotton has followed a pattern of rise and decline throughout the years. Overall, production was on a modest scale due to quota regulations, low profitability and a lack of processing facilities. Pyrethrum is an exclusively Ngong grown crop. Cotton is mainly grown in Rombo and Kimana and some in Nguruman. As a result of the rise of onion cultivation cotton farming has decreased. Coffee was uprooted in the late 1970s in Ngong leaving Loitokitok as the most important coffee farming location.

Table 4.26 summarises particulars of the Kajiado District's most important irrigation schemes. With the exception of Nguruman all of these schemes are located in Loitokitok Division. It should be noted that the acreages presented are official figures which are lower than the totals found in the 1988 Farm Census survey. In contrast, the latter survey counted less farmers. In any case, Loitokitok Division has the 3rd highest concentration of irrigation activities, in terms of hectares cropped as well as in terms of number of plot-holders within Kenya after Mwea Division (5,818 ha) in Kirinyaga District and Bura Division (2,454 ha) in Tana River District (see Statistical Abstract 1990:112).

Water sources for irrigation are springs or connected rivers. A system of main and small trenches leads, by way of gravity, to individual plots which are either flat or filled with small ridges. Temporary weirs of timber, stones or mud are applied to regulate the flooding of the fields. Irrigation of a plot takes about 2-4 hours every 7-16 days. Irrigation in Loitokitok was started as an autonomous process. In contrast to other irrigation schemes (e.g. Bura) no financial subsidies have ever been received from the Government. Lacking on-river water storage facilities irrigation is directly dependant on spring yields.

In general there is a 30 per cent variation in water yield, which could increase with progressive degradation of water catchment areas. Irrigation in Nguruman is said to have a huge potential. Its area has increased from 6 ha in the 1960s to approximately 175 ha by 1987. Potential areas for the extension of irrigated agriculture are said to be Kitengela in Central Division, Euaso Kedong' in Ngong Division and Inkisanchani, Illasit/Olkaria and Elang'ata - Enkima/Oloorika in Loitokitok Division (see MoA/AR 1987:22).

According to Kimani (1988:5/23) 90 per cent of the Loitokitok produce is thought to be destined for Mombasa some 300-400 km away, while the division accounts for 70 per cent of the turn-over of the Mombasa wholesale market in onions and tomatoes.

Table 4.26 Kajiado District Irrigation Schemes, 1988

Irrigation scheme (group ranch)	Date started	Farmers	Ha	Nr of furrows	Source	Main crops	Land rent Ksh./yr/acre	Ethnic groups
1. Kimana (Kimana Tikondo)	mid-1950s	300	182	4	Kimana river-spring	on, to, av, mz, be, cb	700/-	ki, ch, ka, ma
2. Tikondo (Kimana Tikondo)	mid-1950s	240	49	3	Tikondo springs/Impiron river	on, to, mz, be, ba	?	ki, ch, ka, ma
3. Rombo (Rombo)	1950s	734	395	12	Rombo/Olchorro springs	av, to, on, mz, be	?	ch, ki, ma
4. Inkisanchani (Kuku)	early 1950s	220	121	3	Noolturesh	on, to, ka, mz, so, be, pe	Ksh. 400-1,000	ma, ka, ch, ki
5. Illasit (individual ranch)	early 1980s	27	11	1	Kikelelwa river/Mto wa Ehud	to, on, cb, mz, ba	Ksh. 1,000	ki, ma, lu, ka, ch
6. Osoit (Oloorika) (individual ranch)	1986	30	8	1	spring	?	?	ki, ma, lu, ka, ch
7. Impiron (Kuku)	1974/82	200	89	3	cluster of springs/Impiron river	on, to, mz, be, pe, cb, ci	?	ma, ki
8. Namelok (Olgulului/Kimana/Mbirikani)	1976/82	375	250	6	Ol Makau spring/Egumi spring	on, to, mz, ka, ca	?	ma
9. Isinet (Kimana Tikondo)	1950s	120	73	1	Isinet river	on, to, mz, cb, ka	?	ma, ka, ch
10. Elang'ata Enkima/ Oloorika (Kuku)	1974 1978	160	65	18	Noolturesh	on, to, ka, mz	?	ma, ka, ki, lh, ch
11. Nguruman (Olkiramatian)	1986	200	140	5	Oloibortoto/Entasopia river	mz, be, on, pw, mg, ok, ci?		ma, ka, ki

Source: Kimani 1988; KDAR 1988

Note: on=onions; to=tomatoes; av=asian vegetables; mz=marze; be=beans; cb=cabbage; ba=bananas; ka=kales; so=sorghum; pe=peas; ci=citrus; cs=cassava ca=carrots; pw=papaws; mg=mangos; ok=okra;

ki=Kikuyu; ka=Kamba; ch=Chagga; ma=Maasai; lu=Luo; lh=Luhya.

Asian vegetables, mainly grown in Rombo, are destined for the export market (e.g. EEC countries). A major problem for the farmers are high transport costs resulting from poorly maintained roads in the district and high rents for the renting of boxes supplied by the Mombasa-based brokers.[29] A drop in market prices frequently leads to a loss to the farmer, especially for tomatoes. Nearby Nairobi is the most important market for the Ngong farmers.

4.4.3 Other Economic Activities

Beside livestock and cultivation exploitation of mineral resources and tourism are the most important activities in the district, both from an economic as from a land use point of view (see figure 4.9).

Most obvious in this respect is the Magadi Soda Company which, in 1911, was granted a 99 year lease concession in the Magadi Division of some 900 Km^2 comprising the waters of Lake Magadi and its surroundings. The Magadi Soda Company is Kenya's oldest chemical industrial concern and one of its largest.[30] Lake Magadi contains a virtually inexhaustible supply of crude soda.[31] Soda ash (sodium carbonate) is mainly used for the production of glass. Other applications are in the manufacturing of soap, oil refining and the paper industry.

At the time of Independence the Magadi Soda Company produced some 140,000 tons of soda ash a year and contributed £ 1.5 million annually to

[29] The Loitokitok-Emali road is the worst main road I have seen in the whole of Kenya. It took one bumpy and dusty hour to do a mere 15 km. Recently, road improvement has started which could possibly increase the profitability of horticultural production in the Loitokitok Division. In 1987, ASAL-Kajiado Programme supported the start of the 'Loitokitok Horticultural Farmers Association' with a Ksh. 50,000/- grant. However, suspicion among members of the co-operative resulted in the collapse of the LHFA. Brokers moved in again to continue their exploiting practices. In 1991, ASAL promised to help revive the co-operative by putting up a buying-shed and through the provision of carpentry tools for tomato-box production (see Kajiado Focus 1991a:7). Both improvements could possibly result in the extension of the irrigated area.

[30] Initially the first Magadi Company went bankrupt in 1923, due to the effects of World War I as well as to competition from manufacturers in Europe. By 1926 the Company became part of the Imperial Chemical Industries Ltd (ICI) today's most important British industrial company. Recently, ICI decided to sell its soda activities to Penrice-Australia for 90 million British pounds (see Volkskrant 28/06/91).

[31] Lake Magadi is a natural wonder. It is located in the lowest depression of the Rift Valley and is continuously fed by innumerable hot springs with water containing two per cent sodium carbonate and bicarbonate, one per cent salt, and a small proportion of sodium fluoride. High temperatures of up to 40°C and low relative humidity of 25-40% results in an evaporation of 7-8 times as high as the annual rainfall. As a result crystals have formed a mort-like mass called trona of 20 km long and 2-3 km wide, which is so thick that one can easily drive a car over it. The trona is scrapped and the crude material transported to a manufacturing plant where mainly soda ash and salt are produced. Because the lake has no outlet the increase is far in excess of the amounts being removed.

Kenya's export earnings. Independence, however, cut off its considerable soda ash exports to South Africa and production fell significantly.[32] By the early 1970s, annual production had recovered to 160,000 tons. Over 90 per cent of production is exported mainly to the Far East (i.e. over 60 per cent is transported to countries like Singapore, Malaysia and the Philippines).

By the early 1980s, production fell to some 147,000 tons of soda ash of which only 27,000 tons were exported. The company operated at a loss until the mid-1980s when an all time record production of 237,650 tons was reached of which 229,000 tons valued at Ksh. 283 million were exported. This was equivalent to 1.5 per cent of Kenya's total export earnings. In 1989 207,000 tons were exported valued at Ksh. 442 million equivalent to 2.2 per cent of Kenya's total export value.

Locally, the Magadi Soda Company provides a source of employment to some 700 workers (mainly non-Maasai), both permanent and temporary, by the late 1980s. These are settled in flatbuildings erected by the company. The Company has also taken care of its own hospital, school, water provision, railway, tarmac road, sports facilities, and the like. In addition to local employment spin-off effects have been created for the Mombasa Port, Kenya Railways and local glass industries mainly.

Since the mid-1970s Government officials regularly voiced Kenya's willingness to acquire a majority share within the Company. Due to a lack of funds this has never materialized. The Magadi Soda Company pays royalties to Central Government (Ksh. 20 million by 1981) leaving the local council empty handed. To offset this situation the OCC repeatedly proposed the introduction of an annual levy of Ksh. 10/- per acre owned.

Another important mining industry of Kajiado District is the quarring of marble and limestone. The oldest and most important firm in the district is the Kenya Marble Quarries (KMQ) located south-west of Kajiado Town along the Magadi railway. Besides its traditional use for decorating buildings, marble is used in the shoe, chemical and steel industry, in a variety of products such as rubber soles, insecticides, paints and stockfeeds.

Another important location where limestone is found is the Kibini quarry in south Kaputiei which has been exploited for the production of cement by the Portland Cement Company. The latter's processing factory is located at Athi River, bordering Kajiado District. The largest marble producing company of Kenya and shoe and leather companies using raw materials which come mainly

[32] Perhaps the re-opening of South Africa to Kenyan produce will significantly increase Magadi's export possibilities. By the early 1980s plans had already been presented to double the plant's production capacity to some 500,000 tons annually. In fact Magadi and the USA (Wyoming) are the only two producers of natural soda ash in the world. By 1989, the world market for soda ash was in an equilibrium This situation has recently changed as Botswana also entered this market (Sua Pan-Soda Ash Botswana: 300,000 tons of soda ash and 650,000 tons of salt is expected to be produced per year). The effect of this is yet to be seen. Competition from aluminium, paper and plastics in case of packing material also influences potential exports.

from Kajiado District are also located in Athi River. Exports of marble and limestone are mainly to neighbouring countries and the Near East.

Other minerals found in greater or lesser quantities in Kajiado District are diatomite, feldspar, wollastonite, garnet, gaylussite, quartzite, meerschaum, sand and gypsum. Exploitation of the latter, which is used in the manufacturing of cement, mainly occurs in the Embolioi ranch to the north of Kajiado Town. Large areas of pasture land are turned into wastelands because of strip-mining.

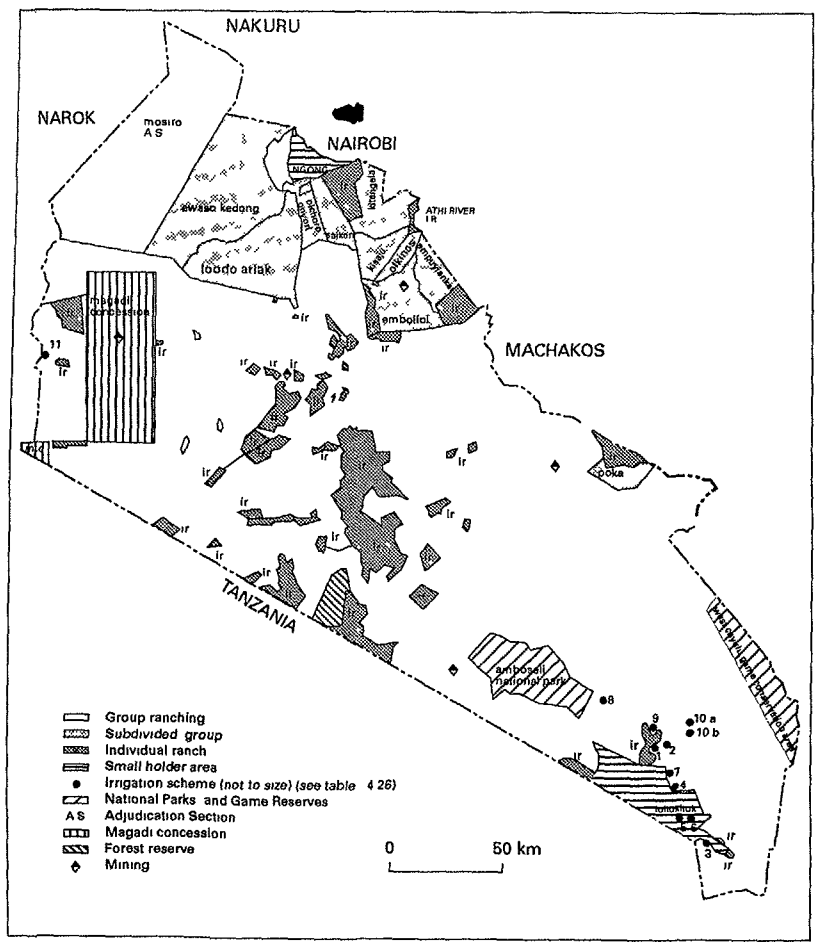


Figure 4.9 Kajiado District Land Use

As stated before the tourist industry is of major importance for the Kenyan economy. The tourist industry in Kajiado District is largely the result of the abundance of wildlife. Most revenue is earned by the Amboseli National Park which covers some 400 km^2 and is served by six lodges and three campsites. Visitors to Amboseli averaged some 150,000 annually in the period 1984-88 as compared to a mean number of 85,000 visitors for 1974-78. The number of tourists in this group of visitors (i.e. excluding local residents) was approximately 64 per cent. Amboseli National Park is now Kenya's most important park. Of all tourists visiting Kenya between 1974-78, not less than 19 per cent of them visited Amboseli. Assuming a similar percentage of visitors to be tourists we estimated that in the mid-1980s 20 per cent of the tourists had paid a visit to Amboseli. In financial terms it has been estimated that in 1976 Kajiado District contributed some Ksh. 69 million to the Ksh. 1,288 million earnings from tourism (see UNDP/FAO 1978:10 and Olang 1983:75) (see also section 7.5.2). Nationwide a total of Ksh. 7,000 million has been earned from tourism by 1989 (see DN 30/11/89). Another tourist attraction is the Olorgesailie prehistoric site.

Finally, reference should be made to some small scale commercial and manufacturing activities. The number of licensed businesses increased sharply from 1,020 in 1983 to 2,264 by 1987. A majority of these trade licenses are granted out to owners of retailshops (65 per cent), hotels (18 per cent), bars and restaurants (5 per cent) and butchers (4 per cent). The commercial sector of Kajiado District's economy is also dominated by non-Maasai.

Lack of capital, insufficient institutional support, poor business skills and an inadequate infrastructure are said to be among the major constraints inhibiting faster growth in the manufacturing sector (see KDDP 1988:160-1). At the moment Kitengela (bordering Athi River), Ngong, Ongata Rongai and Kajiado Town have the largest concentration of small and medium industries. There are also open air *jua kali* artisans spread throughout the numerous trading centres in the district. Carpentry, vehicle repair work and tailoring are among the most important activities in this respect.

4.5 Infrastructure

4.5.1 Urban Areas and the Transport Network

The whole of Kajiado District has a very low level of urbanization. In 1969 only 3.9 per cent of the total district's population was urbanized and this had increased to 9.5 per cent by 1979. This significant increase was mainly caused by the growth of the centres in the Ngong area, due to their proximity to Nairobi. The rate of urbanization was nevertheless below the 1979 national average of 15 per cent. Of the 39,402 people living in the urban centres of the district most were in Ngong (5,564), Kajiado Town (4,896), Magadi (3,561),

Loitokitok (2,877) and Namanga (2,803). Estimates for 1988 were 5,795, 6,000, 5,000, 4,144 and 3,310, respectively (see KDDP 1988:26-7; figure 4.10).

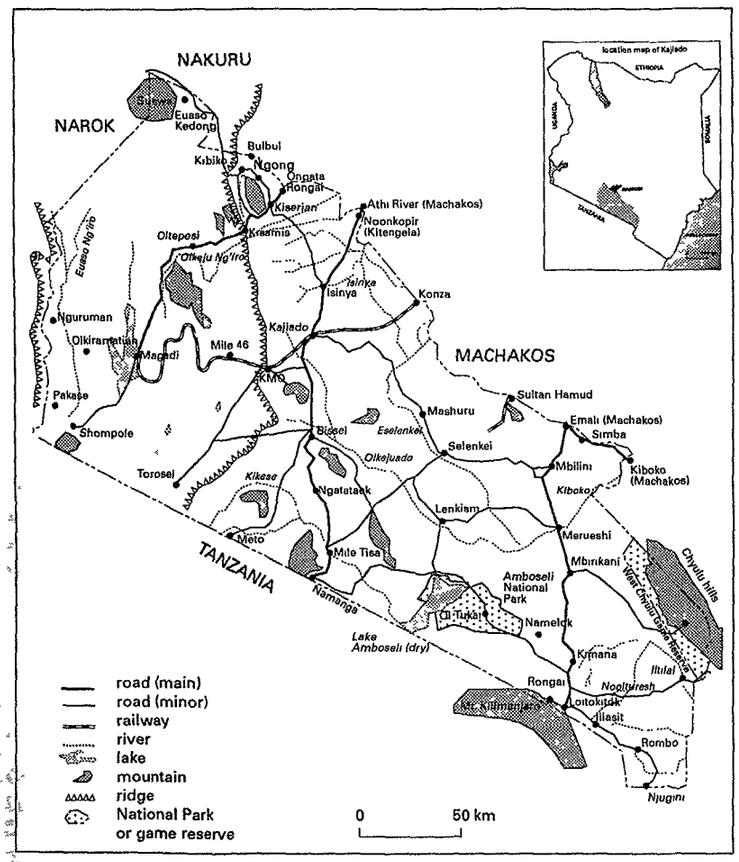


Figure 4.10 Kajiado District Topographic Map

Post offices and telephone services are only available in these towns. Most of the towns mentioned, besides having an administrative function as divisional headquarters, serve as market centres. By the late 1980s three commercial banks were operating in Kajiado, Loitokitok and Ngong towns. The first one had not started before 1979. Other fast growing centres or those expected to do so in the near future are Illasit (2,221 people), Kitengela (2,080), Sultan Hamud (1,523), Isinya (472), Bissel (389), Kiserian and Mashuru.

The transport network in the district is dominated by roads in the north-south axis connected to the main Nairobi-Mombasa road. The main road within the district is the Namanga-Athi River road. This and the Ngong-Magadi road are both tarmacked and of good quality. The roads in Loitokitok division to Amboseli National Park and the Loitokitok-Emali road are in poor condition, though the latter is being upgraded now. Other roads in Kajiado District are poorly maintained and this frustates and sometimes even prohibits transport in the rainy season. The Nairobi-Mombasa railway line can be found following the motor-highway along Kajiado District's northern border. It is linked to the Magadi-Konza line used for transportation of soda ash.

4.5.2 Water Facilities

A major problem in Kajiado District is the provision of water. In the larger areas of the district streams are virtually non-existent. Alternative sources such as wells and springs mostly dry up in the dry season. Eastern Ngong and north-eastern Central Division form the best aquifers in the district. The rest of Ngong, Magadi and eastern Loitokitok have poor groundwater potential.

As from 1927 until April 1988 a total of 387 boreholes had been sunk in the district of which only 139 (36 per cent) are still operative (see Mwangi 1990:115). The average depth at which borehole water was struck is 80 m, but water at depths of over 250 m was also found (see Ecosystems 1982:13). Ngong Division especially has a large number of boreholes. The owners are the Ministry of Water Development (54), other Departments (37), the Kajiado County Council (37), institutions like schools, companies, hotels (49), individuals (150) and group ranches (43). Costs involved in drilling and equipping a borehole are very high (some Ksh. 1.5 million). Sometimes funding has been obtained from NGOs and international donor agencies.

Government maintained water supplies are to be found in Kajiado, Ngong, Loitokitok, Namanga, Ongata Rongai, Kiserian, Illasit and Bissel. All but Namanga are unable to meet the demand. A major water provision project (National Noolturesh Water Project) was started officially in late September 1987. Italian grants and soft loans for studies and construction totalling Ksh. 948 million were provided to develop the 262 km pipeline project bringing water from the Noolturesh springs located at the foot of Mt. Kilimanjaro to Machakos District (Machakos Town and Athi River Town) and back to

Kajiado Town.[33]

Technical consultants have warned that the Noolturesh supply will, however, not be enough for the growing demands of the three towns. Extra sources should be developed near these towns and the pipeline could be used mainly to serve the rangelands with a supplementary function for the urban areas. At the present time the local Maasai will hardly profit if at all from this mega-project.

4.5.3 Electricity and Other Sources of Energy

The Kajiado District infrastructure is poorly developed. Single-phased electricity reached Kajiado Town only in July 1972. For industrialization, however, three-phased power is needed. Confronted with entrepreneurs willing to invest but not able to do so because of the poor power and water infrastructure, the County Council repeatedly urged Central Government to raise standards in these respects. These requests were honoured only by the late 1980s when attempts also began to bring electricity to other towns (e.g. Loitokitok).

Firewood and charcoal are still the main sources of energy used (over 93 per cent). Wood fuel for cooking and heating is mainly used in the rural areas, while charcoal is more used in the urban regions. Paraffin is mainly used for lighting and petrol and diesel for stationary engines (e.g. for borehole pumps). Solar and wind energy are also used occasionally for this purpose. Gas (LPG) is sometimes used for cooking. Biogas is unknown so far. The demand for all of these energy forms is expected to rise significantly in the years to come.

4.5.4 Social Infrastructure

In the foregoing we have already given some information in respect of education and health facilities. For this reason we will now focus attention on other welfare related issues. Efforts to raise people's standards of living are promoted by associations such as women-groups, self-help groups and co-operative societies either with or without assistance from churches or (foreign) Non-Governmental Organizations (NGO's).

In Kajiado District the number of women's groups increased from 206 and 11,479 members in 1983 to 388 groups with a total membership of 12,755 (some 20 per cent of the women above 15 years of age) by the end of 1988. A survey among 58 Loitokitok women's groups revealed that 93 per cent were engaged to a greater or lesser extent in agriculture (e.g. farming, stock rearing, poultry and pig keeping), 60 per cent in some kind of business (e.g. dealing in

[33] The general layout follows the existing railway pipeline constructed in 1956. The main principle is to convey water by gravity over a distance of 126 km to a pumping station situated 55 km north west of Sultan Hamud. A second pumping station will raise water sufficiently for it to gravitate to the terminal reservoirs (see Mwangi nd:1).

hides & skins, handicrafts, shop keeping, land buying) and only 7 per cent in home improvement. Approximately half of these groups received some Government assistance.

The growth in the number of co-operatives was likewise spectacular. From 32 in 1984 they numbered 65 by 1987. Membership rose from 5,017 to 8,080. The co-operative movement is most strongly represented in the marketing sector of livestock and agricultural products. Savings and credit societies are also important. According to the Kajiado authorities co-operatives in Kajiado District face major problems as a result of a lack of adequate and suitable business premises, insufficient capital and the poor education of managers and members (see KDDP 1988:128).

Self-help or *harambee* groups are said to have increased albeit slowly in the district. The idea is that people themselves collect sufficient money and/or labour for the construction of a school, dispensary or whatever they feel is needed in their own location. Often the Government will pick up such an initiative and support the group. Unfortunately misuse of funds and political manoeuvrings sometimes interfere, frustrating progress and levels of participation.

Outside help for the Kajiado District population has been provided in almost all fields of development. Church involvement in the provision of education and most of all health facilities has already been referred to. A distinction can be made in organizations actually working in the area or those who only provide funds. An organization like AMREF (better known as the "Flying Doctors") receives funds for its Kajiado activities from all over the world (e.g. the USA, Ireland, the UK, Germany, the Netherlands) either from national Governments or from private organizations. In 1968, for instance, Oxfam financed the building of the Oltepesi airstrip.

Other major NGO's working in the district are ICROSS, World Vision International and churches like the African Inland Church (AIC), the Presbyterian Church of East Africa (PCEA), the Catholic Diocese of Ngong and the Church of the Province of Kenya (CPK). The latter operates the Maasai Rural Training Centre in Isinya and 6 others in the district. These are involved in livestock improvement, irrigated agriculture, literacy campaigns and the like. In addition, the Anglican CPK constructed a waterdam and also runs four youth polytechnics. The Catholic church is mostly involved in education in awareness and also the running of a model-farm, a tree nursery and home for the disabled. Other well-known projects are World Vision's "Child Survival Project" that between 1982 and 1991 aimed at improving nutrition, increasing immunization, controlling diseases and family planning (see DN 23/09/88). The AIC is mainly involved in sponsoring children and in the treatment of disabled young people. Finally, mention should be made of the "Maasai Action for Self Improvement" project (MASI) started in 1969 by the PCEA (Oxfam, USA, Britain and the Netherlands sponsored) near Oloseos. This project concentrated on the water supply, igloo-like houses, crops and

fish.

Sometimes direct grants are provided by the national governments of other countries, as in the case of the Loitokitok hospital and secondary school that were built in the early 1970s using funds from Austria and the Netherlands, respectively. The Japanese assisted the Ministry of Water Development and the World Bank provided loans for the Kenya Livestock Development Project (KLDP: 1969-82). The Netherlands provide finances for the Arid and Semi-Arid Lands programme (ASAL) started in 1987.

In the following chapter we will focus on the late 19th century arrival of the Europeans in the heart of Maasailand. Special attention will be paid to the policy developed by the British colonizers concerning the use and ownership of land until the time of Independence.

CHAPTER 5

PRE-INDEPENDENCE HISTORY OF LAND USE AND LAND POLICY IN KAJIADO DISTRICT

5.1 Introduction

The following historical account deals with four major periods. Two criteria have been decisive for arriving at this division; the statutory status of Kenya as well as Government development policies practised. Attention will be foremostly directed towards the trends in the use and ownership rights of land and the land use policy of the Colonial Government in the Maasai area.

Firstly, we will look at the pre-colonial period until 1895, the year that the British Government established the East Africa Protectorate, an area more or less congruent with present-day Kenya east of the Rift Valley. This section describes the early Maasai history and the arrival of the Europeans in Maasailand.

Secondly, we will review the period 1896-1919. We will consider the two important Maasai Treaties of 1904 and 1911 in detail and the resulting establishment of the Maasai Reserve which included the present day Kajiado and Narok Districts. This period is of eminent importance for the understanding of Kenyan Maasailand and its present-day people. The first part of this period was one of enormous turbulence while, since the end of World War I, the Maasai became more and more peripheral in the social and economic development of Kenya as the Colony officially became in 1920.

Thirdly, we will consider the period 1920-1945 during which the pressure from outside to enter the Maasai Reserve increased rapidly. During this period the Kenya Land Commission of 1934 reviewed the Maasai requirements for land.

Fourthly, we will consider the Kajiado District during the period 1946 to 1963, the year that Kenya gained Independence. This period was dominated by the increasing concentration of Colonial Government on economic development in the Maasai area. Efforts were mainly directed towards the introduction of grazing schemes and the destocking of the pastures. We will also give special attention to the influx of non-Maasai and the increasing importance of other forms of land use.

5.2 Pre-Colonial - 1895: The Rise and Fall of Maasai Power and the Arrival of the Europeans

Several authors, early travellers, missionaries, anthropologists, historians and geographers, have contributed to descriptions of the early history of the Maasai (e.g., Thomson, Krapf, Fosbrooke, Jacobs, Mol, Berntsen, Sorrenson, Tignor

and Waller). They inform us that little has been known of the Maasai until the arrival of the British. Egyptians, Persians, Chinese, Arabs and Portuguese had established themselves in present-day Kenya from even before our modern era, but their arrival was restricted only to the coastal area. Untill the end of the 18th century the coastal strip and the interior were virtually separate areas. Maps of Africa dating from the beginning of the 19th century still leave a big blank space for the interior of East Africa. Difficulties in solving the puzzle of Maasai history are exacerbated because the Maasai themselves are said to have no 'special interest in, nor particularly expert knowledge about, their past' (Jacobs 1975:22).

In Chapter 4 we already indicated at some of the mythological stories about their origin and their move southward from the Nile valley in the Uganda-Sudan borderzone into the Rift Valley probably by 1400 A.D. More detailed and accurate accounts are available for the early 19th century. During this period the Maa speaking people began a period of successive wars among themselves. The relatively peaceful pastoral Maasai on the one hand and on the other hand the more aggressive agro-pastoral Maasai (*Iloikop*), who are said to have started these wars, clashed over livestock and land, and fought for their very existence. The first war began around 1810 on the Uasin Gishu plateau, located in the north of Maasai territory. Two more '*Iloikop* Wars' were fought in 1862 and 1873 in the central Mau area and on the Laikipia plateau respectively. In all of these the pastoral Maasai defeated the *Iloikop* Maasai. Survivors of the latter group fled towards other neighbouring ethnic groups like the Nandi and Kipsigis or were absorbed by the former.

Natural disasters started to undermine Maasai power by the early 1880s. Contagious Bovine Pleuro-Pneumonia, a cattle disease, spread from the north and lingered for several years. The Maasai lost many head of cattle and accordingly had difficulties controlling their pastures. The areas incorporated into pastoral Maasailand after the successful '*Iloikop* Wars' could no longer be controlled because of the disparity in manpower between the pastoral Maasai and the neighbouring groups. 'Kamba, Kikuyu and Kalenjin raiders were already making inroads into Maasailand (...) encroaching on Maasai grazing areas. Further to the north west, the Suk [Pokot] and Turkana were pressing inwards' (Waller 1976:532).

Through the trade caravans, in the hands of Arab and Swahili merchants, news from the interior reached the coast. Spurred on by the increased demand for ivory in the Zanzibar market, these people had pushed into the interior as early as the 1840s. They had taken over from local groups like the Kamba, Digo and Segeju (see Berntsen 1979:112). Trade caravans returned with slaves, ivory and with stories from the interior especially about the ferocity of the Maasai. Several authors stressed (e.g. von Hohnel, Jacobs) that this 'myth' was purposely spread by the Arab and Swahili traders in trying to prevent the

Europeans from taking over their monopoly.[1] The 'myth' was further strengthened by early European observers who attributed acts of violence committed by the *Iloikop* Maasai as far as the coastal area, to the pastoral Maasai.

While the Maasai expansion and hegemony came under the attack of neighbouring groups, important developments occurred in Europe which were soon to influence Africa's history as never before. France and Germany began to catch up with Great Britain's industrialisation by the end of the 1870s. An economic depression during the beginning of the 1870s had started a period of economic nationalism and protectionism. To secure the supply of raw materials and to open new export markets, the struggle for overseas territory began. This grasping for colonies occurred under the motto of 'who gets there first'.

In East Africa, Germany and Great Britain were the main competitors. By the beginning of the 1880s the struggle for the interior started. In the wake of a few missionaries, adventurers and explorers sent by German and British Geographical Societies, tried to reach Lake Victoria. Fischer, a German botanist, managed to reach Lake Naivasha by 1882.[2] The first European to travel through the whole of Maasailand was a young Scottish geologist, Joseph Thomson, in 1883/84.

In 1891 the Imperial British East Africa Company (IBEAC), founded by a Scottish shipowner, Sir William Mackinnon 5 years before, obtained permission from the Sultan of Zanzibar to have a monopoly of trade and other privileges in the interior of East Africa. The company was mainly interested in the exploitation of the fertile and wet area of Uganda and not so much in the less attractive tract of land stretching from the coast towards Uganda and on which the feared Maasai and Kamba moved. However, the company turned out to be a failure from the start. British capitalists were the most reluctant to invest in East Africa. The hope of discovering minerals soon dwindled and the existing trade in ivory was still firmly in the hands of the coastal Swahilis and Arabs. The unattractiveness of the area was affirmed by the beginning of the 1890s.

Barely recovered from the natural disasters of the 1880s, the Maasai suffered severely when the Great Rinderpest Epidemic, a hitherto unknown disease in Sub-Saharan Africa, swept through the whole of East Africa from Ethiopia

[1] The British had already established a post in Mombasa by 1823 and on Zanzibar in 1877.

[2] The German missionary Rebmann had opened a station among the Chagga near Mt. Kilimanjaro as early as 1848. Until the beginning of the 1880s no European had travelled beyond this point.

downwards to South Africa, reaching Maasailand by 1891.[3] It overwhelmed the Maasai by its rapidity and virulence. Waller reports that the Keekonyokie, Dalalekutuk and Loita sections lost their herds within only a week to two months. 'By the end of 1891, most of the cattle were dead or dying and the Maasai themselves were facing famine' (Waller 1988:77).

This event not only killed most cattle but also triggered off the first and only war between the pastoral Maasai.[4] The War of Morijo, named after the area of battle south of the Loita Hills, was started in 1891 by the Loita Maasai who raided their Kaputiei and Matapato brothers in order to restore their herds which had suffered most during the Rinderpest Epidemic. This struggle for survival will probably also have contributed to the 'myth' of the Maasai being a very brutal and warlike people. The precarious situation was exacerbated because of a severe drought in that same year. Famine was wide-spread and made people vulnerable to a smallpox epidemic which, in 1892, resulted in the deaths of thousands. A missionary passing through the area of today's Nairobi wrote that 'Hundreds of skeletons of Maasai were lying about in all directions. Deserted kraals were dotted about here and there and around them skins, broken calabashes and household utensils' (Tucker cf Mol 1980:7). It is estimated that nearly all the cattle and over half of the pastoral Maasai died as a result of this accumulation of disasters (see Leys 1973:111).

Maasai society faced economic and social collapse. Waller describes three survival strategies adopted by those Maasai who had been lucky to escape death; hunting and cultivating as practised by the Maasai in the Loitokitok area; regrouping and raiding neighbouring *il-oshon* for livestock as undertaken, for example, by the Purko and the Ildamat and, thirdly; seeking refuge among neighbouring agricultural peoples. 'Many Maasai from all sections were absorbed in this way into Kikuyu, Meru, Arusha, Taveta and Chagga communities. Often they were used as extra labour in cultivation and herding. (...) A variant of this strategy was the transference of children as sureties or debt pawns in return for food' (Waller 1976:534).

The arrival of missionaries had opened another possibility for shelter which attracted many Maasai refugees. Matapato and Kaputiei Maasai used another new option by asking for the protection of the IBEA Company's post at Fort

[3] Rinderpest had entered the African continent as early as 1840 through cattle brought into Egypt as well as in the course of the Nile expedition of 1884-85 (see Mol 1980:7). However, the devastation that really affected almost all of Africa began in Ethiopia due to infected cattle probably imported from India through the Italian controlled Red Sea port of Massawa some time during 1887 (see Pankhurst & Johnson 1988:48/64).

[4] Minor clashes have always occurred between pastoral Maasai sections mainly over the issues of land and water and are still going on, e.g. between the Kaputiei and Kisonko Maasai in the Selenkei area of Kajiado District.

Smith (located just south of Nairobi) in December 1893.[5] The company had established several of these posts to control their trade routes in the area. The British Government had granted the company permission to organise the administration of the interior of this part of East Africa. The Maasai-Company alliance turned out to be advantageous for both sides. The latter saw its troops considerably strengthened, whilst was at the same time being relieved of the potential problem of conflict and danger that the Maasai were thought to embody. The Maasai also gained from this arrangement as they obtained security as well as the possibility of regenerating their herds. Maasai warriors, used by the British during punitive expeditions on other ethnic groups like the Kikuyu, Nandi and Kamba, were rewarded with one third to one half of the loot. This alliance continued until 1905.

Also, in another way some of the Maasai gained some advantage from the co-operation with British officials. Mbatiany, the Maasai *oloiboni* (ritual expert), had died in 1890 leaving his succession in dispute between his two sons Sendeu and Olonana. The two brothers were divided among two rivalling *il-oshon*, each giving their ritual blessings and organizational support. The British misinterpreted the *oloiboni's* powers. Political power among the Maasai rests with the elders. Instead, Olonana was regarded as the hereditary chief and given support accordingly in order to gain control over all of the Maasai.

By 1893 it became clear that the British investors' lack of confidence in the IBEA Company had been justified. The company was not able to balance the costs of keeping control and the difficult and time consuming transportation from the coast into the interior. The British Government decided to buy out the IBEA Company. The major driving force behind Britain's eagerness to establish its power in this region originated from its strategic location, not so much from economic reasons. 'British interest in East Africa was part of a global strategy designed to protect British interests in India' (Robinson 1968 cf Harbeson 1973:7). According to this strategy, control of Egypt was necessary to maintain access to the Suez canal. Control of Egypt, under threat of France, in turn justified control of Uganda because the Nile headwaters were situated there. 'It was these considerations more than hopes of commercial gain, that led Lord Salisbury to partition East Africa with Germany in the agreements of 1886 and 1890, and Lord Roseberry to establish the Uganda Protectorate in April 1894 and the East Africa Protectorate in June 1895' (Sorrenson 1968:9). The British-German agreement resulted in drawing a line with a ruler from the eastern portion of Lake Victoria to the village of Vanga on the coast. The negotiators broke the line at the base contour of Kilimanjaro and squiggled round it to give the disputed mountain to Kaiser Wilhelm II as a birthday present (see Amin 1987:35). Thus Mt. Kilimanjaro was annexed to Tanganyika

[5] Fort Smith was closed in 1899 and transferred to the heart of Kikuyu land and renamed Fort Hall.

which was under German influence while the area north of the boundary was given to Wilhelm's aunt, the Empress Victoria of England. The boundary between the protectorates of Uganda and East Africa was drawn along the Rift Valley (see figure 5.1).

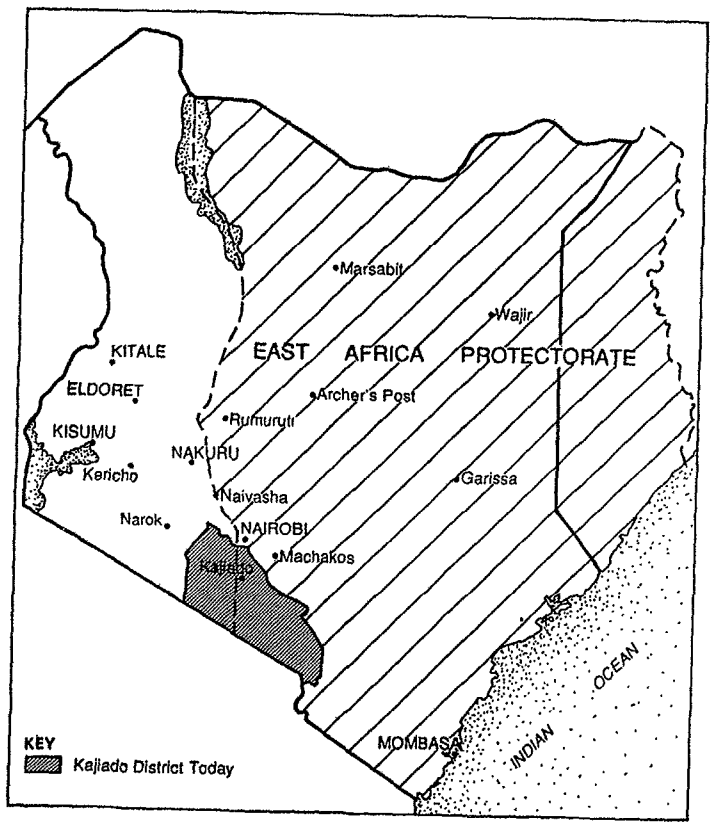


Figure 5.1: Map of East Africa Protectorate 1895
Source: Kajiado District Atlas 1990 (draft)

On June 30th, 1895, the Administration of the area was handed over from the company to the Protectorate authorities. Sir Arthur Hardinge, British Consul General in Zanzibar became the first Commissioner of the East Africa Protectorate. The African Protectorate Department of the Foreign Office was given the task of keeping control over the new Protectorate. Thus by the end of the 19th century the Maasai people found their original homeland divided between three different administrations.

5.3 1895 - 1919: The Early Colonial Period, the Arrival of the White Settlers and the Loss of Maasai Pastures

5.3.1 Introduction

The opening of the East Africa Protectorate gained great impetus from the British Government's decision to construct the "Uganda Railway" running from Mombasa to Lake Victoria. In fact, the continuing political crisis in the Nile Valley was the main reason for building the almost 1,000 km long railway. Labourers from India were recruited. The construction started in 1896, was finished in December 1901, and cost some £ 5,550,000 to the British taxpayer and the African population of the Protectorate. To recover some of the costs the Government decided to lease land within the 1 mile zone on both sides of the railway.

Commissioner Eliot, who had replaced Hardinge in early 1901, actively tried to interest more settlers in coming to the new Protectorate by making large areas of land available. Because the response from Europe was very meagre he turned to South Africa.[6] There he succeeded in attracting people to move northwards towards the new Protectorate. Most of them were colonists or adventurers looking for new opportunities after the ending of the Anglo-Boer war.

The British Government also actively tried to interest possible settlers in the Protectorate. Jewish refugees from Eastern Europe were offered land in the East Africa Protectorate. Eliot, not well pleased with this move on the part of his superiors in London, offered them land on the Uasin Gishu plateau, home of the Uasinkishu Maasai, far away from the railway. The Jews produced a package of extensive wishes and requirements after they had sent a delegation to the Protectorate to investigate Eliot's offer. On the other hand, the early settlers, headed by Lord Delamere, a fine British aristocrat, formed an 'anti-zionist immigration committee'. The "problem" solved itself when the Zionist Congress of August 1903 decided to reject the East African proposal and instead opted for the establishment of an autonomous Jewish state in Palestine.

5.3.2 The First Maasai Move of 1904: Creation of a Northern and Southern Maasai Reserve

During the early years of the Protectorate the land issue remained the most important topic of debate. 'The big question was how much land should be made available to any individual settler and on what terms (length of lease, etc). The London officials hoped to prevent land speculation such as has been

[6] The failure of several missions to explore for minerals, the lack of an internal market and the inaccessibility of the area before the construction of the railway line were the major reasons for the lack of interest from Europe.

experienced in other areas of white settlement' (Zwanenberg & King 1975:37). The local administration, however, was first and foremost in a hurry to attract as many white settlers as possible. This called for a "settlerfriendly" land policy and legislation. The first legislative regulations concerning land had been issued in 1897 offering "certificates of occupation" with a renewable twenty one years term. This, however, prohibited the buying and selling of land. Pressure from the settlers supported by the local administration on the Foreign Office demanding freehold titles continued. Eliot, by using his power as the Commissioner, tried to amend the regulations in favour of the settlers. He became more and more convinced of the economic potential which the temperate zone of the Protectorate offered. In his view the highlands should become a "White man's Country".

In 1902, "The First Crown Lands Ordinance" allowed the local administration to issue settlers with ninety nine year leases and the possibility of selling land up to 1,000 acres per lot. Bigger portions were also obtainable, but only after consultation with the Foreign Office. The Ordinance proclaimed that all public land (i.e. unoccupied land) was Crown land which, for the time being, was subject to the control of His Majesty by virtue of any Treaty, Convention or Agreement. However, the decision as to whether land was vacant or not was in the hands of the Commissioner and his subordinates. In practice this meant a denial of traditionally established African rights in land. This was the result of a lack of understanding of African legislation concerning land and the unwillingness to hinder settlers. 'The prices of land were exceedingly low. A homestead of 640 acres cost an average Rs. 2 per acre, or £ 80, and this could be paid over 16 years. A pastoral lease of 5,000 acres, with a rental of 1/2d. per acre, cost the lessee £10 8s. 4d. per annum. In the more remote areas, land was granted free' (Sorrenson 1968:143).[7]

Settlers were allowed to go out and look for attractive holdings themselves. No attempt was made to separate land available to settlers from that required by Africans. The settlers showed no interest in land that Africans themselves had avoided. They knew that African occupation was a sign of good land and made their selection accordingly. The area north of Nairobi, occupied by the agricultural Kikuyu was particularly attractive to the settlers. 'Between 1903 and 1906 approximately 60,000 acres of Kikuyu territory in the Kiambu-Limuru district were alienated to settlers' (Sorrenson 1968:180). As a form of compensation the Rs. 2 per acre had to be paid to the Kikuyu landowner instead of to the local administration. Of course this was a severe undervaluation of the land "bought".

Moreover, the 1902 Ordinance prevented the selling of land to non-Europeans (i.e. Asians and Africans). In fact this meant a policy of racial segregation. Most settlers must have felt quite at home. To encourage this feeling Eliot went on (mis)using his power by amending the 1902 Ordinance.

[7] 16 anna (d) = 1 Rupee (Rs) and 15 Rupees = £1

In July 1903 he drew up rules for the lease of pastoral land up to 10,000 acres at a rent of 1 anna (1d) per acre. He also wanted to raise the maximum area that could be sold without reference to the Foreign Office. His fight for the interests of the settlers began to show fruit. In 1902 there were approximately thirty Europeans living around Nairobi. By 1903 the influx of settlers had increased considerably. In that year 117 Europeans (mainly from South Africa) had applied for land and the following year this figure rose to 300. The offer of a freehold grant of 10,000 acres to two South Africans in return for the enlistment of South African settlers will also have helped to increase the rise in immigrants. This deal, however, was made without the consent of the Foreign Office. Some large concessions had been granted in the Rift Valley, with the approval of the Foreign Office, to some rich British aristocrats. Lord Delamere had obtained 100,000 acres on a 99 year lease; Grogan and Lingham had a 50 year lease of 120,000 acres of the Eldama Ravine Forest and the East Africa Syndicate, formed by South African and British entrepreneurs, obtained a lease of 400 square miles of pasture land in the Naivasha area, north of Nairobi, in the heart of the Maasai country.

It became clear that the Kikuyu and the Maasai -who were a nomadic people and still recovering from the late 19th century disasters- were under threat. 'Applications for those areas which were not continuously occupied by the Masai were accordingly made by the Europeans, and the attention of the Government was drawn to the question of how far the country could, with safety and justice, be opened to white settlement, without thereby encroaching on the native grazing rights' (Sandford 1919:20). Considerable discussion took place between Eliot and his sub-commissioners residing in the areas involved. The former was of the opinion that although the Maasai had the right to inhabit particular districts they had no right to monopolize these areas. He favoured a policy of integration by inducing them to settle in small villages among Europeans. He was of the opinion that a process of civilization and employment as cattle guards for the superior Europeans would be to the advantage of both the economy and the Maasai. This last statement, concerning the positive effects for the Maasai, was questioned by his sub-ordinates Bagge, Jackson and Hobley, who preferred to divide the Rift Valley pastures and set apart a reserve for the Maasai where settlers could not interfere.

Jackson, sub-commissioner for the Naivasha Province, on leave in Great Britain, told the Foreign Office that although Eliot had convinced the Maasai that no more applications would be considered after the 400 square miles grant to the East Africa Syndicate, more than 75 percent of the grazing areas in the Rift Valley had been applied for by the settlers. When asked for an explanation Eliot replied in a secret and confidential letter stating: 'No doubt on platforms and in reports we declare we have no intention of depriving natives of their lands, but this has never prevented us from taking whatever land we want (...) I have no desire to protect Masaidom. It is a beastly, bloody system, founded on raiding and immorality, disastrous to both the Masai and their neighbours.

The sooner it disappears and is unknown, except in books of anthropology, the better' (Sorrenson 1968:76). Eliot had to resign.

His successor, Sir Donald Stewart, decided that the Maasai had to be "given" an area of their own. Two reserves should be set aside for them. These reserves were planned outside the Rift Valley: the Laikipia plateau (12,350 km^2) in the north and another reserve south of Ngong and the railway (11,250 km^2). In fact the Maasai were presented with the most inferior cigars from their own cigar box, as both areas were traditional Maasai pastures, while this offer also meant the loss of their best pastures near Naivasha.

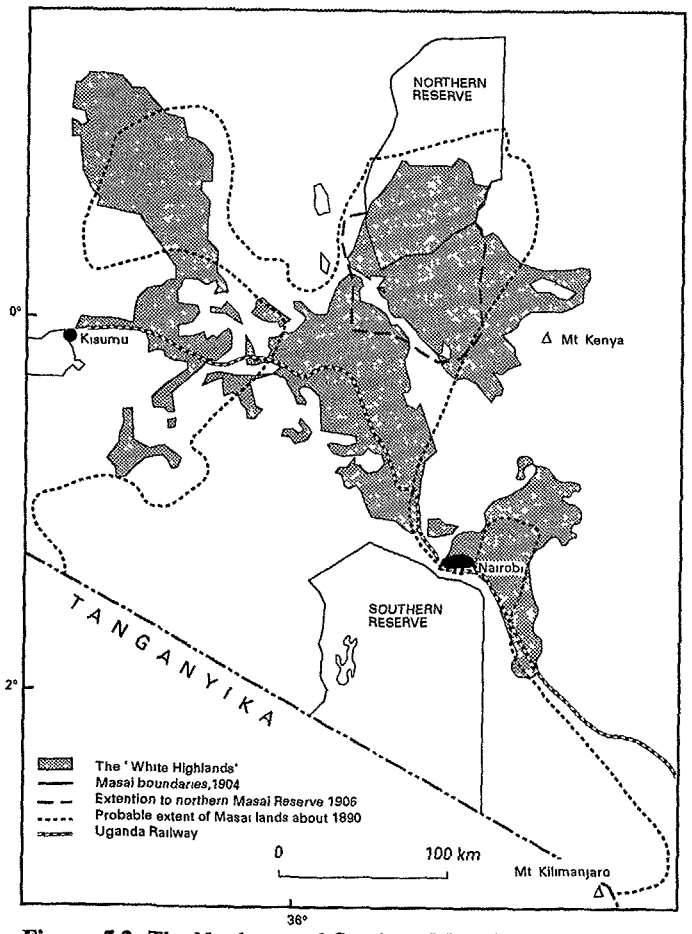


Figure 5.2: The Northern and Southern Maasai Reserve by 1906
Source: based on Hollis 1905; Sandford 1919; Morgan 1972

On the 9th of August 1904 Stewart and his officials met the Maasai leaders in Naivasha. A treaty was signed between the two groups. It was agreed that the Purko, Loita, Keekonyokie, Ildamat and Loitatok Maasai would move to Laikipia. The Kaputiei, Matapato, Loodokilani and Sikirari *il-oshon* were confined to an area south of the railway and Ngong, between Suswa to the west and Ol Doinyo Orok (near Namanga) to the east (see figure 5.2). This area was not of much interest to the settlers and had formerly been set aside as a Game Reserve. The Government agreed to fulfil a few conditions set by the Maasai. They would provide a road between the two reserves (approximately 400 km) and set aside a 5 square miles area in the Kinangop area, an important place for Maasai ceremonies. Finally, it was stated that this agreement would be enduring 'so long as the Masai as a race shall exist, and that European or other settlers shall not be allowed to take up land in the Settlements'.

The Maasai who had moved northwards, soon came to find that the water supply and grazing potential of the Northern Reserve was totally inadequate to meet the demands of their herds. Immigration and the natural increase in numbers of animals required more land. As a result two extensions in a southward direction had to be made within a two year period. Accordingly, some settlers had to move and, together with an extra grant, were compensated with land elsewhere. The total area of the two new Maasai Reserves comprised approximately 24,000 km^2 as compared to the pre-colonial Kenya Maasai territory of some 55,000 km^2; a reduction of almost 60 per cent.

While the call for a third extension was made in 1908, another idea of moving all the Maasai from the Northern Reserve gained importance. It was not so much the welfare of the Maasai as the still unsatisfied hunger for territory on the side of the growing number of settlers that was the driving force behind this latter proposal.

In April 1905 the Administration of the East Africa Protectorate had been handed over from the Foreign Office to the Colonial Office (C.O.). The C.O. installed the traditional machinery of a "Crown Colony" Government. The Commissioner was designated as the Governor. Executive and Legislative Councils and a Land Board were established. Delamere was one of the settlers' representatives in these newly introduced bodies. In fact the unofficial relationship which had always existed before between the Government and the settlers now became institutionalized. The C.O. saw as its major task to control the land issue. Speculation as had taken place in Australia and other colonies had to be avoided.

The 1902 Lands Ordinance was amended by the C.O. with the introduction of a land tax, anti-dummying regulations and the raise of rents. The settlers protested strongly about these adjustments. But they need not have worried as the local Government did not enforce the new rules. Moreover, the system for land application could easily be abused by speculators or anyone else who

wished to acquire more than the maximum area of land allowed For example, Lord Delamere, who had several times demanded a liberal policy concerning the transfer of land, had accumulated another 61,161 acres by 1906. It was clear that the official C.O. policy of preventing the accumulation of land for speculation had failed.

Another important change in the land policy in the Protectorate was the acceptance of reserves set aside for the African population. Traders, adventurers and/or speculators should be prevented from entering districts not yet under administrative control by the British.[8] The Government could declare such a reserve a closed district, only to be entered if one was in possession of a special pass. After the establishment of administrative stations, a certain area could be reopened and, when needed, land set aside for interested European settlers. The Maasai Reserves were among the first areas to be declared "Closed Districts" by 1906. The size of the reserves were not to provide for more than the existing population. This would, it was hoped, secure the provision of labour towards the white settler areas and the diversification of the local economies. The headquarters of the Protectorate were transferred from Mombasa via Machakos (1904) to Nairobi by 1907, that being the central supply station of the railway. It became the capital of the country and centre for further colonization.

5.3.3 The Second Maasai Move of 1911-12: Creation of a Single Extended Southern Maasai Reserve

By 1909 it was estimated that approximately 4,000 square miles of land had been alienated with a maximum of another 4,000 square miles being left for future settlement.[9] The continuous influx of new settlers called for the rapid opening of these "unsettled" areas.

In January 1909 Sadler, who had replaced Stewart, met Olonana to propose the removal of the Northern Maasai towards an extended Southern Reserve. To Sadler's surprise Olonana was not unwilling to accept the proposal if certain conditions were met. 'No European in the country imagined for a moment that the Masai on Laikipia wished to leave it. The area, though small, is a fine piece of country as there is in Kenya, with rich soil and perennial streams, vastly superior in every way to the country south of the Rift Valley' (Leys 1924 repr. 1973:120). It is said that the *oloiboni's* motives for accepting the withdrawal from the north was to restore his authority over all the Maasai which, due to the division, was waning. The connection between the two

[8] Turkana District in the far most north western corner of the Kenya Colony and Protectorate was the last area to be placed under administrative control only by 1926

[9] At its maximum the "White Highlands" set apart for the Europeans would comprise 31,000,000 ha comprising 400,000 ha of agricultural land, the remaining area being forest or pastures (see Sonius 1986 143)

reserves was often cut off as a result of quarantine regulations for cattle. Suitability surveys concerning the area west of Suswa, i.e. the Loita plains towards the Mara river, were made. This area was traditionally occupied by a few *il-oshon* of the Maasai and by that time partly occupied by European settlers. It was concluded that the availability of water was inadequate. A plan for irrigating the plains was produced but never implemented. The superior potential of the Laikipia plateau was also known to the settlers. Seven of them had been offered land in that area before the 1904 agreement was signed. All but two, Lord Delamere and his brother-in-law Cole, had accepted the granting of land, including a 50 percent increase, elsewhere. Stewart's prophecy that jealous eyes would probably one day start looking at the Northern Reserve was fulfilled within five years.

Because of the fact that most governors had failed, wittingly or unwittingly, to implement the C.O. policy, Girouard was chosen to take over from Sadler. Girouard had the name of being loyal, tough and trustworthy. However, by June 1909 he had offered settlers land on the Laikipia plateau without informing the C.O.. After a few months in the Protectorate Girouard had already made up his mind. He needed the settlers for economic development, so he defended their fight over the land regulations. However, the removal of the Maasai from Laikipia could not be done openly. So, the Colonial Government made it look as if the removal of the Maasai from the Laikipia area was solely the result of the wish of Olonana and his people.

In August 1909, the Purko Maasai (still) living in the Southern Reserve wanted to proceed to Kinangop for their *E-unoto* ceremony. Because of East Coast Fever they were forbidden to take their cattle with them as they would have to pass through the lands occupied by Europeans. Olonana told the Northern Maasai to proceed from Kinangop to the Southern Reserve in order to hold the ceremony at Ngong. He also reaffirmed his wish for the regrouping of all Maasai in the proposed extended Southern Reserve. Of course Girouard was quite willing to assist Olonana in this respect. By February 1910 the consent of the two chiefs of the Northern Maasai, Masikonde and Ole Gilisho, was obtained. Everything seemed to be going well.

The big trek southward was started in April 1910 without the consent of the C.O.. However, one month before, the C.O. had received a confidential letter from a subordinate official from the Protectorate, stating that Girouard and the settlers were in the process of mistreating the Maasai by trying to remove them from Laikipia under the cover of an *E-unoto* ceremony. When the C.O. came to hear of the start of the move, Girouard was told to suspend it. The 1904 Treaty did not allow for such action unless all the Maasai agreed to withdraw from it voluntarily and sign a new agreement. The C O. mainly feared reactions in the House of Commons.

In May 1910 a provisional agreement was made between the Government and the Maasai reaffirming the proposal of regrouping the Maasai in an

extended Southern Reserve To the west of the Southern Reserve an area of approximately 14,600 km^2 was to be added in return for the loss of the Northern reserve. By this time, however, Legalishu made it clear that this new reserve was not large enough for all the Maasai. 'In 1904 there were estimated to be a total of 50,000 cattle and 1,500,000 sheep held by the Maasai of the Rift Valley and of the stretch between Nairobi and the German frontier; within just six years, the cattle had increased (...) to a total of 130,000, and the sheep had risen to a figure of 2,250,000 (King 1971a:122-23). A survey confirmed Ole Gilisho's view and also pointed out the lack of water and the danger of cattle raids by the neighbouring Kipsigis. The matter was left to rest until April 1911, when new negotiations started.

Olonana had died in March 1911. One of his last statements had been that the (Laikipia) Maasai had to obey the Government and should move with their cattle to the Loita Plains in the south. Girouard used this argument for an explanation concerning the "change of opinion" among the Laikipia Maasai with regard to the removal from the Northern Reserve. Another violation of the truth, as Ole Gilisho has only agreed to leave Laikipia under the threat of exportation and imprisonment in Europe.

The Second Maasai Treaty was signed in April 1911 and approved in May by the C.O.. On signing the agreement Girouard "added" the traditional Maasai area between the Namanga Hills and the Kilimanjaro, comprising of approximately 8,000 km^2. In June 1911 a new move was started from the Northern Reserve through the Rift Valley towards the Loita area. By September it had become clear that the trek had failed due to the outbreak of heavy rains. The roads became impassable. Many people and animals suffered and decided to return to the Rift Valley. Moreover, it had become clear to the first groups of Maasai who were able to make the journey, that the size of their new area was not large enough to allow all of them to come. Also the local officers came to believe that they had greatly underestimated the number of stock possessed by the Northern Maasai. For Girouard the only solution was to add another large area, the "Trans Mara area" located west of the Mara River and comprising approximately 2,300 km^2, to the Southern Reserve, which he and his officers presented as the "promised land".[10] Finally by May 1912, while Girouard was on leave, the C.O. instructed that a third attempt should be made to bring the remaining Maasai from the north down to the extended Southern Reserve. The chiefs offered no opposition and the Maasai, broken up into small groups, were sent on their way.

However, by the end of June 1912, Ole Gilisho and several other Maasai chiefs made a last attempt to stop the move by bringing the case to Court.

[10] In fact this area was already inhabited by the Sirua Maasai In latter years two more Maasai *il-oshon*, the Uasinkishu and Moitanik, moved into this area Until the 1930s they had moved around near Lake Baringo and in parts of North Nyanza (see Waller 1984 257)

They were supported in their fight by a British lawyer, A. Morrison, and probably also by Norman Leys, a medical officer. The Colonial Administration used all kinds of intimidation and frustrating practices to press Morrison and the Maasai to stop the case. Leys, for his part, was transferred to Nyasaland. The Maasai lost the case on the grounds that they were not British subjects and owed no allegiance to the Crown. The Treaty of 1904, being an agreement between two sovereign states, was not recognised by any British Court. The Maasai had their responsibilities; paying of taxes, living in peace and order under British Law but they apparently had no rights.

By April 1913 the move was complete. Approximately 10,000 Maasai, 200,000 head of cattle and 550,000 sheep had been moved since June 1912 (see Sandford 1919:36). The Maasai in the British Protectorate numbered in total approximately 40,000 people. Sir Girouard was not able to witness what he had so long fought for as, like Eliot, he had to resign over a case related to the Maasai. His continuous and downright denial to the C.O. of the granting of land to Europeans on the Laikipia Plateau was found to be totally untrue. The Governor in whom so much faith and trust had been placed, had turned against his superiors. This lack of loyalty and obedience rather than the much vaunted principles of fairplay, protection of native rights and the prohibition of land speculation was the driving force behind the C.O.'s indignation.

In fact, by this time, the C.O. no longer wanted to propagate a policy which would support the creation of a colony of small settlers only. Faith in economic development was put in large-scale ranchers, planters and companies. The rapidly growing influx of mainly British settlers in 1912 had resulted in a boom in land values and transfers of land. The speculators took their profits. Farms in the "White Highlands" which had cost 6d. per acre in 1908 were sold for 10 shillings per acre in 1912 and even £1 per acre in 1914; a forty-fold price rise. The clamour for the opening up of new districts grew. The African people, especially the Kikuyu living in Limuru and Kiambu, were pushed towards their own reserves.

The C.O. wanted to deal with the land issue once and for all. The number of amendments to the 1902 Crown Lands Ordinance had created a situation of confusion. It was time to put things straight and clear in a new Ordinance. This task was put in the hands of the new Governor Belfield. Within three years he had produced the 1915 Crown Lands Ordinance. This new legislation was a victory for the settlers and the local Government officials who supported it; leases were extended from 99 to 999 years with rentals being extremely low; restrictions on the accumulation of land were withdrawn, while the transfer of land to Asians and Africans was still prohibited.[11] The 1915 Ordinance also

[11] 'When in 1912 some Masai wanted to purchase European farms on the Kinangop plateau, and offered large sums of money for them, they were told that the government would not allow them or any other Masai to purchase land outside the reserves' (Sorrenson 1968 224)

extended the definition of Crownlands to 'all lands occupied by the native tribes of the Protectorate and all lands reserved for the use of any members of any native tribes' (Sorrenson 1968:223). By the end of 1915, 5,275,121 acres or 21,348 km^2 of land, an area as big as present day Kajiado District, had been acquired on behalf of about one thousand white settlers (see figure 5.2). The distribution of this vast area, located mainly in the Highlands and the Rift Valley, was very uneven. A small number of British aristocrats and companies owned approximately 20 percent of this land.

The Maasai had bitter feelings towards their removal from the Northern grazing pastures. They felt betrayed by the British to whom they had always shown their loyalty. Although the extended Southern Reserve totalled over 36,000 km^2 the Maasai had, among all the African groups of the Protectorate, lost the most land. Moreover, they had lost their best areas. Due to the Second Treaty they were restricted to a reserve which prohibited their access to their best traditional grazing areas. 'The Maasai reserve, clearly created economic hardship for the people, primarily by depriving them of their old dry-weather grazing area' (Tignor 1976:91)

One week after the Second Maasai Treaty was signed, a lease of land, which had been granted before -during the time of the old Southern Reserve of 1904- was renewed and handed over to the newly formed Magadi Soda Company for the exploitation of soda ash. The company obtained a large concession for a lease of 99 years over the waters and surrounding areas of Lake Magadi (790 km^2) and the northern part of Lake Natron (46 km^2). It allowed them to exploit and transport all soda ash and other mineral deposits and precious stones they found. The company constructed a railway (148 km) from the Lake to Konza where it joined the main line to the port of Mombasa. Land along the line (1/4 mile on both sides, totalling some 120 km^2) and a 1,000 acre site (Kajiado), to be used as a settlement, were also set aside for the company. As compensation for the total area leased to the Magadi Soda Company, partly watered and measuring approximately 900 km^2, the Maasai Reserve was extended in August 1914 by some 965 km^2 from Kikelelwa (near Kilimanjaro) towards Rombo.

Finally adjustments were made along the north-western corner of the Maasai Reserve, near the Mau Narok region, enlarging it by some 580 km^2. The result of these modifications was a Maasai Reserve District as gazetted in 1918 and comprising of almost 38,000 km^2. As compared with the former Northern and Southern Reserves of 1906 (24,000 km^2), the total area officially allocated to the Maasai had increased by some 60 per cent. However, as stated before, the quality of the "new" pastures was not equal to the former grazing areas belonging to the Maasai and which had been lost to the European settlers.

By 1914, World War I had appeared virtually in the heart of Maasailand, stressing the international character of this battle which involved the African

population and the Maasai in particular During the War the Colonial Administration passed a conscription Ordinance in order to recruit Africans to assist the British in their struggle with the Germans. In contrast with their involvement during the punitive expeditions against other ethnic groups, this time, Maasai interest was very low. Efforts to forcefully recruit *ilmurran* were withdrawn the moment the British feared a general uprising among the Maasai. The Maasai had lost all confidence in the British, their former allies. They preferred to be left alone.

However, after completion of the move to the Southern Reserve, the Government tried to introduce an administrative structure as was present in other reserves of the Protectorate. This task was put onto the shoulders of Mr. Hemsted who, by August 1912, was appointed Officer-in-Charge of the Maasai Reserve. To strengthen the grip of the Protectorate Administration on the Maasai the Reserve was divided into two districts by June 1913. Narok District on the west and Ngong District on the east side of the Euaso Ng'iro River, the boundary situated in a north-south direction from the Mau range towards the Anglo-German border.

"Paramount Chief" Seggie, who had taken over from Olonana, was not as co-operative as his father. In 1918 the British abolished the rare phenomenon that they had created themselves. Hailey reports

> 'Following the abolition of the post of Paramount Chief in 1918, the Government endeavoured to find agencies for local administration in the promotion of three institutions, a Central Masai Council, a series of 14 Native Councils each representing a different tribal Section, and Headmen, created as far as possible on the model of the location Headmen found elsewhere in the Colony. The Central Masai Council at Ngong was composed of the presidents of the Native Councils and was to meet twice a year. The 14 Native Councils were designed to take the place of the informal Council of Elders. (...) They were recognized as tribunals exercising powers under the Native Tribunal Rules of 1913, and were moreover given the position occupied by Collective Headmen under the native Authority Ordinance then in force (No. 22 of 1912). The members of these Councils consisted of the recognized Counsellors (L'aigwanak) of the different Age Grades in the divisions, with a few of the more influential Elders and Moran added' (Hailey 1957:171).

The new administrative structure was based on the typical British method of indirect rule as practised among many other colonized peoples.

5.4 1920 - 1945: Kenya Colony and the Maasai; Alien Influx and Land Grievances

5.4.1 Introduction

In 1920 the East Africa Protectorate was renamed the Kenya Colony and Protectorate.[12] Ex-serviceman had settled in the new colony a year before, raising the number of Europeans to approximately 10,000 (see Low and Smith 1976:567). They were outnumbered by some 3.8 million Africans and 25,000 Indians. The latter especially tried to challenge the position of the Europeans. Their main grievance was the ban on the possibility of acquiring land by Indians in the "White Highlands". They were only allowed to buy land in towns, the coastal area and less favourable areas.

In 1919, E. Northey, the new Governor, had made it clear that European interest should be paramount throughout the Protectorate. The influence of the settlers, now with a reduced South African character, was very high. Settlers were represented in the Land Board, Legislative Council and Executive Council and were often even consulted before the introduction of new bills thus giving them the opportunity of suggesting modifications. The white settlers had always made it clear that they were striving for self-government. For a start, they wanted an elected majority, outnumbering Government officials, in the Kenya Legislative Council. In the beginning of the 1920s the African population joined the Asian's complaints against white dominance. The Kikuyu, Kamba and Luo organized themselves in political associations, like the East African Association and the Kikuyu Central Association. Some educated Maasai, mainly living in Nairobi, joined these political groups as early as 1921 (see King 1971a:126).

The years following World War I had severely worsened the situation for the African population. A famine in 1919, movement restrictions through the introduction of a registration card bearing finger-prints for male Africans (*kipande*), higher taxation, a cut in wages due to the economic depression of the early 1920s had deteriorated the African standard of living. Those groups such as the Kikuyu, Luhya, Luo and Kamba, who were the most integrated into the settler economy, suffered and started to protest openly.

By 1923, after negotiations took place between Europeans and Indians in London, the C.O. published a White Paper which denied responsible government to the settlers. This time it was stated that Kenya primarily was an African territory and the interests of the African population should be paramount. The idea of self-government, as had been given that same year to the Southern Rhodesian settlers, never materialized in Kenya. On the other

[12] Along the coast a small strip of land remained a Protectorate as it was obtained from the Sultan of Zanzibar on a lease The Colony and Protectorate were, however, governed by one Legislative Council

hand, the paramount declaration turned out to be mere words to stop the European and Indian row as no real improvement for the African population was carried through. For example, the land policy was left unchanged and Africans, in contrast to Asians and Arabs, were given no seat in the Legislative or Executive Councils. Instead, a European missionary was nominated to the Legislative Council in 1924 to represent African interests. A formal proclamation by the Colonial Government of a "Dual Policy" stating that agricultural development had to be nourished in European and African areas alike was of not much real value either.

In the following years the British sent a huge number of commissions to analyze the situation of the new Colony regarding land, labour, economic performance and potential. The Ormsby-Gore (1925) and Hilton-Young (1929) Commissions both stressed the marginal and fragile African position. It was urged that they officially proclaim the reserves as soon as possible to secure African rights. Alhough the 1915 Crown Lands Ordinance had given the Governor the power to create reserves, this was done only for most ethnic groups by 1926. However, a clause in the 1915 Ordinance gave authority to the Governor to extract reserve land 'no longer required by the natives' for sale or lease. Accordingly, a feeling of insecurity still remained among the African population.

In 1928 an attempt was made to streamline land policy in the Colony by the introduction of the Native Lands Trust Bill which declared that lands in the reserves should be held in a trust exercised by the Governor. The Bill was turned into the Native Lands Trust Ordinance of 1930 stating that non-natives could only obtain leases or one year licences for lands in the reserves if they were not occupied or required by the Africans.[13] A Central Trust Board and Local Land Boards were installed as the administrative bodies exercising control over land issues. They could object to a lease or licence, although the Secretary of State had the power to overrule them.

In trying to expand the volume of Kenya's export, bans on the growing of cash crops by Africans were lifted in the late 1930s. At the same time it was recognized that the problem of land erosion was becoming more serious. This was partly related to the problem of land shortage which became increasingly acute year by year. Land alienated by the settlers amounted to 12,200 square miles or 5.5 per cent of the total land area. With regard to good arable land the European settlers occupied 18 per cent of the total 41,630 square miles. It is estimated that between 1920 and 1948 available agricultural land (with 30" rain per annum) decreased from 14 acres to just over 5 acres per head of the

[13] According to Tignor the number of European occupiers in 1929 was merely 2,035 and the total amount of land they cultivated was only 635,590 acres Nonetheless, the European farmers owned 5,000,648 acres Some of this land was grazed, but a considerable proportion was put to no effective use- a fact commented upon frequently by land hungry African farmers and pastoralists (see Tignor 1976 25).

African population living in those areas (see Zwanenberg & King 1975:29). Subdivision and fragmentation of holdings into smaller and smaller units was the result.

5.4.2 Kajiado District Administrative Changes

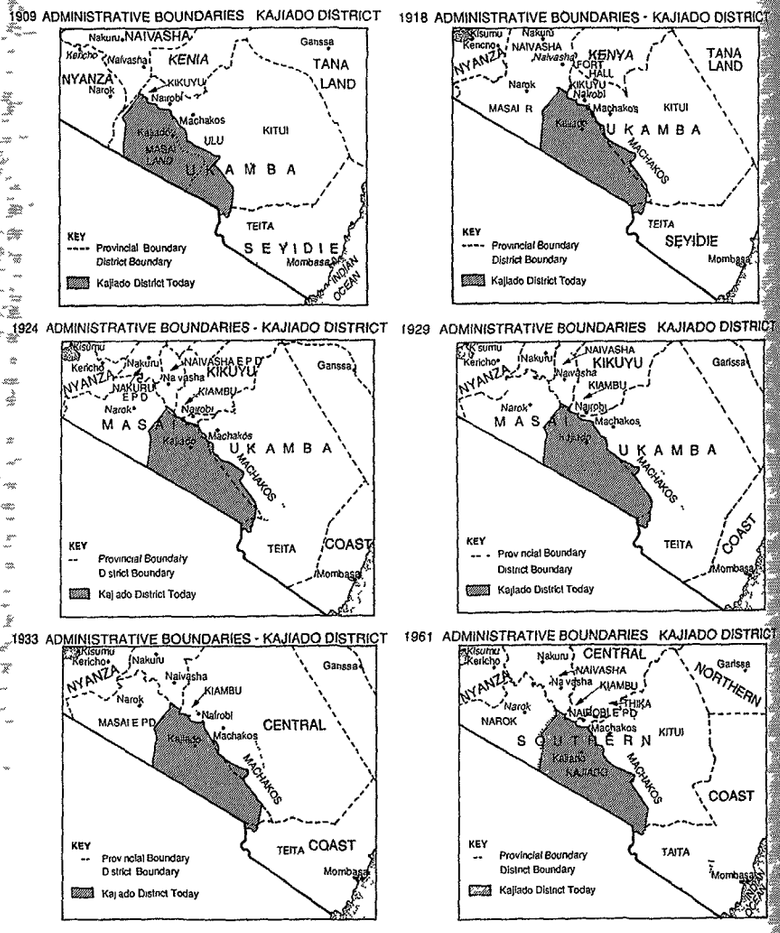


Figure 5.3 Administrative Boundaries 1909 - 1961
Source Kajiado District Atlas (1990 draft)

Figure 5.3 provides an overview of the renaming and adjustment of boundary lines of the Maasai Reserve. In 1924, for instance, the Maasai Reserve was renamed Maasai Province. The total area comprises approximately 39,000 km^2 when including minor adjustments made since the creation of the Maasai Reserve District. In 1926, the interdistrict boundary between Kajiado and Narok District was, at its northern part, shifted to the east and the Ngong Headquarters transferred to Kajiado Township. The Central Maasai Council and the 14 Native Councils gave place in 1930 to two Local Native Councils, at Narok and Kajiado.

Following the recommendations of the Carter Commission, which reviewed all land issues of the Kenya Colony in 1932, the Maasai Province was renamed by proclamation No. 109 in 1933 as the Maasai Extra Provincial District. Its area totalled 39,291 km^2. Kajiado District amounted to almost 22,000 km^2. Other recommendations of the Carter Commission resulted in the proclamation of the new land legislation by way of the Native Lands Trust Ordinance 1938 and the Kenya (Native Areas) Order in Council 1939. The Crown Lands (Amendment) Ordinance, 1938, defined the various categories of land: 1) 'Native' instead of 'Crown' land in the case of the original reserves, 2) Temporary Native Reserves and 3) Native Leasehold Areas (see Sorrenson 1965:689). In 1942, Magadi Company's houses at Kajiado Township were purchased by the Government for £3,500. This consolidated the position of Kajiado as a Government Station.

5.4.3 Infiltration by Other Groups into the Maasai Reserve

In a quantitative sense the Maasai had lost more land than any other group as a result of the arrival of the Europeans. These other groups, however, suffered most from being restricted in a Reserve that was too small, the Kikuyu in particular. They lost high quality land to the Europeans and their area was densely populated. The practice of selling land between each other had also worsened this situation. Wealthy and influential Kikuyu could, by a variety of means, accumulate land at the expense of the poor, debtors and tenants.

The shortage of land stimulated the Kikuyu to look for alternatives such as squatting on the land of Europeans or moving into other Reserves. In Kajiado District, the Kikuyu looked hungrily at the slopes of the Ngong Hills, the Ol Doinyo Orok near Namanga and Mt. Kilimanjaro, being the areas suitable for cultivation. However, a special permit was needed to enter the Maasai Reserve. A Kikuyu who wanted to start cultivating for himself was refused an entry permit. 'In view of the general desirability of discouraging such emigration of Kikuyu natives, the policy has been adopted in the Masai Reserve of prosecuting all Kikuyu living in that reserve who cannot claim by long residence or circumcision rights to have become Masai, and of returning them to their own reserve' (Sandford 1919:55).

The Maasai and Kikuyu had been neighbours for a long time, engaging in

trade during good and bad times. Moreover, many Kikuyu women had married Maasai men especially those from their closest neighbours the Kaputiei and Dalalekutuk. Sometimes Kikuyu relatives were able to follow these wives into Maasailand, forming small Kikuyu colonies. 'Cultivation in the Ngong area, which had begun with the settlement of destitute Maasai at the end of the nineteenth century (Low, 1965), expanded as increasing numbers of Maasai married Kikuyu women who cleared small plots and as relatives of these women moved into the area to farm' (Campbell 1981a:218). Besides the possibility of kinship, the Kikuyu tried to find Maasai who were willing to employ them as cultivators. If employed, non-Maasai Africans could not be refused being in the Maasai Reserve.

Besides the shortage of land other reasons could be responsible for the immigration of Kikuyu into the Maasai area Towards the end of the World War I quite a number of Kikuyu fled into the Masai Reserve, trying to avoid recruitment as porters for the Carrier Corps. These emigrants, attempting to escape enrolment, signed agreements to work as servants for Indians, Somali and Maasai. 'By 1928 the *pénétration pacifique* of Kikuyu into the Mau area of the Masai Reserve had assumed such significant proportions that the Masai Local Native Council passed a resolution forbidding Kikuyu to cultivate land outside the townships of Narok and Ngong' (Sorrenson 1967:38). 'The attitude of the Masai to this problem is not easy to understand or explain. As a tribe they have been emphatic in refusing to agree to impenetration but as individuals they have welcomed the Kikuyu' (MIRMD 1936-December:6/7).

In one case, however, the Maasai and the Kikuyu agreed as a group to the exchange of some land. Ndeiya, an area of approximately 75 square miles located to the west of Ngong and south of the Kiambu District, was the only area within the recognized tribal boundaries which was not settled in 1930 (see Bullock 1978:3). It is said that originally Ndeiya belonged to the Dorobo. Later the Maasai obtained it but in turn handed part of it over to a group of Kikuyu as a gift. On June 5th 1929, elders of both groups agreed that, in return for grazing rights in western Ndeiya, the Maasai would offer an area in eastern Ndeiya near Kibiko. This exchange of grazing was a temporary measure and renewable annually. However, as large numbers of Kikuyu were evicted from European farms and other Reserves, pressure was rapidly building in the Kikuyu Reserve by the end of the 1920s. Ndeiya, with its marginal environment and being less populated than other parts of their Reserve 'became a dumping ground for thousands of the displaced and dispossessed' (Bullock 1978:34). These people not only brought their livestock with them, but they also wanted to cultivate. The question of Kikuyu cultivation in the Ndeiya region would remain in the centre of discussion within and between the Local Native Councils of both Kikuyu and Maasai. However, permitted or not, by June 1932 already 400 families were cultivating land and had erected fences. By January 1933 the Central Trust Board consented to the setting apart of the area as a grazing area.

Another zone of influx was the area around Loitokitok on the slopes of Mount Kilimanjaro Loitokitok was occupied in 1921 as an administrative station. Kamba labourers employed to build the post came from Campi ya Simba. This camp had been established by Hobley in early 1900 and was located 65 km south of Simba near the Chyulu Hills. It was used by scouts of the Game Department. The Kamba labourers started some cultivation around Loitokitok. 'Certain advantages accrued to the Akamba and Masai for the area occupied was good agricultural land but useless for stock, owing to "fly". The clearing of the bush would have led eventually to the extermination of the "fly"'(KDAR 1930:6). However, the Machakos District Administration wanted to evict all Kamba back to their own Reserve although the Maasai District Commissioner had positively welcomed Kamba cultivation. In January 1930, without the knowledge of the DC Kajiado, all but a few Kamba left to harvest were returned by the Machakos Administration. In correspondence with other officers responsible the DC Kajiado proposed to offer a lease to the Kamba if they would return and continue cultivating.

While this discussion was still going on the Kamba had already returned by March 1931. The DC Machakos (Mr. Silvester) wanted to remove them again, this time they announced it in due time. The DC Kajiado (Mr. Storrs Fox) and the PC Maasai Province (Mr. Butler) took the side of the Kamba in Campi ya Simba pointing to the advantages resulting from their presence in the Maasai Province: development of agriculture, payment of rent to the Kajiado Local Native Council, fly infested area cleared and the supply of labour for Kajiado District. Despite these arguments the DC Machakos insisted and in July 1931 all the Kamba were sent away from Campi ya Simba and Campi ya Mwarabu (Rombo). In a last effort the PC Maasai Province suggested that the DC Machakos was allowed to collect hut tax among the Kamba living in the lease area in Kajiado District. Again this offer was not accepted and by March 1932 all the Kamba seemed to have moved away towards Taveta east of Kajiado District.

Some cultivation, however, was practised in the south-east corner of Kajiado District thanks to the Chagga from Tanganyika who employed a similar strategy as the Kikuyu in the north-west. '(...) by the 1930s individual Maasai were owning plots which were cultivated either by their Chagga wives or by Chagga labourers hired by the Maasai. A major incentive to cultivation was the frequent failure of the rains which led to losses of livestock and encouraged the Maasai to seek alternative sources of subsistence' (Campbell 1981a:218).

Although the Carter Commission had established the boundaries of the Reserves for every group in Kenya the influx of Kikuyu, Kamba and Chagga in the Maasai area continued in the late 1930s and became a major point of concern for the Maasai. The Administration, however, endured their double feelings concerning this immigration as shown before in case of the Kamba of Campi ya Simba.

In a letter dated June 27th 1934, the DC Kajiado invited the DC Machakos to send the Kamba to Campi ya Simba on condition of payment of Sh. 12/- per year per holding to the Kajiado Local Native Council. A second prerequisite was the construction of a road from the Camp towards the main road between Simba and Loitokitok. When the Kamba from the Game Department situated in another location (Esoit Pus near the Noolturesh River) turned out to be a source of conflict with the Maasai (over *shamba* trespass) and of corruption (illegal tax collection) this enthusiasm for inviting more Kamba quickly diminished.

Troubles in the north-west corner of Kajiado District between the Maasai and Kikuyu immigrants also persisted. The droughts of 1933 and 1934 resulted in high stock mortality in Ndeiya and among the Maasai. Stock thefts and inter-tribal conflict increased and, the following year, the Maasai cancelled the exchange agreement. The main grievance of the Maasai was the continually growing number of Kikuyu coming to Ndeiya, building huts and making *shambas* in an area which had been set aside only for grazing. Rising population pressure in the Kikuyu Reserve was responsible for this development, due to a steady return of Kikuyu from other parts of Kenya and the growing imbalance of land ownership amongst them. Wealthy Kikuyu, administrators and teachers, bought the land from the less fortunate and less educated members of the community. By the beginning of the 1930s they had also started to show interest in the Ndeiya area.

In October 1935 a group of 117 Kikuyu families from the Ndeiya area in the Ngong region were ordered to go 'home'. Only those who had stayed in Ngong Township or who were employed by the Maasai and in possession of a permit were allowed to stay. 'The Kajiado Local Native Council has expressed an opinion that Kikuyu natives should not be allowed to come into any division of the Kajiado District unless they first obtain a permit from the Chief of that division, which he should only give after consultation with his elders' (KNA DC/Kaj/2/3/14). The willingness on the side of the Maasai to keep some Kikuyu in the Reserve was partly to support the Colonial Government in relieving the congestion in the Kiambu District.[14] Maasai leaders, once more, offered the Government a large area of the Chyulu Hills, between the Kiboko River and Campi ya Simba and Campi ya Marabu (near Noolturesh river) for occupation by the Kikuyu provided that the Mile Zone and the Chyulu Triangle would be added to the Maasai Reserve. This was not accepted by the Government.

The removal of Kikuyu families from the Maasai Reserve, however, was called off at the instigation of the DC Kiambu and the Provincial Commissioner Central Province. In November 1936 the OiC Maasai (Mr.

[14] Approximately 50,000 people from this district dispossessed of their lands by the Government, could find no place in the Kikuyu Reserve They were living in townships, as squatters on European land or were attempting to get some land in other Reserves

Fazan) announced a new system for the Ndeiya exchange allowing the Kikuyu herds to continue grazing in the area loaned to them on the condition that they returned to their own Reserve every night. Individual Kikuyu living in the Ngong Division of the Maasai Province for longer than twelve years could obtain free permits. Others could obtain a temporary occupation licence if the consent of the chief and elders was obtained. It seems that this arrangement was partly the product of the British Administration as Fazan ends his letter stating 'It must be understood that this arrangement is subject to alteration if my successor does not approve of it. The object is, on the one hand, to put a stop to the continued and growing encroachment by Kikuyu into Masai without authority, and, on the other hand, to give a reasonable security to those who obtain permits' (KNA/DC/Ngong/1/1/22-12/11/1936). Non-Maasai infiltration nevertheless continued and, in 1937, after complaints by Mr. Cowie, a settler in the Ngong area concerning the Kikuyu and the Somali entering the Mbagathi River area, around 35 Kikuyu were immediately prosecuted and removed from this part of the Maasai Reserve.[15]

Infiltrators started looking for alternative locations in Kajiado District. 'Kikuyu were found to have come in and settled in the high ground on the top of Oldonyo Orok at Namanga. These were removed and returned to Kiambu. The modus operandi is for the Kikuyu to get himself signed on by a Masai as labourer at 3/- per month. Some 70 acres of virgin forest has been destroyed by this method. In April an Akamba village was found near Kiu. (...) It had got a footing through a bastard Masai-Akamba' (KDAR 1939:12).

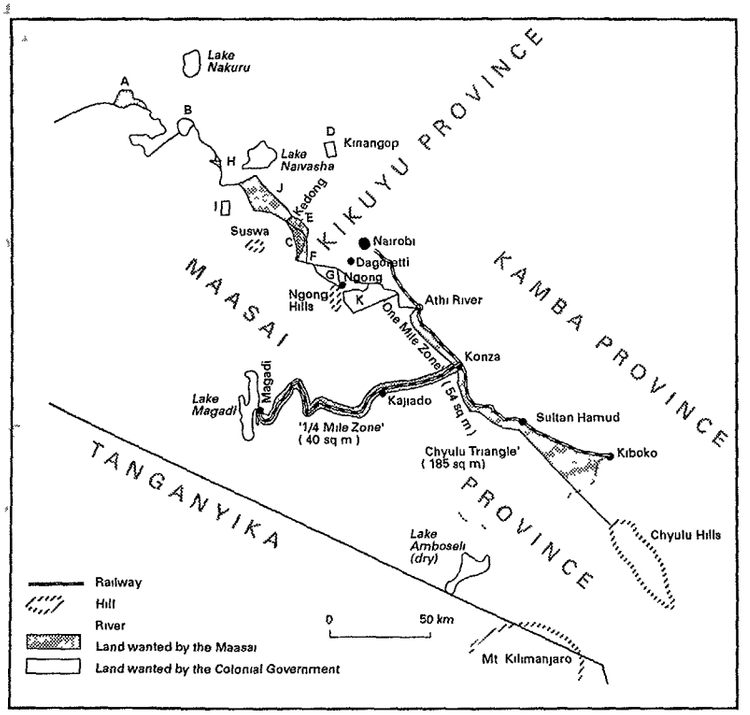
5.4.4 Evidence and Memoranda Presented to the Carter Land Commission

In October 1930, the first Maasai political organization, the Maasai Association, was formed. Its leaders were recruited from among the educated Maasai, mainly from Narok and Nairobi. Most of them had been trained by missionaries in or outside Maasailand. They had revolved against their former teachers, who had attempted to stop certain Maasai practices like traditional dress, ornaments and, especially, circumcision. In 1929 the AIM church at Siyiabei (Narok District) lost almost all its members over this. However, 'land and white men in general taking things from them' were the main reasons for the closing of Maasai ranks (see King 1971a:130).

The drought of 1929, called the "Famine of the Hides", had made clear once again to the Maasai that their Reserve was lacking the quality and quantity of

[15] As early as 1900 twelve Somali and their families were allowed to take up residence on the north bank of the Mbagathi river as a reward for service with the Uganda Rifles in the preceding decades This area, called the Nairobi Commonage, was later to become the Nairobi National Park Following the Kenya Land Commission's recommendations the Somali were allowed to stay in the Park during the lifetime of the head of each family after which they would have to leave (see Ecosystems 1982 65/6)

the pastures they had previously possessed. Maasai from this political party were responsible for the writing of a memorandum concerning Maasai land grievances presented to the Kenya Land Commission, chaired by Sir Morris Carter.



A - B Eastern Mau Forest exchange (22 sq. m - 20.7 sq. m.);
C - D Kinangop Circumcision area exchange (69 sq. m - 11 sq. m.);
E Two settler owned farms the Maasai wanted to purchase in order to get an extra mile of the river. The price asked was far in excess of the value and negotiations were dropped;
F - G Ndeiya exchange (10 sq. m. - 16 5 sq m.) F leased by Kikuyu to Maasai and G vice versa;
H Colvile exchange (230 acres) adjusting of the boundary to ease acces to the river for Maasai livestock.
I - J Fertile agricultural land (I) of some 8 sq. miles within the Maasai Reserve had been leased to a group of Kikuyu for some years. The group was evicted by the Colonial Government in the late 1920s. It was proposed before the Carter Commission by Europeans to exchange this for a piece of unalineated Crown land of some 69 sq. miles to the south of Lake Naivasha;
K Good agricultural land vacated by the Maasai except in periods of severe drought (69 sq m.).

Figure 5.4 Maasai Land Claims and Areas of Exchange

In April 1932, the Carter Land Commission was appointed on the request of a British Parliamentary Committee. 'It was required to examine African grievances and recommend the best way to settle them; to study existing African requirements in land and consider what land could be set aside to satisfy them on a tribal or individual basis; to consider the working of the Native Lands Trust Ordinance of 1930; and, on the European side to define the Highlands, within which persons of European descent are to have a privileged position' (Sorrenson 1965:687). In short, historical rights to and future needs for land had to be investigated in order to solve the Kenyan land problem once and forall. In Kajiado District the following areas had been the most often in dispute over the years:

- the One Mile Zone between Athi River Town and Sultan Hamud south of the Uganda Railway (140 km^2),
- the Chyulu Triangle, covering an area of approximately 480 km^2 stretching from Sultan Hamud towards the Kiboko River near the Chyulu Range,
- the 1/4 Mile Zone flanking the Magadi Railway on both sides. An area of approximately 100 km^2.

In total an area of 720 km^2, almost as large as the Magadi Concession, was in dispute. Furthermore the Commission had to consider some proposed exchanges of land, including the Kinangop area, between the Maasai and the Kikuyu and some European farmers (see figure 5.4).

In October 1932, the Carter Commission started its enquiries and hearings with the Maasai, Government officials and other informants. The Maasai presented a memorandum pointing out once more that they had lost their best grazing areas and that the present Reserve failed to fulfil their needs (especially in the Narok District) due to the influx of Maasai from the north, the region's semi-arid character, the presence of tsetse fly and the lack of watering points. 'We, as a tribe who were once the overlords of all other tribes in these territories, are assigned a part of the country which is decidedly inferior to and worse than almost all other native reserves' (KLC 1934:1224).

In their memorandum the Maasai frequently quoted the Hilton Young Commission Report with respect to the insecurity of their landownership;

> 'It may be said that effective safeguards against possible detriment to native interests can be created if it is provided that native land cannot be sold but only leased for a limited period during which the natives are not likely to require it, and that native representatives must be consulted before anything is done. (...) once the boundaries of 'native reserves' have been fixed nothing which might be regarded as handing over to non-natives the beneficial use of any substantial areas of land within

these boundaries ought to be permitted, at least, until the natives themselves have obtained such a standard of education and civilization that they can be regarded as really competent to give a representative and responsible expression of public opinion' (KLC 1934:1227/8).

Furthermore, the Maasai asked for the removal of the artificial boundary dividing the Kenya and Tanganyika Maasai and to join the latter in an extended area of the Kenya Colony. Finally, they requested the handing back of the Laikipia area as parts of it were still available to or occupied by other ethnic groups like the Samburu. In fact the Maasai were indirectly attacked as well supported by Mr. Deck, the Maasai Provincial Commissioner, when in a memorandum provided for the Carter Commission he stated that in general

'The principle of reserving certain areas for native occupation is unassailable. (...) Land, which is acquired compulsory in a native reserve should be leased to landless natives (...) The rental should go as compensation to the Local Native Council funds. The Crown should also be empowered to acquire land already alienated to Europeans. Extensive areas alienated as farms years ago have never been utilized beneficially; and it has become apparent that much of the land is of inferior quality, or so short of water, that no European can make a living on it' (KLC 1934:1264).

Nevertheless, by 1932 the Laikipia region and the international boundary with Tanganyika were no longer a topic of debate for the Land Commission. The land claims named above were the only issues allowed to be discussed:

A. One Mile Zone and Chyulu Triangle

With regard to these areas the Maasai stressed before the Carter Commission the importance of these zones for their livestock economy as they were the only pieces of land in the vicinity with a few streams and springs to which they had recourse during the dry season.[16]

By the late 1920s, a Sub-Committee of the Executive Council had already advised the Colonial Government concerning the land claims made by the Maasai. This commission, however, could not reach an unanimous point of view as the Provincial Commissioner, Mr. S. Deck, applied in a minority report for the inclusion of the One Mile Zone and Chyulu Triangle. Major C. Buxton, the District Commissioner Kajiado and who had worked in Narok

[16] In the south of the Maasai Province access to other watering points had become more difficult. Due to an amended demarcation of the international Kenya-Tanganyika boundary in 1926, the Meto and Namanga areas were reduced by some 15 square miles including about a dozen springs and wells. To relieve some of the difficulties during the dry seasons the "Kenya Maasai" were granted some concessions which only lasted till 1933.

District before, had given evidence before the Sub-Committee but had not been able to change the minds of the other members. According to Buxton the Maasai had been using the Mile Zone since time immemorial. This use had continued after the proclamation of the Maasai Reserve except for 1917, 1918 and 1927 when they were removed from the area by the British but allowed to return after Maasai protest.

Officially, however, the Mile Zone and the Chyulu Triangle were not included as belonging to the Maasai Reserve in the 1911 Treaty. The omission of the Triangle seems to have been an error as in 1916 Governor Belfield approved alteration of the boundary to include the Triangle. Later, by Gazette notice, the Triangle was again excluded from the reserve, probably to be set apart for soldier settlement. Buxton also stressed that alternative water facilities would not compensate the Maasai for the loss of the two zones and that in other Reserves the One Mile Zone near the railway had been abandoned. Finally he criticised all those 'anti-Maasai' officers who point to the large area available to the Maasai by stating that Maasai pastoralists lost many animals during 1929, in spite of having been given some extra grazing concessions. Of course these officers stated that the Maasai Reserve was overstocked and if the Maasai were to be given more land the problem would repeat itself within a short period of time.

In May 1930 the Executive Council decided that the Maasai had no claim for extension of their reserve by the addition of the Mile Zone. The Chyulu Triangle, however, could be included if the Native Lands Trust Board were to agree. In April 1931 this Board also declined, pointing to the large area occupied by the Maasai as compared to other groups. The Central Board's only concession was that the Maasai could 'be allowed to continue to occupy the areas by grant of a lease or licence, renewable annually, until such time as adequate alternative grazing and water facilities be made available by boring or otherwise' (KLC 1934:1188/89). Buxton was fighting a losing battle. 'The policy of the government toward pastoralists was totally opposed to any extension of their land' (Spencer 1983:130).

The Kenya Land Commission took notice of the above information and heard some more Government officials and settlers. The latter stressed the importance of the One Mile Zone as a means of controlling quarantine regulations. Moreover, Mr. Deck had tempered his demand for the inclusion of the zones by stating that land taken from the Maasai for the settlement of the Kikuyu should be compensated for by land from the Mile Zone and Chyulu Triangle.

B. Railway 1/4 Mile Zone

In October 1926, at the official gazetting of the Reserve boundaries, the 1/4 Mile Zone on both sides along the centre line of the Magadi Railway was excluded from the Maasai Reserve. The Sub-Committee of the Executive Council advised the re-inclusion of this zone and this was approved by the

Governor in May 1930

C. Exchanges

Four major exchanges were discussed; the Mau Forest Exchange (14,000 acres), the Kinangop Circumcision area exchange (19,241 acres in the Kedong Valley given to the Maasai for 6,529 acres), the Ndeiya Exchange (4,740 acres) and the Farm No. 410/1 (Colvile) Exchange (230 acres). All of them are located in the northern part of the Maasai Province between the Mau region of Narok District and the Kiserian area of the Kajiado District (see figure 5.4).

5.4.5 Conclusions and Recommendations of the Carter Land Commission

The final report of the Kenya Land Commission with reference to the Maasai area, started with a general remark concerning the Maasai need for land. In fact a real examination of this topic had hardly taken place. Maasai needs were mainly dealt with by comparing the Maasai population density of 3 persons per square mile with the population density in the Kikuyu Reserve (283/square mile) and the Kavirondo/Luo area (145/square mile).

This led the Carter Commission to criticise the fact that not only Europeans, but even other African groups were precluded from obtaining land in the Maasai Reserve on any reasonable security, unless the Maasai themselves would agree.

> 'When we turn from the interests of the Masai and consider the interests of other tribes, it is clear that the permanent entail of a vast area of land for the benefit of a tribe which makes very little use of it and, left to itself, would certainly not be able to keep it, must appear unjust, especially when one, at least, of the neighbouring tribes is living in a state which borders on congestion. Nobody wishes to deprive the Masai of their land, but justification might arise for requiring them to lease unused portions of it to other tribes or to individual natives' (Carter 1934:7).

It is clear that the Maasai sympathizer Buxton had got nowhere. The view held by the Kikuyu officers was virtually accepted in full. The Commission foresaw an interuption in progress, and even a reversal, for the Maasai if they were to remain in isolation. Large areas of valuable agricultural land would remain unused for the benefit of poor quality livestock during only certain short periods of the year. With regard to the specific land claims the Carter Commission advised as follows:

- The One Mile Zone and Chyulu Triangle were not included in the Agreement Boundaries of 1911 and thus cannot be claimed by the Maasai. However, if the Maasai desired, they should be given, at a reasonable rent an annual lease, until equivalent watering facilities would be available within the Masai Reserve. The Chyulu Triangle could be added to the Reserve if the Maasai would cede some of their good agricultural land to other agricultural communities.

- The 1/4 Mile Zone was included in the Reserve.

- With reference to the exchanges of land discussed above, the Carter Commission approved the proposals and conditions agreed upon by the parties involved. However, the Commission advised regularizing the Ndeiya exchange by a formal lease as 'the Kikuyu are getting more and better land than they are giving up' (KLC 1934:min.709).

The Kenya Land Commission Report was, with regard to the main proposals, accepted by the Government. The leasing of land to other tribes, however, was not approved until the New Land Ordinance, which was to replace the 1915 Ordinance and 1930 Native Lands Trust Ordinance, would come into full force.

5.5 1946 - 1963: Late Colonial Period; Grazing Schemes, Infiltration, Emergency and Independence

5.5.1 The African Land Crisis

The growth of the economy which had begun after the ending of World War II, brought with it a sharp, direct, and growing conflict with African (mainly Kikuyu) squatters in the Rift Valley who were now seen as a block, standing in the way of the expansion of modern agriculture, that is, white farm expansion. 'The White Highlands, which had previously served the function of helping to relieve population pressure in Central Province, now began to send people back into the Central Province Reserves, thus further exacerbating land pressure and social tension' (Gordon 1979:102). At the end of the War approximately 90,000 ex-soldiers or conscript servicemen of the King's African Rifles had already raised the number of jobless and/or landless Africans.

The economic crisis in the African Reserves was perceived by the colonial regime as a crisis concerning African land.

Firstly, it was decided that, from a legal point of view the best way to handle this was by a strengthening of the community control over land in the African Reserves to protect the weak against the strong.

Secondly, the Government started 'a program of soil conservation intended eventually to increase the output in those areas. Since the alternative to increased productivity could only be the expansion of the African Areas - the

most obvious area of expansion being the Highlands - it was politically as well as economically important for soil conservation to succeed' (Gordon, 1979:103).

In 1945 a new agency, the African Settlement Board, was created to deal with this problem. The Board consisted of the Chief Native commissioner and directors of agriculture and veterinary services. Besides acting as a financial corporation the Board had mainly an advisory, monitoring and evaluating function. The actual operations were carried out by Departments, especially at Provincial level. Although its initial focus was settlement of Africans returning from the War or those removed from the White Highlands, the ecological component gained more and more attention. Several adjustments in the Board's name -African Land Utilization and Settlement (ALUS 1947) and African Land Development Board (ALDEV 1953)- were made to illustrate this shift of concern. 'In the range country of Kenya between 1945 and 1962 the African Land Development Board was involved in constructing 1,020 seasonal dams, 332 permanent dams, 308 sub-surface dams, 38 rock catchments, 40 masonry weirs; it installed 72 piping schemes, protected 54 springs, drilled 44 boreholes and over 200 wells and hand drilled boreholes' (Peberdy 1969:175). Besides this scheme others were initiated which (also) operated in the African Reserves (see chapter 6).

Not just the (forced) migration of Africans but also the natural growth of the population augmented the problems in the small African Reserves. By 1945 Kenya had a population of approximately 5.2 million people of which approximately 5 million were Africans. Between the censuses of 1948 and 1962 the number of Africans increased from 5,251,120 to 8,365,942. They far outnumbered the European and Asian population which by 1948 amounted to 29,660 and 97,687 respectively, rising to 55,759 and 176,613 in 1962. This population increase resulted in an African labour surplus which triggered off rural-urban migration, especially towards Nairobi. Once a small resting camp for the IBEAC, Nairobi had grown from a population of some 11,500 in 1906 to 65,000 by 1938. Within 10 more years this number had almost doubled. By 1948 64,397 Africans, 41,810 Asians, 10,830 Europeans and 1,939 others, totalling 118,976, inhabited the capital city of Kenya. In 1962 this figure had risen to 266,794, being 156,246 Africans, 86,453 Asians, 21,477 Europeans and 2,618 others.[17]

In spite of their overwhelming majority it was 1944 befor the first nominated African member appeared in the Legislative Council. By 1952

[17] The 1962 figure has in later years been modified to 343,500 inhabitants, because the 1962 census restricted the Nairobi population to those people living in the city proper. For 1969 the new 1963 municipal district boundary, including the peri-urban area, was used. The percentage of Africans living in Nairobi (proper) compared to the total African population amounted to 1.2 per cent in 1948 and 1.9 per cent in 1962. For Europeans these figures were 36.5 and 38.5 per cent respectively. Asians ranked first concerning the rate of urbanization with 42.8 per cent in 1948 and 48.9 per cent in 1962.

African representation had increased to 8 members (or 15 per cent).[18] However, as real (economic) improvements were not occurring and were repeatedly slowed down by the European community, a radicalization of African, mainly Kikuyu, politics occurred. This eventually escalated towards an armed struggle between the so-called Mau Mau movement and the Colonial Government.[19] In October 1952 a state of Emergency was declared, which lasted till June 1959. The Mau Mau did not spread to the rest of the territory, except for among the Embu and Meru and to some extent the Kamba, although the presence of troops and the enforcement of emergency measures certainly affected the overall political climate. 'The casualties among government forces, given as something less than 1,000 killed, were far outnumbered by those of their opponents, estimated at more than 11,000 - to which must be added the grim figure of more than 1,000 executions: but it is believed that the civilian victims of the latter numbered not much less than 2,000' (Bennett & Smith 1976:132).

Disunity among the settlers on how to respond to African grievances weakened their position. London was able to gain more influence. This time the Colonial Administration, through Governor Ph. Mitchell and E. Baring, who succeeded him in 1952, was less recalcitrant as had been before. Several visits were paid by British Members of Parliament and Advisory Commissions, resulting in a whole series of reform documents produced in the mid-1950s.

Among the most influential were the Report of the East African Royal Commission 1953-1955 concerning the Government's policies in Kenya and the Plan to Intensify the Development of African Agriculture in Kenya of 1954 by the assistant director for Agriculture R.J.M. Swynnerton. The former helped to pave the way for the latter, but its writing must mainly be seen as a reaction to the Mau Mau uprising and the problem of land in the densely populated Central Province.

Initially the plan was only intended to be implemented in the Kikuyu Reserve but it was subsequently widened to include all Native Land Units in the other provinces of Kenya. Swynnerton stated that 'In general it may be said that any land naturally suited to settlement has already been occupied, often

[18] In total 54 seats were available on the Legislative Council. European members amounted to 14 elected officials and 7 nominated officials or 39 per cent. In reality more Europeans were present as another 16 places were open for 8 Government officials and 8 nominated persons from outside the public sector. The remaining 11 places were divided between 8 Asians and 3 Arabs. The Executive Council of 1952 consisted of the Governor plus 12 members; 8 Government officials, 2 nominated Europeans, 1 nominated Asian and, for the first time, 1 nominated African.

[19] The Mau Mau uprising was a complex historical event which has several possible explanations and which is still being studied by historians. The movement can be seen as everything from "nationalistic freedom fighters" towards "anti-christ tribal barbarians". See for an analysis of these different opinions the works of Buijtenhuis (1973) and Furley (1972).

very densely. There are certain exceptions, e.g. in Masai, Mau-Narok and Trans Mara, not fully or agriculturally occupied for political reasons. Of the remainder of the colony three-quarters is semi-arid and, except in limited areas, occupied by pastoral tribes' (Swynnerton 1955:7). In the Plan the African lands were divided into four categories, each having its own characteristics and needing a special approach:

1. high-potential areas suited for mixed farming, specializing in high-yielding cash crops and livestock;
2. medium-potential regions on which to intensify cultivation or which could be brought into new production by irrigation;
3. semi-arid pastoral areas, 'which can never be developed intensively but in which some food requirements should normally be grown and from which, given adequate outlets for surplus stock, control of stock numbers, a planned grid of water supplies and sound grazing management, may be derived a constant and valuable flow of livestock and their products; without such control, large sums of money can be expended with no economic benefit whatsoever' (Swynnerton 1955:7);
4. special areas and projects like eroded lands, horticultural development schemes, tsetse reclamation schemes, afforestation schemes.

The British Government eventually provided £16 million for this Five-Year programme of land consolidation and registration. The idea of communal land ownership had been dropped unofficially as early as 1950 by the Department of Agriculture. Neither the Land Bank nor the commercial banks were interested in lending money to African farmers without individual security provided by way of a land title. Traditional land tenure had to be removed as it was considered as blocking the way towards the intensification of African agriculture. In future, the creation of a landless class was predicted, but considered to be a normal step in the evolution of a country. Together with a lifting of the ban on the growth of cash crops by African farmers, provision of security of tenure, technical assistance, water improvement, agricultural education, credit and marketing facilities, the income and standards of living of the people should be raised, while at the same time a substantial increase in the resources and economy of the Colony would take place.

It was then that the semi-arid regions were "discovered" to be a potential asset to Kenya's economy. 'The bulk of the 6,000,000 cattle in Kenya lie in the pastoral areas, in the main semi-arid. If the value of the bulk of the necessary annual take-off of 650,000 head can be raised from £2 to £10-£15 apiece, that gives some idea of the potential value of stock in these areas' (Swynnerton 1955:62). To improve the productivity of the semi-arid pastoral areas five measures had to be taken:

1. limitation of the number of livestock to the carrying capacity of the land
2. provision of regular outlets for the absorption of all excess stock
3. construction of an adequate system of permanent water supplies.
4. maintenance of the grazing areas at a productive level
5. eradication of tsetse

Activities and finances of ALDEV were integrated into the Swynnerton Plan. The main concern remained the limitation of stock numbers, as it was thought that without this no satisfactory development could be achieved. Disease control had the lowest priority, marketing and grazing management the highest. Field abattoirs, Grazing Schemes based on groups using a certain borehole, creation of schoolfarms to teach the children modern practices of husbandry, and pasture research were the major means initiated to reach the above mentioned objectives.

Although the Swynnerton Plan mentioned the high potential value of the pastoral areas, all in all only marginal attention was given to these areas as compared with the other more fertile areas on which the main and strongest opposition to the British Colonial Government was to be found. A commission was formed to inquire 'to what extent the pastoral tribes, wealthy in stock, should finance the preservation and development of their lands on a controlled basis, remembering that capital development will often be out of proportion to the economic value of the land' (Swynnerton 1955:33). Money invested in Grazing Schemes should be recoverable, so for the semi-arid areas loans were preferred above grants some of which were nevertheless provided.

Within about six years the Swynnerton Plan had become a reality. In the Central Province the programme had been successful within this short period because extraordinary conditions existed then as a result of the Emergency: 'the rural population had been forcibly grouped in newly established villages as a defense measure and this facilitated the reallocation of land in consolidated holdings in the surrounding rural areas' (Memon 1981:76). 'By mid-1962 nearly 300,000 farms had been consolidated and enclosed, covering some 2.4 million acres, and amounting to approximately 51 per cent of the high potential land in the African areas' (McWilliam 1976:264). The expanding small-holding cash-crop economy produced mainly for the domestic market.

5.5.2 Administrative Changes and Boundary Adjustments

After the war the head of the Administration in Kajiado District regained the status of District Commissioner which had been lost as a war time economy in 1942. Additionally the administration over the Ngong area was transferred to Kajiado. In 1948 section councils were formed for each section, mainly acting as advisory bodies for matters concerning them. That same year the Joint Local Native Councils of Narok and Kajiado were replaced by the Maasai Council. From 1951 to 1955 this council was given law-making and financial powers

and the Local Native Councils of each district simply turned into committees. 'The members have been drawn more or less equally from Kajiado and Narok Districts and it is hoped that the more progressive Kajiado element will be able to influence their less amenable brothers from Narok' (KDAR 1951:11).

Together with the Kamba of Kitui and Machakos District the two Maasai Districts formed the new Southern Province in 1953. During the latter half of the 1950s the Kajiado African District Council, which had replaced the Masai African District Council by 1956, administered the district in co-operation with the Provincial administration. The latter had expanded its staffing power a year before through the opening of a new substation at Loitokitok and the posting of a District Officer and a Livestock Officer. In fact, until the beginning of the 1950s, the Maasai had hardly come across a technical officer in the interior of the district. The start of the Ten Year Development Plan and the Swynnerton Plan changed this situation.

According to the District Commissioner P. Low, who took over from A. Simpson in 1956, the new Kajiado African District Council was extremely land conscious. They had every reason to be. Not only the internal land use developments such as grazing schemes, individual ranches and game conservation parks, but also the Kajiado District boundary were still under debate. During the drought of 1949, Loitokitok Maasai in the Oltilal region were given permission by the Kenya National Parks Trustees to graze across the Tsavo national park boundary up to Olarammi Hill. According to the local Maasai, this had been the boundary originally pointed out to them in the mid 1930s, but later, when gazetted, it had been pushed back. When the newly Southern Province Boundaries were gazetted in 1953, an error had been made with regard to the demarcation of the "Oltilal-Njugini" area. Adjustments made in 1954, agreed upon by both parties, were overruled by the Minister of Forest Development, Game and Fisheries the following year, which meant that the Maasai were officially illegally watering their cattle at the Njugini river during the latter half of the 1950s.

Finally, in 1960 the Oltilal and Njugini exchange was settled positively for the Maasai. An area of approximately 500 km^2 located south of Rombo was added to Kajiado District in exchange for an area of similar size towards the north east of Rombo. In 1961 the lower western boundary of Kajiado District was slightly pushed to the west, running more or less parallel at a maximum of 10 kilometres with the Euaso Ng'iro river.[20]

That same year the Lancaster House Conference was held to discuss the handing over of colonial power to the African population. The Maasai, however, became worried as they feared that the old Maasai Treaties would be dissolved the moment a free and independent Kenya became reality. The

[20] Since 1954, Kajiado District was already administering this part of the Narok Loodokilani section.

Maasai Districts were still governed as closed areas and prohibited other African groups free entry. It was feared that this would change as soon as the Maasai became part of an independent Kenya. African Delegates from Nyanza and Nyeri, both densely populated areas, had protested as early as 1959 against the closed status of the Maasai districts and had called for the integration of the land and all the ethnic groups in Kenya. 'It was wrong to talk in terms of Masailand. "it is African land, Kenya land"' (EAS 05/09/59). Their appeal was not successful as it was by the late 1960s before the status of closed district was withdrawn.

The 1960-1 disaster together with the threat of increasing settlement by outsiders which was very relevant in the Ngong area, resulted in the creation of the Kaputiei Development Committee in 1960. Its main initiators were the young educated Kaputiei of the junior elder and senior warrior age groups. According to Hedlund the Kaputiei elders had agreed to its formation and to it functioning as a spokesman for the efforts to secure the right to land in the future and the prevention of further foreign intrusion (see Hedlund 1979:30).

To strengthen their politically weak position, Kenyan and Tanganyikan Maasai formed their own political body called the Masai United Front.[21] They even thought of proclaiming their own independence, defended by the British army with Arusha becoming the capital city. With the support of a catholic priest this idea got as far as the United Nations. However, when British support failed, the request for independence was in vain. A claim for £5,800,000, to be paid by the British as compensation for the use of Maasailand since 1904 was also rejected. Referring to the anxiety of the Maasai people that neighbours living in areas with a large shortage of land would cast covetous eyes on Maasai land Sir Patrick Renison, Governor at the time, said 'This is inevitably so and cannot be altered until your land becomes so well-developed and intensively ranched that it becomes obvious to all that there is no room for others to enter and farm it' (EAS 30/07/60).

A Regional Boundaries Commission was installed in July 1962 to divide Kenya into six Administrative Regions and a Nairobi area whilst granting to the wishes of people in any locality to be included in any particular Region. The Kamba and the Maasai both stressed their unwillingness to continue their Southern Province alliance. Thinking that the Regional Boundaries Commission was a new Carter Commission to deal with land disputes, both groups made additional claims for land. The Kamba even demanded large parts

[21] In fact this party was the revival of the "Group of Educated Maasai" which had existed between 1948 and 1955. Its members were recruited from among the junior elders of the Ilderito age-group, almost all of them working for the Government and was, besides being a place for discussing important issues to do with development, active in trying to find suitable jobs for Maasai school-leavers (see Jacobs 1963:73/4).

of Kajiado District as far as Magadi. The Maasai restricted themselves to the Nairobi National Park and the Chyulu Hills.

However, the Lancaster House Agreement precluded any change in the Maasai Treaty area affecting the Kamba-Maasai boundary. KANU, headed by the first president of the Republic of Kenya, Jomo Kenyatta, expressed the view that the present provincial boundaries should be retained and simply renamed regions. 'Regionalism will promote tribalism and result in chaos. (...) There should be freedom of movement in the Kenya of the future and the people should not be insulated by tribes' (RBC 1962:45). The Masai United Front was incorporated into the Kenya African Democratic Union (KADU), a political party containing mainly the smaller ethnic groups of Kenya as opposed to the Kenya African National Union representing the influential Kikuyu, Luo and Kamba. KADU proposed the creation of one big Rift Valley Province which would enclude the Maasai, Kalenjin, Samburu, Turkana, Pokot and other mainly semi-nomadic groups. This proposal was honoured by the Commission.

The Maasai politicians then started to combat each other; first the former secretary and founder of the MUF, John Keen, joined the Kikuyu and Luo dominated KANU, which led the former chairman of the MUF, Stanley Oloitipitip, to start a campaign among Maasai leaders to declare a vote of no-confidence in Keen. The rivalry between these two men was to dominate Maasai politics for the next two decades to come.

5.5.3 The Introduction of Grazing Schemes and Individual Ranches

In the opinion of the British Administration, traditional grazing control had been inadequate and become even more difficult to implement with the abolition of section boundaries which allowed free grazing for the Maasai throughout the whole of Maasailand as had been decided by the Joint Local Native Councils in June 1946. This decision conflicted with the British aim to implement a grazing control plan for each section by restricting the movement of stock from one section to another so as to enforce an economic limit within the boundaries of each section. So far the Maasai had only agreed to allow a specific number of animals in the vicinity of a borehole. If this number was exceeded the borehole would be closed in order to give the area a "rest". A request by the Officer in Charge of Maasailand in 1947 to reintroduce the section boundaries was not honoured. Nevertheless, in 1948, the Kaputiei attempted to exclude the Maasai of other sections from grazing in their area.[22] Even the "right" and "left hand" of Keekonyokie *ilmurran* quarrelled over the grazing rights in their own section. It should be noted, however, that even in

[22] In July 1949 it was suggested to the Purko and Ildamat elders that they should leave Kajiado and join the main bodies of their Sections in Narok District. This suggestion was strongly opposed and the idea was subsequently dropped (see KDAR 1949:4).

1948 with a severe lack of rain, Mr. Colvile, a prominent rancher, after touring the district had reported that 'little or no harm had been done to the land by overstocking' (KDAR 1948:15).

The semi-drought conditions of 1948 continued into 1949 killing a huge number of animals. Tension between several sections grew over the rights to use certain grazing areas. The Matapato versus the Dalalekutuk and the Loitokitok-Kisonko versus the Kaputiei clashed over Nailumbe (in Mashuru) and Eselenkei, respectively. Despite opposition from the Loitokitok-Kisonko an agreement was reached in principle to reintroduce the section boundaries. However, in spite of intensive propaganda by the British Administration, they were never implemented. Throughout the first half of the 1950s, co-operation between different *il-oshon* was excellent. Even the Dalalekutuk and the Matapato settled their quarrel over the Nailumbe area in 1955 after 6 years of disagreement.[23] The above average rainfall of the 1950s, particularly of 1951, 1954 and 1957, resulted in an abundance of grass and water all over the district and must have reduced tension between several sections.

The Maasai did co-operate with the Colonial Administration by accepting more comprehensive grazing control measures. 'The adoption of Rules to control grazing and water is probably the most progressive step that this council has yet taken. It shows clearly that the Kajiado Masai are at last beginning to appreciate that the time has come to revise their ideas on cattle farming and land management' (KDAR 1950:10). To guide this process it was decided to opt for a phased programme. Firstly, a selection was to be made of a limited number of stockowners who were allowed to water their cattle at each borehole. A maximum of 2,000 cattle were permitted around one borehole. Borehole permits were issued to stockowners selected by their section councils. Secondly 'with the number of stock using the boreholes limited and with the owners paying for the privilege of use by subscribing to a renewals fund, each area served by a borehole should, with guidance and control, eventually become a form of ranch unit' (KDAR 1952:1). A few years earlier the Maasai had already agreed to a ranching experiment.

A. The Konza Grazing Experiment

In November 1948 the Wheatlands near Kitengela were given up. The British proposed to transform the area and the adjoining pastures of up to 40 square miles to become a grazing control experiment by the African Land Use and Settlement Board (ALUS). The Maasai rejected this but, with reluctance, agreed to set apart another (waterless) area of 36 square miles near Konza. The

[23] By 1956 an old dispute between the Kaputiei and Kisonko sections had revived. The former feared the expansion of the latter into their territory, the area of Mokotani, and they wanted a boundary. This was agreed upon by both sections in December 1957. A similar situation arose between the Loodokilani and the Keekonyokie. Nevertheless, by 1960 relations between parties were fairly good again.

British considered this an important victory as they had been trying to implement a form of grazing control for a long time.

In 1949, the pilot Konza grazing scheme finally went ahead with 12 (selected) families entering the scheme, bringing along approximately 1,285 head of cattle who had been in quarantine for some time. The 36 square miles area, completely fenced, was divided into 4 paddocks of 9 square miles each. Two boreholes were installed and a cattle dip and a manager and a veterinary assistant were posted to Konza. According to the DC's Annual Report the scheme proved to be an unqualified success in a year which had brought drought and rinderpest to Kajiado District. 'Within a few miles of the fence cattle were dying in hundreds of disease and starvation and the Masai were going without milk whilst inside the scheme the cattle remained sleet and fit and their milk yield increased. This was quickly appreciated by the Masai and numerous applications were received to enter Konza' (KDAR 1949:16). The only problem seemed to be the maintenance of the 24 mile perimeter fence which had been broken into several times by game (especially zebra and larger buck). Again, 1950 was a year with only a minimum of rainfall. This and the success of Konza had led the Kaputiei to make a request for a second ranch at Ilpolosat adjacent to the Konza scheme. Also, the Kaputiei were the first to accept a Grazing Control scheme, although they still had some doubts. It was stated that: 'The real stumbling block to the rapid development of the scheme is that the Kaputei are well aware that if their country is divided into ranch units each holding only 2500 head of cattle, there will come a time when a large number of surplus stock will be left with nowhere to go. This of course, is perfectly true and is another illustration of the need for destocking' (KDAR 1950:13).

The abundant rains of 1951 led to a sudden transformation of the district into a land of plenty. This made the Maasai less receptive towards propaganda concerning the planned development of their land based on the reduction of stock and controlled ranching. Moreover, it had become clear that the better condition of the Konza stock in a favourable year had only been due to dipping. Grazing management which included fencing and other costly measures or restrictions did not therefore seem to be as necessary as had been propagated. The Konza experiment started to show the first signs of disagreement between the Maasai participants and the Official Staff. According to the latter, 300 head of cattle had to be sold to keep the stock down to 1 head to 15 acres. The Konza elders were willing to effect this reduction immediately but not by selling but by passing the animals through to friends and relatives living in other parts of the district. 'Such an agreement would, however, mean further overstocking in an already overstocked district and is not therefore acceptable, particularly to A.L.U.S. who insist that one of the primary objects of the scheme was the disposal by sale of surplus cattle. This, however, was certainly not made clear at the commencement of the scheme in 1949 and was never made a condition of entry into the scheme' (KDAR

1951:13). In fact, there would never have been a Konza Grazing Scheme, as the Administration fully realized, if this condition had been mentioned.

Finally, an arrangement was accepted by which the Konza members agreed to dispose of as many cattle as they themselves deemed fit at every bi-monthly auction at Mashuru. The problems experienced by the Konza also appeared in other parts of the district where the number of cattle using the boreholes exceeded the 2,000 head agreed upon in 1951. To keep a better eye on the number of cattle belonging to Konza participants and to keep other cattle out a branding operation was started in July 1952. At the end of the year the Masai African District Council took over the management of the scheme. Between 1947 and 1952, the Konza Grazing Demonstration Scheme had cost the ALDEV programme £13,076 (see GoK/MAAHWR 1962:71).

By late 1952 a drought had hit the whole of the district and it continued into 1953 and resulted in the death of a considerable proportion of the Maasai stock. This experience affected a change in the ultimate objective of the Kajiado development plan which had originally envisaged the division of the district into ranch units. 'Further investigation has shown that whereas this may, in conjunction with heavy stock reduction, be feasible in the Kaputei Section south of the Mombasa railway line, a large area of the district is, by reason of climatic and geological conditions, unsuitable for a static form of ranching' (KDAR 1953:1). The 50 per cent cattle cull for the Kaputiei section which had been considered necessary by the Administration, was, of course, unacceptable to the Maasai. Moreover, even if the Maasai had been willing to sell such a large number of animals this would not have been possible. This was illustrated in 1954 when the Konza Scheme residents correctly stated that the proposed selling of the scheme's surplus of 300 cattle (or 15 per cent) was not possible due to the lack of sales facilities. Konza started to loose its glow of success. The Administration even thought of transforming the Scheme into a sectional beef fattening ranch. Because of the original, liberal "User Agreement", eviction of the residents would not have been easy, although the acceptance of the Masai Land Usage By-Laws were thought to give the necessary backing for such drastic and dramatic action. Nonetheless, 4 families decided to leave the Scheme. As a solution the Development Committee and the Residents reached an agreement in 1955 that further participation in the scheme would depend on the following of closely defined rules, the most important of which being the sale of the annual natural stock increase.

Some improvements were made in 1956 such as the branding of animals ensuring individual identification, the construction of a dam and the removal of plains game off the ranch. However, the old problem of stock disposal continued. By the end of 1957 the number of cattle on the ranch had passed the permitted ceiling and by 1958 the number of cattle had increased to 2,419 (see GoK/MAAHWR 1962:73). Matters became worse due to a drought in 1959. Three participants decided to withdraw rather than to submit to stock

limitation. Three new residents were selected who accepted the Konza rules. Some 400 surplus cattle were disposed of. Three Sahiwal bulls were purchased and each stockowner selected heifers which were put to the bulls. This new start was only to last for a short period. In 1960 the rains failed. Grazing was non-existent in many areas and cattle were dying in large numbers. Matters became worse in 1961, leaving the Konza grazing area barren ground.

By mid-1961 all residents had left the Scheme and the area was closed for grazing. The Konza Ranch was not to open again. The initial idea of dividing the area into 4 individual ranches of 2,000 acres each and setting aside the remaining 14,000 acres as a beef enterprise to be operated by the Kaputiei Section Council was dropped and the Scheme was subdivided into 8 individual ranches of varied sizes in 1964.

B. Section Grazing Schemes

Although the Konza Scheme failed in the end in the more than 10 years of its existence it had been an important factor in encouraging Maasai interest in modern methods of husbandry and range management such as dipping, inoculation, dam construction, etc. It also showed the disadvantages of permanent settlement such as the high operation and maintenance costs and the possible risks of overgrazing. All in all, it will certainly have stimulated other initiatives in the field of grazing management.

Most important of these were the Grazing Schemes developed in Kajiado District. Grazing schemes were established with funds released through the African Land Development Programme (ALDEV). 'More than £43,000 [of the £800,000 available for the whole of Kenya] has been spent in the Kajiado district on grazing scheme development since 1947, much of which has been raised by the Masai through self-tax levies' (Fallon 1962:22).

The "Masai African District Council (Grazing Control) By-Laws, 1955" conferred broad powers upon the Livestock Officer in charge of a scheme, including: 1) determination of those approved to graze livestock in the scheme; 2) the number of animals each is to be allowed to graze; 3) the area to be grazed (see Fallon 1962:25). These rules allowed the levying of fines up to Sh. 1,000 and/or 6 months imprisonment. However, when setting up the Scheme it was agreed that co-operation should be on a voluntary basis and should be without recourse to the imposition of grazing fees for individual cattle. As with Konza, the alternative would have been to have had no scheme at all.

The first scheme was established in the Kisonko area located in the eastern part of Kajiado District in 1954 and included three traditional clan areas making a total of 1,300,000 acres (5,265 km^2). £25,000 was set aside by ALDEV of which £10,000 was a loan. Grazing principles were based on the traditional use of the area which was then extended by means of strict grazing controls enforced on a clan basis by Grazing Committees. For this the committees made detailed plans for the use of several areas as soon as the wet season started. The main aim of this scheme was the lengthening of the time in

which wet weather grazing areas could be used by staying as long as possible in the dry weather zone Tanks and dams were constructed, a Livestock Officer installed to supervise grazing management and new roads were opened up in the section area. In trying to reduce the already overstocked area a special stock market was established in Illasit to provide a destocking outlet. 'From the start of the scheme the Il Kisongo agreed to pay for the recurrent costs including the loan repayments by imposing a special annual rate of sh. 10/- payable by each taxpayer' (GoK/MAAHWR 1962:75).

The prolonged drought of 1956 was a difficult challenge to the Grazing Committees. Areas which it had been agreed should be rested for a year or even longer had, in the end, to be reopened to grazing owing to force of circumstances and public opinion. It was proposed to give the 18 Grazing Elders powers under section 13 of the Masai Land Usage By-Laws to take cases of orders before the African Court in the hope that they would become more fully aware of their responsibilities. However, the Administration fully realized that 'owing to the vagaries of the rains it cannot be expected that an even pattern for grazing control will ever be achieved in Il Kisongo' (KDAR 1957:16). This was proved in 1959 when any controls had to be abandoned as cattle based on the scheme had to go far afield in search of grazing even trespassing into Taveta, Tsavo and Tanganyika.

Other Schemes started in the 1950s were the Matapato Grazing Scheme (1957, 880,000 acres, £4,956 grant) and the Loodokilani Sectional Scheme (1959, 1,920,000 acres, £3,639 grant). Both schemes had a bad start due to drought and to a lack of officials. The Maasai raised money through the sale of cattle for water improvement works.

In 1959 a Land Usage Committee was formed in the African District Council to enquire into the problem of overstocking into and the care of land. By 1960 all Maasai sections had applied for better water supply schemes such as rock catchments, dams and sub-surface dams. Government officials, however, combined their possible approval of such schemes with the requirement of grazing control. Nonetheless, it should be realized that:

> '(...) much of the incentive for these new schemes was political in nature. Sensing the winds of change that would sweep independent African governments into power in a few years time (...) most of the schemes initiated in Maasailand during the 1950s were hastily conceived, poorly designed, improperly implemented, and, above all, essentially planned for rather with them. There generally was no provision in the plans for innovations in human organizations to accompany the introduction of new technology and grazing techniques. (...) And not surprisingly, virtually all of these schemes failed within a few years' (Jacobs 1980:294).

Indeed by the end of 1961, the Kisonko Scheme had been suspended and was never re-activated. Among the positive achievements made the building of 22 dams and tanks, the construction of a trench from the Noolturesh River near Loitokitok and the opening of a cattle export market to Tanganyika via Illasit which even attracted stock owners from outside the scheme should be mentioned. The Matapato and Loodokilani were only able to construct 11 and 14 dams, respectively.

In addition to the huge Section Grazing Schemes some school farms were established at Maasai boarding schools in Loitokitok (150 acres), Bissel (1,000 acres), Mashuru (1,000 acres) and Kajiado (acreage unknown). This programme was started in 1949 with the objective of teaching the students animal husbandry, range management and to supply schools with meat, milk and other food products. Funds for boreholes at each of these places were provided by the African Land Utilization and Settlement Board.

C. Individual Ranches

Finally, mention should be made of the first individual ranches which began appearing in Kajiado District in 1954. The Reverend Daudi Mokinyo, a progressively minded Maasai who had been working with the Ngong Veterinary Station, got permission from the Loodokilani section to start his own individual ranch, keeping cattle on modern lines under the strict supervision of the Veterinary Department. Permission was granted because of a recommendation by the Kajiado Development Committee. The 4,000 acre ranch, named Oloisur, was located approximately 10 kilometres south of Toroka Station on the Magadi branch railway. A loan of £1,000 was obtained to install a borehole and a handpump and for the acquisition of an improved bull from the Ngong Livestock Improvement Centre. However, water could not be found by boring on the Oloisur ranch and, in 1956, an alternative ranch of 2,000 acres was offered, named Asembokeke, by the Loodokilani Section Council in the upper reaches of the Toroka river.

In spite of this difficult start another application by Mr. Oladaru ole Kordede for an individual ranch of 800 acres in the neighbourhood of Kajiado Township was supported by the African District Council in December 1956. In 1957, the Dalalekutuk section set aside twelve square miles of land near Kajiado for ranching by progressive Maasai, primarily from that section. However, the terms of entry, including the sale of stock to produce 50 per cent of the initial capital required for water restricted the number of applicants to only two. Meanwhile Reverend Daudi Mokinyo succeeded in finding water on his new ranch. He bought six more breeding animals from Ngong and put up a thorn barricade round the perimeter.

By 1959 interest in individual ranching, especially in the Kajiado and Dalalekutuk area, had increased. The District Commissioner recorded that:

> 'Amongst an enlightened few mainly consisting of chiefs and teachers, there is an interest in improved stock and therefore an interest in individual ranches. Whilst this is an ideal to be aimed at and an inevitable development, a note of warning must be struck to avoid ranches being sought for purely as a means of land grabbing. (...) There is the danger that whilst some Masai genuinely wish to establish an individual ranch and improve their stock, others merely wish to jump on the bandwagon and grab land as a speculation. This is a very real danger and some time must be given to planning future ranch siting and development and to the choosing of progressive, sensible people as ranchers' (KDAR 1959:1/19).

Two thousand acres were the maximum allowed for every individual ranch. By 1960 it was even concluded that 'There will obviously have to be some re-planning with regard to ranches. Few of the applicants have the desire or the capital to make any serious attempt to ranch' (KDAR 1960:20).

Whatever the main reason for *purchasing* an individual ranch, one needed to be wealthy person to *develop* it. It was necessary to have an area with good grazing, trees and water, to fence it properly and put something back into the soil. It was estimated that at least £10,000 (or the sale of approximately 1,000 cattle) per ranch would be required to make anything of the ranches near Kajiado. Nonetheless, by 1960, grazing schemes, individual ranchers and non incorporated Maasai were suffering alike from the severe drought. Although the Reverend Daudi Mokinyo's ranch was praised for loosing only 5 cattle out of 200 during the drought of 1960 and for selling some 12 gallons of milk a day at Sh. 2/80 a gallon, he had severe difficulties in meeting his loan repayments at a rent of 6.5 per cent per annum. Fallon writes:

> 'I am unable to see how the settlers can meet high interest rate - short term loan requirements. (...) There appears to be little likelihood of success for the ranching program unless long term loans with low interest rates (2 to 3 per cent per annum) can be made available for necessary ranch and farm developments and livestock purchases (...) Individual ownership or control should be encouraged. It must be remembered, however, that individual ownership alone can not guarantee proper land use' (Fallon 1962:28).

The Annual Report 1960 reveals how Reverend Mokinyo was able to meet the terms of his loan. 'The Rev Daudi Mokinyo has not made much progress but he is making a living though he tends to depend on charcoal burning and sale of zebra skins to make ends meet. The former is to be discouraged if he does not replace each tree cut down. He also wishes to open a butchery in Kajiado and a shop on his ranch' (KDAR 1960:21). These difficulties did not stop other, mostly young and educated, Kaputiei Maasai from obtaining individual ranches.

Initially it was the Kaputiei Development Committee who proposed registering the Kaputiei area under one title deed in possession of the Kaputiei section. This idea was not accepted by the authorities as it would not stimulate commercial changes. It seems as if the Kaputiei region in general and the high-potential Ngong area in particular were thought to be suitable for commercial ranching purposes needing the prerequisite of individual or cooperative forms of land tenure. Advice given by various researchers such as Jacobs, Heady and Fallon in the early 1960s, however, pointed to the risk of subdivision leading to unviable small units. But in the high-potential Ngong area the phenomenon of individual landownership expanded rapidly. A programme of land consolidation, enabling the division of the area into individual ranches, was set up in the Ngong area in 1961. This development, though opposed by the elders, was favoured by the young and educated Kaputiei and backed by the Kajiado County Council.

Several authors (Hedlund 1971 and 1979, Muranja 1973/74, Peron 1984) have mentioned a number of reasons for the acceptance and growth of individual landownership in the Kaputiei region: the formation of a buffer of individual ranches at the fringes of the Maasai area to stop the illegal intrusion; the strong position of young influential Kaputiei politicians who created a political clientele by handing out title deeds to supporters and who tried to reduce the social and economic dominance exerted in daily life by the elders; the wish to settle down and start commercial enterprises as shown by neighbouring groups; the group of Kikuyu-Maasai, who had been accommodating their landless brothers from Kikuyu land, also strongly supported the land consolidation programme.

By 1963 approximately 24 individual ranches existed, located in all parts of the District, like Sultan Hamud, Loitokitok, Kajiado and Oltepesi. Some were selling cattle to obtain money for a borehole, for a water pump or to pay for a dam and wireless sets made their appearance.

5.5.4 Other Land Use Developments in Kajiado District

A. Infiltration and Cultivation by Other African Groups

Although the semi-arid pastures were, in the eyes of the Administration, heavily overstocked which resulted in severe erosion of certain places, the most serious situation existed in the semi-arid areas used for cultivation. In the two Kikuyu settlements of Kor Kor and Oltesika on Namanga mountain, the ecological balance was threatened due to the cutting down of trees on too steep slopes or too near to the riverbed.

The effect of cultivation practised in a marginal area had been shown before in Ndeiya, Kiambu District. As a result of the transfer of the Kikuyu back to the Central Reserve and with many of them settling in Ndeiya, the agricultural situation had deteriorated rapidly. The soil became hopelessly ruined, despite a total ban on cultivation. Although Ndeiya was meant to be for the poor and

landless, well-off Kikuyu were able to obtain a considerable portion of land in this region and this further exacerbated pressure on the land. Apparently, according to a statement made by the District Commissioner of Kiambu District, despite the fact that this situation was, in essence, a settler-created problem, the difficulty should be solved by another African group. '(...) there are many who find it hard to credit that there are insuperable difficulties in the adjustment of a treaty made many years ago with a tribe occupying an enormous area of country who show little signs of advancement whilst adjoining them is a progressive and virile tribe confined within an area of 380 square miles which cannot possibly support it' (Postwar Development Plan, Kiambu District, 12 January, 1945 PC/CP 8/9/4 cf Bullock 1978:71). Definitely, this is a clear reference to the land belonging to the Maasai. The Kikuyu did not bother about the treaty or agreements made with the Maasai and again started trespassing in the Kibiko region, building huts and cultivating. In 1946 this was stopped and they were expelled from the region.

In the following years the influx of aliens into Kajiado District remained a point of concern. After checking approximately one quarter of the infiltrated Ngong area 51 Kikuyu were counted who had settled in the area within a period of two years. In an effort to control the ever increasing infiltration of aliens into the district a special Committee of the Kajiado Local Native Council was installed in August 1949 to examine individual applications and to check on the credentials of recent arrivals. The policy was that each prospective immigrant had to be approved by a Section Committee and by the Local Native Council before he could be permitted to reside in the District.

The population census of 1948 gave a total of 28,234 inhabitants in Kajiado District: 25,748 Maasai and 2,486 non-Maasai. The majority of these 'aliens', however, were employed by the Magadi Soda Company, KMQ, the Railway Company and the Government.

In addition to Namanga and Kibiko other high potential areas of Kajiado District, especially the Chyulu and Loitokitok Hills, were threatened by the cutting of trees on too steep slopes. Initially the Maasai disagreed with implementing strict rules but by 1949, another year with semi-drought conditions, some strict measures were introduced. A start was made with soil conservation measures -the terracing of steep slopes, the prohibition of cultivation near river beds- and an order issued prohibiting the cutting of trees in forest areas near Chyulu, Namanga, Ngong and Loitokitok. A survey team of the African Land Utilization and Settlement Board demarcated several forested areas in Kajiado District.

To provide a legislative framework, the newly established Maasai Council, which had replaced the former Joint Local Native Councils in 1951, decided to adopt extremely comprehensive recommendations, produced by a special committee of the Council, governing the problem of cultivation and land tenure in the Maasai districts. In 1951 the Maasai Council passed these

recommendations as the Land Usage By-Laws empowering section councils to control the spread of cultivation in their areas. 'It has been obvious for some years that legislation of this sort was urgently required in Masailand in order to protect the interests of the cattle owners from the gradual encroachment of the relatively few agriculturalists. Section Councils may now lay down definite boundaries between cultivation and grazing and may prohibit the extension of existing shambas or the establishment of new ones' (KDAR 1951:12).

This and the Local Native Council Immigration Committee resulted in the reduction of agricultural activity in Kajiado District, especially near Loitokitok and Namanga, by 1952. At Rombo the number of *shambas* dwindled from 15 to 3 and at Kor Kor only 5 were left. The major driving force behind the setback in farming was the result of the Emergency measures. The total area under cultivation around Ngong was reduced by at least 10 per cent due to the eviction of 14 Kikuyu families who had been connected with the Mau Mau. Kikuyu who had settled in Tanganyika were also transferred back to Central Province. 'There has been a considerable movement northwards through the district of Kikuyu either expelled from Tanganyika in which case they have travelled escorted, or intimidated into leaving. The most spectacular exodus was in January when over a thousand Forest squatters from Rongai arrived in Loitokitok one day (...). A few managed to remain hidden in the forest on the inter-territorial border and these were eventually unearthed and rounded up in November' (KDAR 1953:2).

During the Emergency, the only possible way to enter Kajiado District was by acceptance of the Maasai Committee or by the acquisition of a special pass for residence in the district issued by the local authorities. Nonetheless, in a letter from the District Officer Ngong addressed to the Provincial Commissioner Southern Province, 6th June 1954, it was concluded that 'The area is fast becoming "defacto" a Kikuyu reserve. The Masai must consider who are allowed to bring aliens into the area. The term "accepted by the Masai" is far too loosely interpreted' (KNA PC/Ngong/1/1/16 26/06/54). That year a total of 416 Kikuyu were counted in Ngong Town and its surrounding area alone. Only 82 Kikuyu had been born or were resident since 1930 in the area.

Having small *shambas* of 1.5 acres each, the total area under cultivation would have been approximately 180 acres. This source of agricultural produce rather than a possible sympathy of the Maasai towards the Mau Mau movement will have contributed to the willingness of the Maasai to allow the Kikuyu to remain in the district. Except for in the Ngong area with its mixed Kikuyu/Maasai population, the Mau Mau did not flourish in Kajiado District. According to the District Annual Report of 1954 Maasai apathy to the activities of the Mau Mau movement changed abruptly, in a negative way, when a Mau Mau gang was stopped near Mile 46, one of its members being a Maasai/Kikuyu from Matapato. 'At a large meeting of Chiefs and Elders, a demand was made for the instant removal of the agricultural settlements on the

top of the forest covered Namanga Mountain. (...) By the end of June the old established villages of Oltesika and Kor Kor had been razed to the ground, the crops destroyed and the inhabitants moved' (KDAR 1954:3). The Kikuyu and half Kikuyu cultivators were removed to Narok. It should be noted, however, that the resettlement of Kikuyu from Oltesika (towards an area to be placed under irrigation north of Namanga) was an old plan anyway. Moreover, Kor Kor had almost ceased to be a place for cultivation. In 1956 a limited number of Maasai received permission to start cultivating again, but the scheme was closed down the following year.

For the Loitokitok area more successful developments were reported in the 1950s with people starting irrigated cultivation. River and local spring water was diverted to irrigated plots by making use of trenches.

At Kimana and Tikondo, just north of Loitokitok, a few mostly stockless Maasai had taken to arable farming. Use was made of the Noolturesh river and the Tikondo spring to irrigate the plots. Information about irrigation was provided by those from Taveta who had been working on an irrigation project initiated during the 1940s with the aim of feeding Italian prisoners of war (see Kimani 1988:Appendix IIIB). Other irrigation activities were reported to have started in the 1950s at Sinnet, north of Kimana, and Rombo (Campi ya Mwuruba). Two Maasai, of mixed Chagga origin having had agricultural experience from Indians in raising Asian vegetables, were said to have been the main promotors of irrigated cultivation. The very good rains of 1957 brought in more Chagga labourers into the Loitokitok area expanding the area under cultivation.

During 1954 a total of 83 Kikuyu, some infiltrators from Tanganyika and others accepted over the years by the Maasai were detained under delegated Detention Orders. In spite of the removal of part of the Kikuyu population from Kajiado District the total number of non-Maasai in the Ngong area alone had risen to 3,253 in 1954 as compared to 2,486 non-Maasai for the whole of the district by 1948. In order to enlarge control over this group of people the area was declared a Passbook Area in 1955. Moreover, village units were established under the close supervision of a District Officer in order to prevent Mau Mau gangs from neighbouring Kiambu district seeking sanctuary in the Ngong area. That year 90 more Maasai/Kikuyu were arrested and detained. By 1956 conditions had returned to normal. As for the Kikuyu villages, however, the Government intended them to be a permanent feature of the post-Emergency set-up. A start was made with laying out planned holdings and allocating 67 one acre plots to non-Maasai farmers.

In 1957 it was recorded that the Kikuyu continued to come into Kajiado District without legal documents and despite the imposition of heavy fines. When, by 1959, the Emergency was ended, administrative action had to be undertaken to control the huge influx of Kikuyu into the Ngong area in particular.

In 1960 1,200 acres were surveyed and distributed to twenty selected Maasai farmers. Pressure had arisen among the Kaputiei to start land consolidation along the line of individual ownership (see above). This development was warmly welcomed by the Kikuyu, who 'had learned through experience that once land is consolidated and land titles issued it was possible to carry out land transactions through the instituted Land Boards' (Muranja 1973/74:58). Supported by a £3,000 grant from ALDEV land consolidation began in Ngong in August 1961. In the same year Ngong was gazetted under the Land Registration (Special Areas) Ordinance. This measure was taken to prevent people from outside the area coming to claim land. The 1962 population census of Kajiado District showed 53,219 Maasai and 15,192 non-Maasai of which 6,233 were Kikuyu, most of them living in the Ngong region.

In the Nguruman area a large number of alien squatters who had destroyed several hundred large trees were removed and the area was declared closed for cultivation by 1960. In fact, throughout the 1950s, other protected areas like the forested areas of Ngong, Namanga, Loitokitok and Chyulu also suffered from the practice of charcoal burning and forest clearing.

B. Wildlife and the Creation of Game Reserves and Nairobi National Park

Besides the increasing area of land under cultivation, another form of land use gained importance at the cost of Maasai freedom of movement.

The Southern Game Reserve, declared shortly after the establishment of British Rule and being the earliest effort at conservation in Maasailand, was mainly intended to protect wildlife from hunting.[24] The Maasai were not restricted in their movements in any direction. This freedom was threatened as early as 1933 when the Game Warden of Kenya had recommended that the Nairobi Commonage be made a National Park. The Kenya Land Commission approved the idea although the realization of this plan was postponed due to the outbreak of the Second World War and the establishment of a military camp in the Commonage area. 'With the rising publicity regarding East African wildlife and the strong conservation lobby, particularly after the Second World War, more protection was sought for the rights of game in Maasai areas. The solution was to create game reserves and national parks, and the government was empowered to alienate resources to that end by the National Parks Ordinance of 1945' (Kituyi 1990:46).

By December 1946 Nairobi National Park (117 km^2) was officially proclaimed and the Maasai totally lost access to it. In 1947 the 3,260 km^2 Amboseli National Reserve was created, the boundaries being arbitrary and not prohibiting Maasai movement. In later years Ngong National Reserve (1949/512 km^2) was gazetted, while West Chyulu (1961/373 km^2) and

[24] It has been reported, however, that settlers and visitors openly shot game on the Athi Kapiti Plains in an area located south west of Nairobi called the Nairobi Commonage (see Ecosystems 1982:65).

Kitengela (1965/530 km^2) became Game Conservation Areas where hunting was prohibited.[25] West Tsavo, though located outside Kajiado District and providing important traditional dry season water sources and pastures, had already been declared a National Park in 1948.

The Southern Game Reserve, enclosing a large part of Kajiado District, was degazetted in July 1952 and turned into a Controlled Area in which shooting was allowed by special permit. The reason behind this move was the abundant amount of wildlife in the area, which was damaging grazing and cultivation. In addition and as a result of hunting parties paying fees, it provided some resources for the African District Council.

The Loitokitok Maasai saw an increasing number of visitors spending their once in a lifetime safari at the Amboseli area, one of the sections' best permanent water points and dry season grazing pastures. They feared the loss of this area. From a very early stage hopes were expressed by the Amboseli National Reserve administrators that the Maasai could be moved away from the Ol Tukai swamps of the Amboseli area. To this end it was realized that an alternative water source had to be provided by the authorities.[26] In 1958 a first agreement was reached whereby the Maasai agreed to restrict human beings and cattle numbers from 20,000 to 7,000 head of cattle only. To compensate the Maasai alternative water supplies consisting of four boreholes and two cattle troughs were provided away from the principal game areas. By 1959 Governor Baring had to assure the worried Maasai that the land at Ol Tukai was theirs and would not be taken from them (see KDAR 1959:4).

Besides the financial benefit resulting from controlled hunting, it was thought that the shooting of game would take away one of the Maasai's main arguments against the reduction of their herds. The Maasai had lived with game and tolerated it for many years. Nevertheless, Maasai livestock must compete with wildlife for range resources, predators attacked their herds and flocks and diseases were spread by game preventing good grazing areas being used or directly causing the death of many animals. For example, cattle contract the malignant catarrh virus when they graze pastures on which wildebeests have calved, it being the foetal remains that transmit the virus. In 1957 official losses of cattle due to game was placed at some 500. The Ngong and Loitokitok cultivated areas also suffered from damage done by game.

In 1961 the administration of Amboseli was handed over to the Kajiado County Council. It was hoped that local responsibility would create greater sympathy for the reserve. Soon afterwards the Kajiado Council negotiated with

[25] Ngong National Reserve no longer exists. Kitengela Game Conservation Area was never declared officially although it had appeared on several maps since the mid-1960s. Both areas overlap each other at their northern fringes (see Ecosystems 1982:67; UNDP/FAO 1978:106).

[26] In 1958 25 shallow boreholes were drilled outside Ol Tukai swamp and two small dams built resulting in a general rise in the swamp water level (see Ecosystems 1982:60).

the Maasai of Amboseli to set aside a 78 km^2 stock-free area which would protect the council's wildlife assets (see Western 1982a:304). Amboseli National Reserve was renamed Masai Amboseli Game Reserve.

5.6 Summary and Conclusion

In this chapter we have considered the history of land use and land policy in Kenya and of Kajiado District in particular since the end of the 19th century until the time of Kenya's Independence in 1963.

We started our journey in the 1880s with the arrival of the British and German colonizers scrambling for the interior of this, until then unknown, part of Africa. The Europeans found an African population facing a very harsh time; rinderpest, smallpox and inter as well as intra-tribal wars had devastated the economy of the people. The Maasai pastoralists in particular had suffered tremendously and lost an estimated 90 per cent of all their livestock and half of their human population.

The Europeans were thus able to take control over the area relatively easily. In 1895 the group of Maasai was split into two halves after the creation of the East Africa Protectorate and Tanganyika ruled by the British and Germans, respectively. The former were not so much interested in this newly created territory itself but more for its strategic position vis-à-vis Egypt and Uganda.

For this purpose the British Government decided to construct the "Uganda Railway" connecting the port of Mombasa at the Indian Ocean with Lake Victoria. To recover part of the high cost involved and to further develop the area it was tried to interest settlers in coming to the new Protectorate by offering large grants of land up to 1,000 acres per lot initially on 99 year leases at extremely low prices. Settlers, free to look for attractive holdings on their own, violated African land rights in every respect. As non-Europeans were prevented from buying land the high-potential areas north of Nairobi became known as the "White Highlands".

By 1903 leases of pastoral land could also be obtained. Some large concessions of pasture land in the Naivasha area, north of Nairobi, in the heart of Maasailand were obtained by British settlers. It was decided that the Maasai should be "given" an area of their own. In fact, two reserves were set aside for the Maasai outside the Rift Valley: the Laikipia plateau in the north and another reserve south of Ngong and the railway. In fact, the Maasai were simply deprived of their best pastures near Naivasha as both reserves were traditional Maasai pastures. A treaty was signed in 1904 (stated to endure "as long as the Maasai as a race would exist") whereby some sections of the Maasai agreed to move to the northern reserve, while others remained in the south. The new Maasai reserves (totalling some 24,000 km^2) comprised only some 35-40 per cent of their former territory.

The Maasai, once feared by the British, had become their allies in the

following years to the benefit of both groups. However, the Maasai started to feel rather uncomfortable about this pact when the northern Maasai Reserve turned out to be inadequate and other promises made by the British did not materialize. Renewed calls by settlers to take away more pasture land from the Maasai created suspicion. In April 1911 the Second Maasai Treaty was signed which required the removal of the Maasai from the northern reserve and a regrouping in an extended southern reserve. This exercise took two years to complete. After minor modifications made in the following years the Maasai Reserve District was gazetted in 1918 and comprised of almost 38,000 km^2.

In 1920 the Kenya Colony and Protectorate was proclaimed. More settlers now moved in. The British sent a huge number of commissions to analyze the situation of the new Colony regarding land, labour, economic performance and potential. One of the main results was the creation of African Reserves, which should prevent land grabbing by settlers in the African occupied areas. In 1924 the Maasai Reserve was first renamed Maasai Province and in 1933 renamed yet again as Maasai Extra provincial District following the recommendations of the Kenya (Carter) Land Commission which reviewed all land issues of the Kenya Colony in 1932.

In the Maasai area the One Mile Zone south of the Uganda Railway, the Chyulu Triangle and the 1/4 Mile Zone flanking the Magadi railway branch on both sides, together totalling an area of some 720 km^2, were in dispute. Four major exchanges of land were also discussed. In addition, the Maasai requested the removal of the artificial boundary dividing the Kenya and Tanganyika Maasai and the return of the Laikipia area. These last matters, however, were not considered at all by the Carter Commission. Concerning the other issues the commission advised to rent the One Mile Zone and Chyulu Triangle to the Maasai until equivalent watering facilities found in these areas were provided elsewhere. Only if good agricultural land within the Maasai territory were handed over to non-Maasai agriculturalists could the Chyulu Triangle be added to the Maasai Reserve. The 1/4 Mile Zone was included unconditionally. The commission reacted positively to these exchanges.

Though the African groups may have profited somehow from these arrangements it was noted by the late 1930s that the settlers who comprised less than 0.2 per cent of the total estimated population, owned 5.5 per cent of the total and 18 per cent of Kenya's best agricultural land area. This was the real cause for the economic crisis in the African Reserves. Forced migration from European-owned farms back to these reserves added to the natural growth in these small territories. The authorities, however, mainly pointed out the legal and the afore mentioned poor ecological condition of the African Reserves. Programmes were started for dealing with soil conservation, and water availability improvement. Real economic improvements did not occur. Ultimately, some groups of the African population took up armed struggle against the Colonial Government.

More visits were made by British Commissions to deal with the situation.

Most influential was the "Swynnerton Plan" of 1954 which was intended to intensify the development of African agriculture and included a major programme of land consolidation in the high-potential regions.

Marginal measures for improving the semi-arid pastoral areas were also introduced. Marketing and grazing management in order to achieve a destocking of these areas was the main concern. The Maasai, who had joined the Kamba of Kitui and Machakos District in a new Southern Province in 1953, had already been co-operating with the Colonial Administration in accepting more comprehensive grazing control measures for some time. By 1949 the Konza grazing experiment had started. Sectional Grazing Schemes followed in the mid and late-1950s in the Kisonko, Matapato and Loodokilani areas.

Individual ranches also started to appear in Kajiado District during this time. Interest increased rapidly as large tracts of land of up to 2,000 acres could be obtained. Severe difficulties in developing these ranches existed as large amounts of capital were needed to invest in water development and the like. High interest rates placed a heavy burden on those who attempted. Most ranchers' motives for acquiring an individual ranch, however, were questioned by the authorities. By 1963 some 24 individual ranches existed in Kajiado District.

Besides keeping livestock, cultivation and herds of wildlife also claimed access to land in the Maasai regions. Cultivation concentrated mainly in the high-potential zones and was practised predominantly by non-Maasai. During this century the intension of these agricultural practices was foremost correlated to the infiltration by non-Maasai into the better-watered areas of Kajiado District and the need for the Maasai to engage in this activity (e.g. after a major drought). Once in a while the infiltrators were chased away from the district, as happened specifically during the time of the Emergency after the eviction of Kikuyu thought to be the driving force behind the Mau Mau movement. Special land Usage By-Laws empowered section councils to control the spread of cultivation in their localities. In earlier decades, however, the Government's attitude towards non-Maasai entering the district had been ambiguous. In fact, the Maasai too profited from the presence of non-Maasai labour in cultivating minor plots under leasehold arrangements. Once non-Maasai concentrations became too numerous and started to interfere with access to dry season grazing areas or if they destroyed the Maasai forests these cultivators were removed.

Access to land for the Maasai was also lost due to the proclamation of Nairobi National Park. Otherwise gazetted game reserves did not interfere with Maasai livestock movements so much. Only the Loitokitok Maasai saw an increasing number of tourists coming to the Amboseli area which resulted in the excavation of the Ol Tukai swamps. In the next chapter, we will concentrate on economic developments as they occurred in Kajiado District from the arrival of the British until the time of Independence.

CHAPTER 6

PRE-INDEPENDENCE HISTORY OF THE ECONOMY AND OF DEVELOPMENT POLICY IN KAJIADO DISTRICT

6.1 The Maasai Economy and Early Colonial Economic Development Policy in Kenyan Maasailand: 1895 - 1919

In section 5.2 we described how the economy of the Maasai collapsed at the end of the 19th century due to drought and diseases. The Maasai subsistence economy was turned into a struggle for survival. Among the strategies used were seeking refuge among neighbouring African Groups or British (Fort Smith), hunting and cultivation, raiding of cattle even between different Maasai *il-oshon* or, in co-operation with the Imperial British East Africa Company, during punitive expeditions against other African groups. By the first decade of the 20th century the Maasai had more or less overcome this dark period in their history and once again were able to rely on nomadic pastoralism as the main stay of their economy.

Commissioner Eliot had welcomed the change from pastoralism to sedentary agriculture as practised by the Kaputiei and Kisonko Maasai in the fertile areas of Ngong and Loitokitok, respectively.

> 'The policy of the Government in dealing with the native tribes in the East African Protectorate has been to develop their agricultural instincts and industry and to discourage tendencies towards pastoralism. This policy has been pursued with success among the Kavirondo, Kikuyu and other tribes who, when encountered by the administration, were under the necessity of engaging in agriculture and has been introduced with fair results into the system of such pastoral tribes as the Nandi and Lumbwa [Kipsigis]' (Sandford 1919:55).

However, according to Maasai ideals, cultivation is a sign of 'degeneration', usually a result of the loss of cattle. 'The Masai near Nairobi were either half Kikuyu or had Kikuyu wives; it was probably their wives responsible for the cultivation. With the adoption of a Masai Reserves policy, any trend towards agriculture was reversed' (Sorrenson 1968:277).[1] And because the Maasai herds increased rapidly during the first decade of the 20th century, the impetus to continue farming dwindled.

In fact, the major concern of the Colonial Administration was to provide all

[1] The late Jomo Kenyatta, the first president of independent Kenya and a Kikuyu himself, reported that the role of intermarriage between Maasai and Kikuyu people was an important form of peace-making. An aunt of Kenyatta was married to Sendeu the betrayed brother of Olonana (see Kenyatta 1965:202)

possible means of stimulating the European settler economy. According to Zwanenberg and King (1975:95) approximately 20 percent had gone in for herding and dairy farming. 'Pedigree bulls were imported from England and crossed with African cattle. The crossing of European and African cattle resulted in a breed that was hardier and more resistant to disease, but that was by no means immune' (Spencer 1983:114). In spite of the free treatment of infected animals the European owners lost huge numbers. This was believed to be the result of the contact between their herds and those of surrounding pastoralists. Several measures were taken to prevent the mixing of African cattle with those of the European settlers; quarantine rules were issued under the Cattle Diseases Ordinance of 1902, an ambitious programme of fencing, designed to create a barrier between European farms and the reserves was started in 1907 and a quarantine board, composed of settlers and members of the administrative staff, was established in 1909 to advise the Veterinary Service.

Until World War I the Veterinary Department showed little activity in the African areas.[2] The protection of the settlers' livestock industry not only prohibited the introduction among the Maasai of European bulls for breeding but also denied them their traditional form of selective breeding.[3] 'Boran bulls had always been selected with great care to produce animals adapted to dry conditions. The supply of such bulls came from Samburu and Somalia; with their fixed Reserve boundaries and the European-settled lands forming a block to the north, the Maasai were completely cut off from new Boran stock' (Zwanenberg & King 1975:94).

In fact, the Colonial "development policy" among African pastoralists was mainly directed at the "pacification" of the population and to maintaining law and order. The British were especially concerned about the raiding propensities of the Maasai *ilmurran* and ceased to use them in their punitive expeditions in order not to strengthen the Maasai penchant for engaging in raids. Due to their raiding activities, military-like organization and the difficulty in controlling the Maasai warriors they were considered to be a significant element in the blocking of colonial change. Mr. R.W. Hemsted, Officer-in-Charge Maasai Reserve since 1912, attempted to break the organization and power of the *ilmurran*. The Stock Theft Ordinance of 1913 gave him the instrument for levying heavy fines (up to ten times the value of the livestock stolen) on a

[2] Until 1912 efforts by the settlers to make a profit out of temperate farming as export commodities -wheat, wool, meat and dairy products- had failed, despite all the support obtained from the Administration. By 1914, it was clear that tropical plantation agriculture -coffee, sisal, cotton- was showing the most promising returns. By the beginning of the 1920s this started to show fruit.

[3] Ironically, the settlers were in need of African cattle to start their farms. Animals, confiscated in punitive expeditions during the period of 'pacification', were sold at private auctions to settlers.

family, a section or even the whole tribe. 'In 1913, for example, a moran raid against the Lumbwa, the Kavirondo, and Africans in German East Africa resulted in a fine of 500 head of cattle on 4 villages. The next year a communal fine of 250 head of cattle was imposed for a further raid into German East Africa' (Tignor 1976:75).

The fines were used to create a special Maasai Fund (the Maasai Suspense Account) by which small projects, initiated by the British and not the Maasai, could be financed. In spite of these fines and other measures like the abandonment of certain ceremonies and the shortening of the period of warriorhood, the Maasai *ilmurran'* opposition was not broken. In contrast with other African groups they only sent a few recruits to assist the British in their fight against the Germans in World War I. The major contribution of the Maasai was by the provision to the Army of 'an estimated 30,000 cattle and 300,000 sheep, which although supposed to have been given voluntarily were no doubt provided under considerable pressure' (Tignor 1976:78/9).[4]

Despite the generosity of the Maasai, Belfield wanted to halt "the pernicious pastoral proclivities" of the pastoral tribes and to encourage peasant agriculture as a first step towards "civilized" forms of land tenure and usage. Apart from preventing the extension of reserves he did nothing. The Magadi Soda Company, however, obtained full assistance from the Administration. Although the area surrounding Lake Magadi was one of the worst parts in the Reserve, the impact of this concession was noticed in other parts of Kenya Maasailand. In 1913, the Maasai came to know of the granting of permission to the Magadi Soda Company to extract water from the Ngong Hills and other sources of water within the area along the Magadi railway. Although the company, on order of the Administration, made some long troughs as compensation, access for the Maasai to some of the permanent springs was lost. The company constructed a pipeline from Ngong Hills to Kajiado Town then, following the railway, towards the lake. By 1915 the exportation of raw soda started, followed in 1919 by the production of soda ash.

The loss of dry season grazing areas was felt in 1915 and 1916 when, due to a lack of rains, the Maasai had to be allowed to use both Crown and private land. Early 1915 'a determined attempt was made to return to Laikipia in defiance of Government orders. Indian troops were sent, but Legalishu [Ole Gilisho] and other elders persuaded the wanderers to return without the use of force' (Leys 1924, repr. 1973:131).

Towards the end of World War I, Hemsted formulated some reform programmes. These were part of the 1917-1919 First Development Plan for the African Reserves, which had the objective of raising the productiveness of these areas.

[4] Spencer even states that 'Hemsted told the Economic Commission that the Maasai had parted with around one hundred thousand cattle during the war years' (Spencer 1983:137).

> 'Hemsted estimated that, as owners of not less than 600,000 cattle, 2 million sheep, and 10,000 donkeys, valued at approximately Rs 150 million, the Maasai were among the richest people in the world. Their beasts enjoyed a minimum natural increase of 15 percent per annum, but, as the reserve was fully stocked, they were unable to benefit from this productivity' (Spencer 1983:120).

In order to avoid waste the Maasai Reserve should be turned into a big ranch disposing of at least 50,000 head of cattle per year. Because it was recognized that the Maasai had no incentive to sell their animals for cash, as their wants were minimal, Hemsted proposed to improve taxation by the introduction of a poll tax of Rs. 30 per person per annum.[5] Half of the revenue (approximately £50,000) should be used for developments projects in the Maasai Reserve.

> 'Hemsted was trying to balance the government's desire for additional revenue, and the Maasai's ability to pay, with his desire that the Maasai should benefit from European rule. In the past, he felt, the administration had done very little for them: "Beyond safeguarding the lives and property of the Natives, it cannot be said that the State does much to bestow the ordinary blessings of civilisation and responsible Government. Although the Reserve comprises 14,000 square miles of territory, no Doctor, Veterinary Officer, or educational facilities exist, and beyond some spasmodic and not very successful efforts to conserve water in earth work dams, we do nothing to change the country for the better, to improve the stock or to prevent disease. It has in fact been said that disease is welcome as it serves to impede the increase of stock, but surely our policy should be to make use of the surplus stock instead of allowing it to die"'(Spencer 1983:120/1).

Belfields' successor, Mr. E. Northey, was more convinced of the need to assist the pastoral Maasai and accepted Hemsted's proposals. But the impetus to do so was mainly because the Maasai had started raids into Tanganyika to compensate cattle losses due to disease and drought of 1918. Northey feared for the security and the cattle of the settlers located close to the Maasai borders. By improving the Maasai Reserve, the Maasai could be concentrated into smaller areas, enabling easier control. Hemsted's economic initiatives centred mainly around the livestock sector. In Narok a creamery was set up for the production of ghee; a special selected herd of 2,000 animals was brought together trying to improve the local breeds; a veterinary officer and veterinary bacteriologist were appointed for the Reserve; some minor irrigation work was undertaken; trading centres established, etc. Hemsted also wanted to open a

[5] In 1901 a hut tax had been introduced but it was difficult to implement in the Maasai setting.

Government school at Narok, and he pressured elders to send children to school. The school at Narok was opened in 1919.

The collection of tax, however, remained a major problem and the market for livestock, be it for meat or live animals, was too small. To absorb the remainder it was necessary to build a canning factory. In 1919 Northey called for tenders. He offered a location near Sultan Hamud, which would be able to obtain animals from the Maasai and Kamba areas. No firms were, however, interested as the Government demanded the right to fix a minimum price, while it refused to guarantee a minimum supply of animals to the factory. As a result of widespread diseases and insufficient staff the Government was reluctant to sign an agreement that could result in forced cattle sales.

To check the spread of diseases, quarantine regulations had been imposed as early as 1917, which prohibited the legal movement of cattle from the Maasai Reserve to settled areas. Nonetheless, in the immediate postwar period demand from European farmers for African cattle was high. Approximately 1,500 new settlers had arrived, most of them ex-soldiers. It was estimated that, in the coming years, some 500,000 cattle would be needed while only 30,000 a year could be provided due to an inadequate number of quarantine stations between the African Reserves and the White Highlands. The "Quarantine Policy" failed and by 1919 white-owned farms were facing more frequent outbreaks of diseases among their cattle. Combating diseases within the African Reserves would be the best solution. However, the Veterinary Staff in the Colony consisted of only 16 people in 1919 and it was not able to do so.

The majority of the Maasai reacted to the new developments mainly by ignoring them. Native tribunals, local native councils and local chiefs had been introduced but without much success. Some open resistance was shown towards the evangelical and educational efforts of the missionaries. At the end of the 19th century Protestants and Catholics had entered the interior of the Protectorate in the wake of the IBEAC. In 1901 the Africa Inland Mission (AIM) established its main headquarters at Kijabe, located approximately 40 km south east of Nairobi. In dividing their spheres of influence the AIM "obtained" the Maasai area. John Stauffacher was appointed by the AIM to work with the Maasai in 1903. By preaching the gospel combined with a little education his major aim was to make as many converts as possible. These seeds were sown, however, in semi-arid soil. Presumably the lack of support, or rather missionary assistance provided to the Colonial Government during the time of the Maasai moves, will also have contributed to this less than receptive attitude.[6]

[6] No missionary had opposed the removal of the Maasai from their traditional grazing grounds. Moreover, during the time of the Court Case to fight the Second Treaty the African Inland Mission, an American evangelical society which had been given a monopoly over the Maasai area, prohibited the attendance of a literate Maasai pupil to be a witness for the Maasai case (see Sorrenson 1968:266).

6.2 Economic Activities and Development Policy in Kajiado District: 1920 - 1945

6.2.1 Introduction

Economic problems in Kenya at the beginning of the 1920s were the result of a collapse of export-commodity prices. 'Kenya coffee, which had been fetching about £150 a ton in London in the early months of 1920, was worth only about £60 a year later. Sisal fell from a peak of £96 to £12. 10*s*. a ton. The worst disaster of all, however, was suffered by those who were growing, or had been preparing to grow, flax. (...) Unlike those of coffee and sisal, the price of flax never again recovered sufficiently to make export from Kenya practicable' (Wrigley 1965:234/5).

The situation was worsened by a monetary issue. The value of the East African rupee currency increased from 1s. 4d. to 2s. 10d. at the beginning of the 1920s. Hence goods sold by Kenyan producers in London, priced in shillings, were making less than half the number of rupees than before. The debts owed by almost all farmers to Nairobi financiers, however, remained to be paid back in rupees. By March 1920 the rupee was fixed at 2s., followed shortly afterwards by a change to the sterling currency. Settlers and the Government alike were facing a financial crisis. The growing of maize, the revival of coffee and sisal prices as well as the imposition of duties to protect the local market for wheat and dairy products -mainly for the European urban population-, helped the settlers to overcome these difficult years, though at high cost. It will be clear that it was primarily political forces rather than economic ones which were responsible for the protection and support given to the European producers.

The latter half of the 1920s saw a booming Kenyan economy which also enabled the Colonial Government, supported by British loans, to increase expenditure on public works. Mombasa harbour and the road and railway network were improved. Things went smoothly for the settlers. 'The average output of coffee in the years 1920-2 was 3,500 tons, and that of sisal 5,300 tons. In 1927-9 the figures were 7,900 and 15,200 tons' (Wrigley 1965:242). At the end of the 1920s these two products were responsible for more than half of the total value of Kenya's domestic exports, other important items being maize (12.5 per cent), hides and skins (11 per cent), and sodium carbonate from Magadi, still the only significant mineral product (8.5 per cent). Despite the declaration of the dual policy, coffee and sisal were grown by the settler community exclusively as Africans were forbidden from growing them.

The beginning of the 1930s heralded a decline in the settlers fortune due to a combination of drought and a collapse in the world commodity markets. Most of the small-scale farmers incurred heavy debts to the banks. 'Twenty percent or about four hundred of these farmers gave up altogether and abandoned their farms. But for aid amounting to nearly £1,000,000 which was

pumped into white agriculture through the agencies of the colonial government, it is quite probable that white settlement would not have survived' (Zwanenberg & King 1975.39).

The African population, especially those employed as labourers on European farms, suffered similarly if not more. Wages were reduced from Sh. 14/- to Sh. 8/- a month. From 1935 onwards the importance of maize on the European farms declined and that of dairy farming, the mining of gold and the growing of two new crops, pyrethrum and tea, increased. Not until the late 1930s, when trying to expand the volume of Kenya's export, were bans on the growing of cash crops by Africans lifted. The above gives a picture of the Kenyan economy of those days. Let us now turn to the situation in Kajiado District.

6.2.2 Economic Activities and Development Efforts in Kajiado District; 1920-45

In the early 1920s almost every Pastoral Reserve was placed under quarantine. For the European settlers this had a negative as well as a positive effect.

Firstly, their need for African cattle for breeding, slaughter or draught purposes was hard to meet. To overcome this deficiency it was decided to build nine more quarantine stations to speed the flow of African cattle to European ranchers and, by the end of 1921, demand for African cattle by European farmers had been chiefly fulfilled and dropped considerably.

Secondly, the quarantine restrictions were a barrier for Africans willing to sell their animals on the domestic market, resulting in a high price for slaughter cattle, which was at the advantage of the European producers. 'Africans were even restricted from buying or selling cattle at official auctions in order to stop the price dropping too far and to protect European sales' (Zwanenberg & King 1975:97).

This is just one example of the consequences of the Colonial Government's policy which favoured the European settlers at the cost of the African population. The former were thought to be the best and only motor for pushing the Kenyan economy ahead. Whenever development efforts were headed in the African areas they should not interfere with the (economic) wellbeing of the settler community. Moreover, finance for these developments was, in most cases, provided for by the African population themselves. This section will examine the impact of this policy, with special consideration of its effects on the Maasai pastoralists of Kajiado District. Attention will also be paid to the district's economy as it developed during the 1920-45 period.

In 1941 *oloibonı* Seggie ole Lonana died, ending a period of influential *iloıbonok*. A new wind would start to blow through Maasailand. In 1944 District Commissioner E.H. Windley brought forward a more tolerant opinion than Commissioner Eliot who had dealt with Seggie's father about 40 years before:

> 'The next decade with the expanding possibilities of the Post-War years should lead to a great change in the development of Masailand and the outlook of its people and if thereafter there are any grounds left for regarding them as decadent anthropological exhibits I am inclined to think the fault will lie in the Administration from which they have a right to expect the necessary stimulus and guidance. Hence the urge to progress should in time grow stronger within the tribe itself and the fact that they are governed by the conservatism common to most pastoral tribes may well be of value to their development in the long run by regulating their assimilation of our culture to a digestible rate and the rejection of spurious elements' (KDAR 1944:2).

It was the Maasai themselves who had to pay for the modernization urged upon them by the Government. Assimilation, guidance and stimulus, without financial obligations were the best that could be hoped for from the Colonial Government in the interwar period.

The newly installed Kajiado Local Native Council was the main administrative body responsible for development ventures in Kajiado District in this period. Colonial Government exercised law and order leaving development efforts to the Kajiado Local Native Council. These attempts centred mainly towards water development and education. Revenue, amounting to Sh. 27,730/- in 1932, was mainly obtained from landrents (Sh. 15,040/-), grazing fees (Sh. 5,654/-) and royalties (Sh. 3,512/-). Expenditure (Sh. 31,507/- for 1932) was spent mostly on the Kajiado and Loitokitok schools (Sh. 13,927/-) and water supply: borehole maintenance mainly (Sh. 14,661/-). In spite of this deficit they still had a positive balance of Sh. 1,500/- by 1933 which had accumulated to £ 10,444 by the end of 1944.

The lack of a real improvement was brought forward in the early 1930s by the District Commissioner of Kajiado District, who stated that 'a comparison between the state of the district in 1926 and that in 1931 makes it abundantly clear that there has been little or no progress in a forward direction in the period. The Maasai (...) have no real desire for anything more. All they want is to be left alone' (KDAR 1931:3). It was thought that the Maasai only remembered the restrictions put on them and forgot about all the "benefits received".

A highly sensitive issue was the taxation laid upon the Maasai. In 1923 this had been raised to Sh. 20/- in contrast with Sh. 12/- paid by other African groups due to their supposed greater wealth. By 1927 Sh. 94,300/- out of a total revenue of Sh. 119,405/- for Kajiado District was received by the hut & poll tax placed upon the Maasai. However, by the beginning of the 1930s it was recognized that the Maasai had severe difficulties in meeting their tax payments. Revenue collected by the Government in 1932 totalled Sh. 137,601/- (excluding Ngong), hut & poll tax (Sh. 119,360/-) and fines (Sh. 6,258/-) being the main sources. Government expenditure was Sh. 23,042/- of which Sh.

17,039/- was used for the salaries of chiefs, headmen and tribal police as well as transport and travelling costs. By 1944 Government revenue stood at Sh. 99,160/- and expenditure at Sh. 28,380/-. So, we may conclude that in all the Maasai made a heavy contribution to the national economy whilst they received the least benefit.

Moreover, most measures initiated by the Colonial Government in the name of law and order triggered off bad feelings as these not seldom interfered with Maasai social customs and pastoral economic practices. For example, during the 1920s much effort was put into the continuing struggle to discipline the *ilmurran*. In 1921 consent was given to a forcible abolition of the *emurrano* system.

> 'The goal of Hemsted's program was to limit the military capabilities of the junior warriors; this was to be done by disarming them, hastening the E-Unoto ceremony, at which time they settled down and became senior warriors, and disbanding warrior manyattas, where, according to Hemsted, young men lived free from the control of elders and conceived their plans of raiding and opposing government policies. It was part and parcel of a larger plan to strengthen the authority of the elders, who, unlike the warriors showed a willingness to assist the government in transforming Maasai society' (Tignor 1976:80).

As an alternative *ilmurran* were trained as tribal police, recruited (with less success) for the King's African Rifles, employed on Public Works like dam and road making. Besides, sports events were organized for the *ilmurran* to compete against their peers in other *il-oshon*. The co-operative attitude by the elders was not seldom forced by way of heavy stock fines laid upon the total section. The Purko, for example, had to pay a collective fine of 10,000 head of cattle in 1922, because young warriors had stolen cattle and killed some people. They also tried to stop the Government forcibly recruiting children for the Narok school.

In 1932 the Kajiado Local Native Council passed an anti-*emurrano* resolution in a final attempt to discipline the young warriors. Stock theft was still a major problem for the Administration as well as the Maasai elders who were forced to pay the collective punishment fines. Among the measures taken were the breaking up of *imanyat*, the shortening of the warrior period and the shaving off of hair.

Finally, among the causes responsible for the less than enthusiastic Maasai attitude towards British development efforts will have been the measures (forced destocking) taken against their neighbouring pastoralists of the Kamba ethnic group. The Maasai, however, did not suffer from this measure despite the wish of Lord Delamere that they do so.

In the following section economic performance and development efforts with respect to the Kajiado District between 1920 and 1945 will be discussed.

1. Livestock economy and development policy

In the beginning of the 1920s almost all Reserves and the settled areas suffered from livestock diseases. The entire Maasai Reserve was infected with rinderpest. The growth of the herds during the previous decade turned into a gradually decline of the cattle population. Veterinary officers from Uganda, Tanganyika and Kenya together formulated a three year programme of inoculation to eradicate the diseases. Financial problems prohibited the implementation of their intention. Moreover, there was a serious disagreement within the Administration concerning economic development policy for the African Reserves.

Montgomery (veterinary advisor to the East African governments) with some support from the Native Affairs Department and the Colonial Office was opposed by Mr. A. Holm (Director of Agriculture), Governor Northey and the settlers. As the need for African cattle had dropped by 1922 it was decided to continue the quarantine policy. Montgomery and several administrative officers who experienced a decline in tax incomes because the African population was no longer able to sell their animals, had favoured the abolition of this policy. 'By the end of 1922, the price of African breeding stock had fallen from a peak of ninety-to-one-hundred shillings to thirty-to-forty shillings' (Spencer 1983:138). The only concession done by Holm cs was the transfer of three Veterinary Officers and nine stock inspectors towards the African Reserves.

Robert Coryndon, the new Governor, supported this initiative as it was in line with the newly proclaimed "Dual Policy" of developing European and African agriculture each in its own area. Nevertheless, despite a special budget of £10,374 set aside by the Veterinary Department, the African cattle-owners themselves also had to contribute to the cost of rinderpest injections. The officers in the Maasai area also had to be self-supporting. Montgomery continued his fight for a comprehensive approach to livestock development in the African Reserves including the eradication of disease, the lifting of quarantine and the establishment of a meat-canning factory to deal with the huge numbers of cattle saved by his schemes. At a rate of ten shillings per 100 pounds live weight African cattle would be very well able to compete on the world market where prices were two to four times higher. The revenue of these sales could be used for the improvement of the African herds and the conservation of the pastures.

Again, the meat-canning factory turned out to be a problem. Private firms were not interested and the Colonial Office was not interested in subsidising the experiment He favoured a policy directed at increased sales of ghee and hides.[7]

[7] Montgomery's view was also known as the 'ranching proposition' as opposed to the 'dairy proposition' favoured by others In this last group some veterinary officials were also included Holms' proposition was a meagre variation of the latter

> 'Montgomery's failure to find money for a factory from either private enterprise or from the government was of central importance to the failure of his larger scheme to eradicate cattle disease and build up African herds. The opposition of Holm effectively carried the day through the important debates of 1923 and 1924 on the future of herds. Holm argued that no foreseeable return from the cattle sales, or from the sale of their products, could possibly justify such huge expenditure' (Spencer 1983:128).

In Kajiado District Holm's position effected some assistance offered in this respect by the beginning of 1925 resulting in 6 dairies operating by 1926 realising a net return of Sh. 9,000/- rising to 11 dairies operating by 1927 making a profit of Sh. 35,412/- from the sale of 27,360 lbs of ghee. Finance came from loans provided by the Maasai themselves. In 1928 the number of operating dairies had risen to 17 producing 19,476 lbs resulting in a reduction of the net income to Sh. 31,917/- despite a rise in the price of ghee from 55 to 66 shilling per tin of 36 lbs. In 1929 Kajiado District was hit by a severe drought. 'The cattle of all sections were mixed up in the search of such grazing as remained and gradually concentrated on Ngong until even that rich pasturage was exhausted. In certain areas famine relief had to be provided' (KDAR 1929:2). The production of ghee dropped to a figure of 1,566 lbs, fetching Sh. 2,444/- only. By 1930 the production had collapsed completely and all dairies were closed in 1932.

In contrast the trade in hides in 1929 was considerable. Between 100,000 and 120,000 hides must have passed through Kajiado and other stations. Average prices ranged between Sh. 15/- in 1927 to Sh. 12/- in 1933. In later years attempts to control the hide trade engendered strong protest from mostly Indian traders. 'Under the Masai Hides & Skin Rules and the marketing of native produce rules no sundried hides may be exported from the district and no shadedried hide may be exported except by permit after inspection' (KDAR 1939:42). Hide exports came to a standstill by the beginning of the 1940s. Experiments were started to improve the hide and skin drying. By 1944 an official figure estimated the number of prepared and exported hide and skins to be only about 1,000.

As noted by Montgomery, the trade in livestock was of more importance for the Maasai pastoralists. According to the Kajiado Annual Report there was a considerable trade in slaughter stock in 1927 to Ngong and Nairobi. About 500 oxen were slaughtered in Kajiado itself, mainly (80 per cent) for transportation to Magadi (see KDAR 1927:6/7). As these outlets were insufficient to meet Maasai supply, it was decided by 1928 to organize auctions in areas bordering other African Reserves as inter-tribal trade would not interfere with the European cattle trade. By 1929, however, auctions of stock were disappointing. 'Over 500 head were brought to Kajiado in June of which 200 head were sold

for 9781/- [MR: Sh. 49/- ph]. At Loitokitok only 130 head were sold out of about 450, the price averaging 37/- a beast. A number of Moshi and Arusha buyers [from Tanganyika] with between 30,000/- and 50,000/- attended the Namanga auction which had to be abandoned altogether on account of quarantine difficulties' (KDAR 1929:5).

These quarantine regulations were once again under much debate as they interfered with grazing management of the pastoralists. During the drought of 1929, for example, concessions had to be granted to the Kisonko Maasai to water at the Namanga river and to the Maasai from Kajiado to water at Rombo, in the mile zone and Simba and across the Mbagathi river. Nonetheless, the acceptance of compulsory quarantine regulations was made a prerequisite by the Veterinary Officer posted in the district in 1929, to start a scheme of inoculation as welcomed by the Maasai.[8] An incident by which a Maasai was killed by the police resulted in a temporary freezing of the arrangement.

During 1930 rinderpest spread to Loitokitok and the Maasai elders expressed themselves ready to accept any treatment ordered by the Government. However, the Veterinary Officer had been withdrawn by January 1930 and only by 1931 was a campaign started to eradicate rinderpest as well as bovine pleuro-pneumonia. This initiative caused the Kajiado District Commissioner to state that:

> 'We can now look forward to some term being set to the cattle quarantine from which the Masai have so long suffered. It is true that the Masai are an unprogressive tribe, but they have hitherto been debarred from economic progress by being forbidden to sell their produce, which consists chiefly of slaughter oxen, this has inevitably resulted in over-stocking which has only been mitigated by periodic droughts in which large numbers of cattle have died of starvation' (KDAR 1931:6).

Only the stock traders, mostly Somali, were able to fetch a good trade owing to the glut of cattle on the market and the low prices which they realised.[9] Fortunately, some competition became possible by 1932 when the Veterinary Department opened the Southern end of the District since it was believed to be free of Rinderpest. The Loitokitok area was declared free from Rinderpest and Contagious Bovine Pleuro Pneumonia by Proclamation No. 52 of 5th July

[8] In the mid-1920s the Maasai had already expressed a desire to have their cattle double-inoculated against rinderpest and were prepared to sell some of their animals to pay for the treatment (see Spencer 1983:119).

[9] In 1931 the prices per head dropped from about Sh. 30/- in April to less than Sh. 20/- in November. By 1932 cattle were selling for sh. 18/- per head. The 1928 exports from the Maasai Reserve amounted to over £95,000. In 1932, the sum had fallen to £40,000. The trade in hides was minimal, owing to the poor prices.

1933. This freed the opening of another outlet, besides Ngong, for cattle in the district. Via Loitokitok cattle was transported to Tanganyika. Prices offered at this market were slightly better.[10]

Nonetheless, at the beginning of the 1930s the Maasai were thought to be 'richer in stock than at any other time since the advent of British Administration' (KDAR 1931:3). The average wealth per household of five, based on the official estimate, was estimated to be 74 cattle, 85 sheep or goats and 18 donkeys, but was, in all probability, considerably more.[11] Moreover, the Maasai despite being considered "useless and unproductive" reached a comparatively high per capita export figure of about £2 in 1928 (see James 1939:59).

By 1933 things had worsened again. Kajiado District suffered from a drought which became a disaster by 1934. Rainfall figures were 16.73 and 10.66 inches respectively as opposed to 29.01 inches in 1930. Estimates state that the cattle population of 300,000 head had substantially declined by approximately 100,000 due to the drought which continued even into 1935. This must have placed a heavy burden on the Maasai. Local Administration, however, was of the opinion that 'The periodic disappearance of old and weak animals kept to swell the numbers of the herds and the importance of their owners is a blessing without which existence in the Masai Reserve would long ago have become impossible' (KDAR 1933:1/2). To speed up destocking the Government bought a 1,000 head of so-called scrub cattle (Sh. 7/- per beast) for producing manure and other byproducts at the Nairobi Municipal plant. The need for destocking was a much debated issue at the Local Native Council.

The Maasai rejected the Government's view that they kept too many animals. They criticized the reduction of their grazing area and especially the loss of dry season pastures. Instead they proposed a water programme which would support individuals or small groups finance small water schemes such as dams. By the beginning of the 1930s water development mainly restricted itself to the maintenance of the 6 boreholes available in the District. On the request of the Administration the Maasai gave an area at Kajiado on which to start a small supervised experimental depot to illustrate to the Maasai some of the methods of improved husbandry taught at the Ngong training school and which

[10] In 1932, 11,168 head of cattle were exported to Nairobi from Ngong for slaughter and 358 head to the Kikuyu reserve for slaughter. 196 head of cattle and 22 sheep were slaughtered by Kajiado Butchers. 1,813 head of sheep and goats passed through Ngong for export. As a result of two sales organized by the Government 648 head of cattle were exported to Tanganyika via Loitokitok.

[11] For 1930 the official number of cattle in the total Maasai Reserve, available for a total Maasai population of 48,381 people, was set at 720,000 cattle, 820,450 sheep and goats and 171,800 donkeys. An actual account made by the veterinary department in the Kajiado District placed the total figure for cattle to be over one million (see Carter 1934:min. 658).

could be capable of general application. Neither proposal was implemented. Before the Carter Land Commission the Maasai repeated their grievances concerning the loss of (dry grazing) pastures (see for a detailed account section 5.4.4). The northern boundary of the Maasai Reserve 'was so drawn as to exclude the most valuable water supplies, which are included in the land alienated to Europeans' (James 1939:60). Conservation of the more low-lying wet season pastures became increasingly hampered. The Maasai were forced 'to overwork the more arid southern reserve, resulting in loss of vegetation, soil erosion, and overall decline in grazing. In the twentieth century the reserve became progressively less able to support its livestock' (Tignor 1976:38). 'The extent to which soil erosion has proceeded in the Reserve has doubtless been in part due to overstocking, but the Pim Report considers that "the vast numbers of game are probably even more responsible than the Masai stock". It is clear that the claims of the region to be both a Game Reserve and a Reserve for the Masai are incompatible' (James 1939:61).[12] In 1934 a report was published on the Maasai Reserve which stated that, of the total area of 10 million acres, more than 4 million were useless due to the lack of water and/or the presence of tsetse fly, East Coast Fever, etc.

Besides these fundamental statements concerning the quality of their land, the Maasai also reminded the Carter Land Commission of the drop in prices offered for their cattle, smallstock, hides and ghee.[13] Furthermore, they stated that views expressed by Government officials concerning their customary diet of meat, milk and blood and their dislike of agriculture were outdated. 'There are the circumstances the force of which compel us to submit to your Committee that an area suitable for agriculture should now be added to our reserve which should be sufficient not only for our present requirements but also for our expansion for the future increase of population' (KLC 1934:1226). Of course, this was a futile request.

The Administration continued its intention to destock the pastoral areas in order to prevent erosion. 'The numbers of livestock sold officially after the end of the drought of 1935 up to the beginning of the Second World War remained low however, at about 2000 per annum, partly due to the fact that the Somali traders offered better prices' (Campbell 1981a:217). Official prices had risen to Sh. 38/- per head by 1936. Sales to the Kikuyu area, through the Dagoretti market, were in the hands of the Somali traders.

This interfered with the Government's wish to find a large enough supply

[12] Even before the Maasai were moved into their present home, the greater part of the Reserve was gazetted a Game Reserve. It was the Chief Game area of East Africa. In Kajiado District the first tourist rest camps were opened in Kajiado Town and Namanga by 1932. Game in the District was in such abundance that in 1941 1,600 Wildebeests and 160 zebra had to be shot.

[13] Prices for slaughter cattle had dropped from Sh. 55/- to Sh. 16/- a head. Prices for sheep had fallen from Sh. 6/- to Sh. 3/-. Prices for hides had dropped from Sh. 30/- per frasila (36 lbs) to Sh. 6/- and for ghee from Sh. 60/- to Sh. 20/- per frasila. (see KLC 1934:1225).

for a meat-canning factory which had been started by a British commercial firm called Liebig's Ltd. in 1937 near Athi River.[14] Supplies were arranged with a government guarantee for a minimum number of animals every year at a fixed price. 'The factory would create a market for the pastoral peoples to sell their animals, thus destocking could be enforced and the European stock industry would be protected as the price offered by the factory for the beasts would be well below the price demanded by European stockowners' (Zwanenberg & King 1975:100). The factory had cost £120,000 and needed an input of about 30,000 animals in order to break even and this was guaranteed by the Government.

Furthermore, it was agreed that the Government would allow the import of cattle from Tanganyika and Uganda, that they would provide a free-of-charge-veterinary services as may be required for meat inspection and meat export, exempt the Company from paying any cess or levy for the slaughtering of stock, and would not support another factory engaged in the production of canned meats or extract. Liebig's obligations were mainly restricted to the payment of a yearly rental of Sh. 500/- for a lease of 10,000 acres of land in Kajiado District to be used as a holding ground and an annual rent of Sh. 40/- only to be paid for the factory's location and its direct surroundings comprising almost 11,000 acres (see KNA DC/Kaj/2/3/15 1936).[15]

Stock routes were created in order to enable the transportation of cattle from the main stock-holding areas of Kajiado, Narok and Kitui to supply the factory at Athi River.

> 'Liebig began buying operations from the latter half of 1937 "without any success at all", as the prices they offered were very low. The highest price they offered was 15 Shs for a full-grown animal, while they were offering 2 or 3 shillings for a goat or sheep. The prices outside the Liebig market at this time were in the region of 60 to 100 shillings for a bullock down to 10 shillings for a goat. Liebig had clearly hoped to take the full advantage of the semi-monopoly they had been offered by the colonial government' (Zwanenberg & King 1975:101).

As a solution the Kamba region, considered to be severely eroded due to overstocking, was compulsorily destocked. Approximately 20,000 cattle were

[14] Liebig's Extract of Meat Company Limited was a British public company, incorporated in London in 1865, which developed the production of meat extract and of canned and frozen meat in Argentina, Paraguay, South West Africa, Rhodesia, Sudan, Tanzania, Nigeria, Botswana, Uganda and Kenya as well as other manufacturing or selling operations in many other countries of the world (see Carlisle & Randag 1970:229).

[15] Spencer states that the Government also paid a subsidy of £3,000 per year (see Spencer 1983:132).

branded and purchased at very low prices.[16] This brutal action, however, ended in political protest from the Kamba and was stopped by the interference of the British parliament in 1938.

By 1939, some success in increasing Government control of the livestock trade in Kajiado District was obtained with the change to markets as opposed to itinerant traders as the channels for stock export. There had been a lot of smuggling especially to the Machakos District. From now on grazing fees had to be paid for cattle offered at the market. Most Somali traders left Kajiado district and went to Tanganyika. The veterinary department was mainly involved in establishing a stock route from Tanganyika to Liebig's Ltd. at Athi River. A stock inspector was stationed at Kajiado. Thousands of stock came through this route and checks were needed on the spread of disease. However, prices in Ngong were higher than those offered at other locations like Kajiado Town which were consequently bypassed. The same occurred, but in the reverse direction, in Loitokitok where all animals offered by Kenya Maasai went to Tanganyika as prices offered by traders from the Kilimanjaro region were prohibitive for Liebig.

With the outbreak of World War II, Europe had advanced into another war. This time the Maasai were not part of it directly as Tanganyika was no longer a German Colony. However, with the entry of Italy into the war military activity in Kenya near its eastern border with Somalia increased. As during World War I, the Maasai donated cattle and money to the Central War Fund, the British Red Cross and other special War Funds. And to further assist food production the Maasai agreed, for the duration of World War II, to the ploughing of approximately 1,000 acres near Kitengela to plant wheat. In later years the area was extended to 15,000 acres (fenced).

Of more importance was the arrangement made between the Maasai from Kajiado as well as Narok and the Meat Control Board to provide approximately 2,000 head of animals per month to meet the increased demand for meat.[17] Alternating between the two Maasai Districts animals were provided at fixed locations (Kajiado, Loitokitok, Mashuru and Bissel) and on fixed dates. Prices were fixed (Sh. 28/- to Sh. 46/-) depending on the live weight, grade and year of sale with cash being paid on the spot.[18]

'(...) prices paid may be regarded as adequate to the African producer

[16] In 1926 Governor Grigg had announced the Crop Production and Livestock Ordinance, which could be used to regulate the number and type of cattle in every African Reserve.

[17] Besides this supply the Maasai officially exported about 700 head of cattle to the Kikuyu areas (especially Kiambu) every year and provided approximately 800 head of cattle for (official) local slaughter at Kajiado Town, the Magadi Soda Company and KMQ.

[18] 1st grade: 10 cents/lb live weight; 2nd grade: 7 cents; 3rd grade: 4 cents.

although it seems that even after carrying all the expenses of the Meat Control Board (which also buys European Farmers' cattle) the profits made by them from the sale of the Native Cattle have been very large. It is fairly arguable that a proportion of these profits should be refunded to be spent on beneficial development in Masailand' (KDAR 1941:2).

Table 6.1 Kajiado Maasai Cattle Sales to the Meat Control Board 1941-45

Section	1941	1942	1943	1944	1945
Kisonko	2,289	2,506	3,311	2,967	2,422
Matapato	2,520	2,493	3,351	3,245	2,674
Kaputiei	2,431	2,739	3,232	3,016	2,533
Keekonyokie	1,305	2,366	1,167	1,094	540
Minor sections	1,979	2,234	2,562	2,477	2,011
Miscellaneous		34	63	293	
Total	10,524	12,372	13,196	13,092	10,180

Source: compiled from KDARs 1941-1945

At each of the locations the various *il-oshon* produced their quota for sale. Table 6.1 summarises the quantity of cattle sold at the Kajiado auctions for the Meat Control Board.[19] Shop owners were encouraged to sell their goods at these sales, medical assistance was provided, tax collected and administrative affairs settled. It should be clear that the arrangement made whilst said to be voluntary was in essence imposed upon the Maasai by the Administration. Cattle were collected by elders who were assisted by Tribal Police at the buying centres. This continued until 1943 when the Maasai suffered from a serious drought which lasted until 1946. Since other pastoral areas were having difficulties in meeting their quotas during these years of drought and because of the distances involved, the Maasai were even compelled to raise theirs. At the same time the Maasai had to slaughter a considerable number of their stock for home consumption due to shortages of milk and blood. Alternative food items were scarce. 'Mixed meal has been in short supply and none was supplied from the Kenya Control until September when 200 bags were received' (KDAR 1943:2). The monthly allocation of mixed meal never exceeded 500 bags, which was approximately 2 kg per head of the population per month. To make things worse widespread hopper infestations occurred on a large scale in March, April and May of 1944.

As well as the total number of 59,364 head of cattle supplied to the Meat Control Board, the Maasai from Kajiado District donated £3,252 to several British War Funds. This support was highly appreciated by the Administration as can be seen from the following statement made by DC Windley in 1944:

[19] In 1941, 560 head of these cattle were purchased for supply to Liebig's at Liebig's prices. The Meat Control Board also started to purchase small stock from the Loodokilani, but after the first batch of 332 this was stopped as the quality was not considered good enough (see KDAR 1941).

> 'The Masai rank as a backward tribe in Kenya but I have been led in my experience to believe that they possess a natural intelligence and character which if properly guided and consistently handled should lead them to play a useful part in the synthesis of tribal life in Kenya both as a factor for stability in political development and in the economic sphere as ranchers of cattle for the meat market. The impetus and inspiration must come from us and we cannot afford the neglect evident in long periods in the past' (KDAR 1944:2).

The other party in need of meat, Liebig's Ltd., had also been able to get assistance from the Maasai. In 1940 Maasai from Tanganyika had agreed to sell 6,000 head of cattle to Liebigs per annum, one third of the proceeds was to be donated to the War Fund, one third to be lent free of interest towards war expenditure and one third for their own development. This number soon increased and by 1941 approximately 8,000 animals were passing through to Liebig almost every month. By the end of the year 67,000 head of cattle had been obtained from Tanganyika. The Veterinary Department assisted, as agreed in 1936, in the supervision of dips in Namanga and Kajiado and by giving free (anthrax) inoculations to cattle from Tanganyika destined for Athi River. Despite all these measures Liebig's cattle suffered heavy losses at times. In 1941 approximately 11,000 animals died. This was a threat to the animals of the Kenya Maasai as Liebig's cattle had infected many kilometres of good grazing. Liebig had to stop buying from Tanganyika temporarily by the end of 1944 due to the drought resulting in the closure of the Stock Route.

As well as the building of crushes, experiments in crossbreeding by importing two Indian Kankrij bulls and two Sahiwal crossbreeds and experiments in haymaking, the Veterinary Department was especially active with respect to the eradication of disease in the District.[20] This was warmly welcomed by the Maasai. 'Many more inoculations could have been given if the staff and vaccine had been available' (KDAR 1945:4). The campaigns were mainly directed against Rinderpest, Pleuro Pneumonia, Black Quarter and Anthrax. The total of animals inoculated in 1942 against these diseases numbered to 65,600, 80,000, 33,750 and 1,300, respectively.

The 1943 rinderpest campaign was carried out in combination with a cattle census which was the first reliable one in years. It calculated the total number of cattle, including calves, at 360,000. The inoculation figures showed a prevalence of 68 per cent for female cattle in Maasai herds of those days. Table 6.2 shows the result by section.

[20] Most efforts were still on a limited scale and faced great difficulties 'Experiments in Haymaking were carried out after the Long Rains but they were somewhat limited with unskilled staff and oxen and breakages in the machinery. The period between the end of the rain and the drying off of the grass seemed to be very short It is probably unlikely that the Masai will take to using it for many years or that an adequate supply could be made without tractors' (KDAR 1941 6)

Table 6.2 Kajiado District 1943 Census of Adult Cattle

Section	Adult Cattle
Dalalekutuk	19,435
Keekonyokie	8,016
Loodokilani	22,164
Kisonko	73,144
Kaputiei	62,358
Purko	9,039
Ildamat	3,060
Sikirari	7,310
Matapato	78,646
Matapato (not inoculated in Meto)	4,000
Non-Maasai	788
Total	287,683

Source KDAR 1943

2. Water development

By late 1925, the Government asked A.D. Lewis, the director of irrigation for South Africa, to advise on irrigation prospects in the Kamba and Maasai Reserves. By improving the water supply it was hoped to raise the carrying capacity of the area, in order to prevent erosion due to overstocking. Lewis, however, stated that it was doubtful if large sums of money should be spent to improve the availability of water in the African Reserves, 'especially in view of the fact that there are considerable and growing demands for the labour of the natives in various other directions in the country' (Lewis cf Spencer 1983:130). This argument would apply to the Kamba but not so much to the Maasai. Moreover, in 1927 the District Commissioner reported that the number of cattle in the Kajiado District had been stable over the last 10 years because there was not enough food and water in the dry season to support an increase. In 1928 the Council voted £2,000 for the building of pipelines and the boring of water holes intended to open up 30,000 acres of arid land.

By 1929 water-boring operations were at last begun in the Simba area with funds provided by the Government. During this year the Ngong pipeline and Surei water agreement were signed. The Maasai were entitled to merely 18,000 gallons of water per day between Ngong and Cairn hill and 2,000 gallons at Toroka. A 6,000 gallon tank had been constructed at Cairn hill before the end of 1929. Sites at Olooloitikoishi and Engirigiri were selected for another two troughs and tanks, where similar quantities would be delivered daily.

Water improvement was mainly restricted to the provision of wells and storage tanks along the Tanganyika stock route and at the auction locations. Finance was provided by the Government out of the Stock Route Water Supplies fund with assistance from Tanganyika. With money earned by the Matapato for the digging of a trench from the Namanga river two boreholes were drilled one of which met with success. The building of an earth dam near Oloyiangalani and a well near Isinya were financed by the Kajiado Local Native Council. In fact until the end of the 1930s this body was the main

supplier of money for development projects.

3. Education

Opposition towards education delayed the opening of the Government African School in Kajiado until 1927. By the end of 1928 the school had 96 pupils who were receiving an education in Swahili, carpentry and the dairy industry. Maasai education was to be instrumental in providing a commercial alternative to nomadic pastoralism within their own Reserve. As soon as the ability to read and write had been reached formal education was reduced to 5 hours a week (see King 1970:215). In August 1929 another primary school was started in Loitokitok. By 1930 the number of educated Maasai in Kajiado District was estimated to be approximately 40. Other young Maasai were sent for training at the Ngong Veterinary Training Depot whose curriculum was said by the District Commissioner to be 'unrelated to the conditions in the Masai Reserve and of little, if any, benefit to the Masai except as a general demonstration of the value of native stock' (KDAR 1929:11). In fact, this curriculum suffered the same difficulties as the "formal" schools. According to King the 'basic obstacle to success of these early ventures in student commercialism is precisely that the school was preparing its charges to enter a modern sector that did not exist within the reserve, and discouraging them by the elementary standard of their general education from seeking work outside the reserve' (King 1970:216). Failure to reap a harvest from the school gardens most years meant that the schools were perceived as being a waste of time whilst at the same time the Maasai risked losing their traditions.

This fear had even more validity with regard to missionary education. The African Inland Mission, an American non-denominational organization, was not much interested in education except for the teaching of the catechism. Moreover, a struggle was fought over female circumcision, African dancing, dress and other Maasai customs, resulting in the temporary abandonment of the AIM school at Siyabei, Narok District. By 1932 the AIM opened a branch at Illasit (near Loitokitok), where they obtained a plot of 40 acres rent free for a period of 5 years. That same year the monopoly for the Maasai area was broken by the entrance of the Roman Catholic Mission and the Church Missionary Society (CMS). They both opened an out-school in Kajiado Town.

The Government introduced a quota system obliging every section to submit a minimum number of Maasai (boys) for without this quota there might have been almost no schools at all. Those interested in schooling had mostly been influenced from the outside by missionaries or Kikuyu mothers for instance. Other boys were characterized as coming from poor families, or being the least favoured at home. In this, however, the Maasai did not react much different from other African groups twenty years earlier towards a new development which had yet to prove itself. With a lack of jobs it was no surprise that students left school the moment they were circumcised and became *ilmurran*. By the end of 1944 new out-schools had been established at Namanga,

Mashuru and Bissel, followed in 1945 by Oloyiangalani. Total enrolment in the district was 158 pupils.

4. Health

At Loitokitok and Illasit (Mission) small dispensaries had been built and in 1944 the first grant of £800 was received from the Government for the improvement of hospital accommodation at Kajiado. By 1941 enough facilities had been erected and paid for by the Local Native Council to allow the qualification "small hospital".

5. Infrastructure

Mention should be made of the widening of the Athi River-Namanga road in 1940 and the construction of houses and bridges by Italian prisoners of war. Also other feeder routes were improved during this period.

6. Cultivation

Agriculture in the 1920s was still confined to those whose poverty drove them to cultivation. In the Ngong area partially de-tribalized members and Maasai wives of Kikuyu origin had shown some interest in cultivating the pastures vacated because of the prevalence of East Coast Fever. By the beginning of the 1930s, their number was estimated to be some 300 and their cattle about 2,000. Wealthy pastoralists employed Kikuyu to cultivate for them. In the Loitokitok area cultivation had increased due to the 1929 drought and to the example made by pupils of the Loitokitok school. Here, experimental agriculture was also adopted by well-off Maasai. Despite all this in 1931 it was estimated that less than 1,000 acres of the total Maasai Reserve were under cultivation.

During the 1930s and 1940s cultivation in Kajiado District remained an activity chiefly undertaken by outsiders. Kikuyu and Chagga continued their illegal trespass into the district. Both groups were employed by Maasai interested in agriculture. During the war the Government established Wheatlands near Kitengela. In 1943, having been fortunate with the rains, 4,000 bags were reaped from 1,180 acres, but the next year the rains failed and not even the seed was recovered. Increased agricultural activity in various parts of the Loitokitok area by 1943 was thought to be the result of the shortage of maizemeal in the shops (see KDAR 1944:8).

7. Mining

The mineral sector saw a considerable increase in its productivity. By 1930 44,340 tons of soda ash and 1,800 tons of lime were exported from the district. Besides the exploitation of soda ash and lime great quantities of sand and fuel (wood) were taken from the mile zone between Athi River and Sultan Hamud as well as other locations in the district. The Magadi Soda Company and the Kenya Marble Quarries were the main providers of wage labour. By 1927 the former's management was in the hands of a small group of approximately 25

Europeans assisted by 80 Indians. The labour force of 960 Africans was dominated by Luo (350) and Kamba (250) A top salary for a "native" was Sh. 3/- a day, the average being £1 a month. The KMQ employed some 140 people. Less than 100 Maasai were employed in wage labour, mainly by the Government as chiefs, headmen, tribal police or interpreters.

In Kajiado District the Magadi Soda Company had also suffered from the early 1930s world-wide economic depression. In 1931, it was about to close but was saved by an order received in December of that year. Their labour force dropped to an average of only 463. The number of KMQ-employees fell to 109. By 1933 these figures had fallen even further to 396 and 64, respectively. Still, by starting the production of common salt and bath salts the total production of the Magadi Soda Company had recovered to 37,172 tons. As a result of World War II Europe faced severe shortages and Magadi was called to step up production. Sales more than doubled during the war years. By 1944 the Company was employing almost 1,500 people, mostly Kamba (700) and Luo/Luhya (550). KMQ was less successful with only 80 employees.

8. Trade

Other non-Maasai (mostly Indians and Somali) had established themselves in the trading centres, which had shown a rapid growth by the middle of the 1920s. Excluding Ngong the number of trade centres had risen from 9 comprising 27 shops in 1926 to 15 centres and 51 shops by 1930. Besides exporting livestock products (hides and ghee) from the district, these traders provided household utensils and foodstuffs for the growing number of non-Maasai. Moreover, the Maasai also used part of their income from the sale of animals, hides and ghee to buy maize from these shops especially during the dry season when milk was short. 'No doubt women and children eat most of it, but it certainly seems that the Masai menfolk are also taking to it and have abandoned or rather modified their traditional diet of meat, milk and blood. They do not like porridge or 'ugi' but meal bread they seem to eat freely and a very rough calculation of the meal imported suggests the Masai now consume some 2 lbs of meal a week per adult besides their traditional food' (KDAR 1927:7). The Indian shopkeepers also suffered from the early 1930s crisis. Kamba, Kikuyu, Luo and Luhya had lost their jobs at the Magadi Soda Company or KMQ. By 1933 the number of Kajiado District trading centres and shops, excluding Ngong, had declined to 10 and 29, respectively.[21]

[21] The Administration tried to stop this development by reducing plot rents to Sh 16/- per month in trading centres and Sh 20/- a month in townships of Kajiado and Ngong, the former rate having been Sh 24/- in both townships and trading centres In comparison the Machakos rental was Sh 12/- only.

6.3 Economic Activities and Development Policy in Kajiado District: 1946 - 1963

6.3.1 Introduction

In the Post World War II period Great Britain's economic power started to decline, especially due to the competition from the United States of America and Japan. During the War, British Colonies such as Kenya had supported the war effort by supplying food. Post-war British colonial policy was based on this same principle of economic opportunities available in the colonies which could be used to regain a strong position for Great Britain's economy. British manufacturers were encouraged to invest in overseas British colonial territory. The policy of economic laissez-faire embedded within the self-sufficiency of the colonies was transformed into a more planned economic and development oriented approach. The 1945 Colonial Development and Welfare Act obliged the governments of colonial territories to draw up ten year development plans.

In Kenya a Development Committee of settlers and Government officials produced the "Ten Year Plan 1946-1955". Besides having a major agricultural component, the plan also covered other aspects of development such as social services and communications. It was not the several Departments but a special agency, the Development and Reconstruction Authority (DARA), which was entrusted with the implementation of the Ten Year-Plan. Nevertheless, the Provincial Administration underwent a modification in scope and volume. Before the War its main tasks had mainly included collecting tax, and maintaining law and order. After the War a policy of "development" was adopted. The number of administrative posts increased, chiefly by extending the numbers of technical advisors. Economic expansion was mainly directed at the development of the European agricultural sector. European settlers had been highly involved in the management of the economy during the war, greatly strengthening their position in practice.

> 'As members of the Agricultural Production and Settlement Boards, they had contributed largely to the great boost in agricultural output. Their hold on the reserved 'White Highlands' seemed unchallengeable, and in the three years following the end of the war some 8,000 white immigrants came out to join them, actively encouraged by the British Government' (Bennett & Smith 1976:112).

In the wake of this development, agricultural processing and construction industries started to flourish. Multi-national firms also appeared on the scene and soon overwhelmed local capital. As a result of the War and the good prices for its products (mainly coffee and tea) on the world markets in the period thereafter, Kenya's financial position was healthy. Very substantial

funds could be expended to finance the Development Plan. The 'original expenditure allocation of £17.5 million was increased progressively to over £40 million. £29 million had actually been spent by the time the plan was terminated at the end of 1953, after eight years' (McWilliam 1976:282).[22] Total Kenyan public expenditure had risen from £9.8 million in 1946 to £29 million in 1953. Over that same period total revenue had increased from £12.3 million to £29.6 million, respectively (see Low & Smith 1976:599).

In chapter 5 we have considered the post war development policy in the African areas which had mainly been directed towards the conservation of the soil and the consolidation of land. In addition, other schemes were initiated in the African Reserves such as the Agricultural Research and Investigation Scheme, the Livestock Improvement Scheme and Tsetse Survey and Control Scheme, all part of the 1946-1955 Development Plan under the control of DARA. This lasted until 1953 when, due to rapid economic change, the Ten-Year Plan was replaced by a pattern of three year development programmes.

In contrast, the Emergency had a negative effect on the marketing of livestock from the semi-arid areas in the meat markets of Nyanza and Central Province; Kikuyu traders were banned from auctions, prices offered by the Government were far too low and distribution arrangements were poor. Official trade was limited but it is known that considerable illegal trade developed during these years as the prices offered in Central Province were much higher. In the following sections we will look more closely at the development activities initiated in Kajiado District in the post-war period upto Independence in 1963.

6.3.2 Late Colonial Economic Development Policy and Activities in Kajiado District, 1946-1963

We have seen how, in the pre-1946 period, Colonial Government development policy in Kajiado District and, to some extent missionary involvement as well, was characterized by a package of mainly restrictive measures affecting the economic as well as the cultural way of life of the Maasai people. Among these were restrictions for controlling stock movements by the imposition of quarantine regulations, the pacification of the pastoral people by abandoning "*murranhood*" in order to stop stock thefts and keep law and order, heavy taxation which was only partly reinvested - dairies for ghee production, hide improvement, minor irrigation and drilling of a few boreholes, veterinary assistance through building of a few dips and inoculation campaigns, the

[22] 'Some 20 per cent of DARA's total resources was accounted for by special funds that had been built up during the war and were then transferred for development. These balances were largely used up by 1954; meanwhile the government was able to make important contributions from its current revenue surpluses, which in turn accounted for some 27 per cent of the programme' (McWilliam 1976:285).

establishment of a canning factory, cattle auctions for inter-tribal trade, the establishment of some infrastructural, educational and health facilities - and the Government's persistent efforts to destock the Maasai grazing areas and attempts to stop the "conservative and damaging pastoral practices". In most cases these efforts were only half-hearted and not successful. Part of this can be explained by the wish of most of the members of the Colonial Government to protect the European settlers. There was no priority given to developing any of the African areas, besides imposition of the restrictions mentioned above. There was a lack of development funds and technical staff.

Whenever the Maasai themselves demanded new initiatives as was the case in the agriculture proposal submitted to the Carter Land Commission and water development, veterinary assistance or higher livestock prices, they often received either a negative response or they were forced into conditional arrangements which were unfavourable to them.

On the other hand the Maasai assisted the British during both World Wars by providing gifts to the Central War Fund and more importantly the selling of large numbers of cattle to the Meat Control Board -which had allowed the latter to make huge profits- and giving permission to plant wheat near Kitengela. Some Government officials had noticed this. They (e.g Norman Leys and District Commissioners Windley and Buxton) realised that in most cases the Maasai had been loyal to the Colonial Government but that they had been rewarded by the loss of their best grazing areas, the prohibition of selling and improving their produce, mainly cattle, due to the quarantine restrictions resulting in the over-stocking of an already game-abundant district, leading to severe difficulties in times of drought. No wonder the Maasai eventually wanted to be left alone and at times adopted an attitude of nonchalance or even passive resistance.

Funds from DARA, ALDEV and the Swynnerton Plan did reach Kajiado District to some extent as we have seen before. The (Colonial) Provincial Administration over the years had continued to keep expenditure at approximately half of the revenue collected in Kajiado District but by 1953 this situation had changed. Although income from revenues increased between 1949 to 1953 from Sh. 158,423/- to Sh. 196,458/-, expenditure increased sharply from Sh. 81,065/- to Sh. 249,153/-. This growth was mainly the result of a doubling of personnel emoluments due to Emergency measures in addition to the development funds provided by DARA and ALDEV as part of the Ten Year Development Plan 1946-1955.

In addition, local finance provided by the Local Native Council and its successors the Masai African District Council and the Kajiado African District Council, was also of major importance whenever a project was expanded. Among the main sources of revenue were royalties for sand, wood, limestone and the like. Other sources of revenue for the Local Councils were fees and fines, Government grants and the Local Native Council rate of Sh. 4/-. In latter

years this taxation, collected in addition to the Government native poll tax, was raised to Sh. 20/- realising some £7,500 annually. The Maasai continued to be the highest taxed group in Kenya.[23] Expenditure, especially for water development, education, medical and infrastructural purposes, through the Kajiado African District Council averaged approximately Sh. 300,000/- per year by the late 1950s.

Mention should also be made of the increased role of missionaries in Kajiado District. The AIM monopoly was definitely broken by the end of the 1950s. The African Anglican Church took over the CMS plot in Kajiado by 1951 and a church was opened by their Reverend Daudi Mokinyo in 1953. The Catholic Mill Hill Mission was granted a plot for a church and school in Kajiado Town by 1960 and another plot was obtained in Rombo by 1962. Their main area of activity, however, was Ngong where the Prefecture Apostolic was established in 1959.

Besides preaching Christianity these groups were also active in the spheres of health care, education and water development This forced the AIM to take their educational efforts more seriously and resulted in the opening of the AIM girls' school in Kajiado Town in 1959. The Isinya Maasai Rural Training Centre sponsored by the National Christian Council of Kenya and the Anglican Diocese of Nairobi was started in 1961 (see Schlueter & Schlueter 1975:4). In fact by the beginning of the 1960s there was a scramble for areas of influence by Catholics and Protestants alike. However, education did not prove to be an effective way to make contact with the Maasai as they were not very interested. Hence, it has been argued by Voshaar, once a missionary himself, that early missionary development activities should 'not [be] seen as "missionary means" to conversion, but as a Christian contribution towards the amelioration of life' (Voshaar 1979:275). In any case the AIM had not made Christianity a popular religion among the Maasai. Traditional Maasai religion remained their mainstay.

Let us turn to a review of the major economic development efforts and the state of the Kajiado District economy as these developed since World War II until Independence in 1963. We have already dealt with the cultivation and tourism sectors concerning the use of land in Kajiado District and will therefore only deal with them here in brief.

1. Livestock economy and development policy

After World War II, as shown above, colonial economic development policy turned its attention with more vigour to the African areas without any major change in its overall conception of conservative pastoralists all of whom they believed wished to overstock their pastures at the cost of severely eroded plains. In Kajiado District, in addition to the Grazing Schemes, the Government tried to destock the area by introducting an organized outlet for

[23] Native poll tax was raised from Sh 17/- in 1949 to Sh 21/- by 1960

Maasai cattle. It was intended to continue the bi-monthly auctions that had obtained during the war

Initially, Kajiado, Bissel and Mashuru were the three major locations for the official cattle auctions. Once in a while Loitokitok (Illasit) and Mile 46 were also included. In latter years other markets such as Merueshi and Namanga were opened. The Athi River factory of Liebig's Ltd., on a more regular basis, and the Magadi Soda Company, through an agent, were the main official buyers outside the auction circuit. Finally, two outlets, Ngong and Illasit, could be used to market and export cattle from Kajiado District. The latter had a cattle dip and became a legal outlet by as late as July 1955.

At the end of World War II the Maasai said that they were not able to continue providing as many animals as they had done during the war years. Nevertheless, in 1946, they offered a considerable number. Partly in response to higher prices a total of 8,274 head were sold. This almost reached the reduced, but still compulsory, quota of 8,600 for 1946. The resistance to selling at public auctions will have partly come from the high off take ratios during the war years and the drought conditions which had reduced the Maasai herds of Kajiado District to a minimum level of an estimated 335,000 head of cattle. Nonetheless, at the same time 'it was evident that considerable numbers of bullocks were being illegally exported to the Kikuyu and Nairobi and to the Chagga country where prices up to twice and three times as great as those given by the Livestock Control were obtainable' (KDAR 1946:10). Up until the mid-1950s 'unofficial sales were estimated at about double the official sales and unofficial prices were about twenty percent higher than the official prices' (Campbell 1981a:222).[24]

Table 6.3 shows the amount of livestock sold and the average price paid at the official cattle auctions held in Kajiado District between 1947 and 1960. Although the data are incomplete and should be handled with great care, the principle events of the livestock marketing business in Kajiado District during the late 1940s, and the 1950s are reflected. Reliable data were not available for Ngong as it often included sales from Narok District. This and the resale of cattle bought at the Kajiado District auctions has been taken into account in the total official livestock trade for Kajiado District.

In 1947, compulsory sales were replaced by voluntary auctions resulting in a huge reduction in the number of animals offered. Despite a further increase in the average price from Sh. 56/- to Sh. 121/- by the end of the year, only 1,292 head of cattle were voluntarily sold at these auctions. Another 1,632 had been produced in January as part of the 1946 compulsory quotas.

[24] The competition from Nairobi and Central Province was also felt by the Magadi Soda Company as the Loodokilani no longer wanted to provide the Company with their animals as done under the compulsory arrangements during wartime Prices offered by the Company were far too low to purchase enough cattle

Table 6.3 Kajiado District Cattle Sales and Average Price 1947-60

YEAR	District Auction	Other Official Sales	Ngong Outlet	Illasit Outlet	Total Legal Offtake	Price (Sh.)	Cattle Population @
1947	2,924	253	-	-	3,177	64/-	370,000#
1948	3,204	4,024	-	-	7,228	86/-	400,000
1949	2,025	5,467	400	-	7,892	81/-	430,000
1950	2,514	596	807	-	3,917	71/-	460,000
1951	2,404	170	612	-	3,186	138/-	495,000
1952	2,459	-	nfa	-	2,459	172/-	520,000#
1953	3,327	-	nfa	-	3,327	117/-	500,000
1954	1,159	462	4,009	-	5,630	116/-	510,000
1955	2,314	-	1,675	8,687*	12,676	173/-	500,000?
1956	8,058	-	500	12,792	21,350	190/-	510,000
1957	6,342?	-		18,158	24,500	200/-	525,000#
1958	nfa	nfa	nfa	nfa	nfa	nfa	540,000
1959	1,147	nfa	853	1,636	13,960	nfa	530,000
1960	8,555			14,163	22,718	70/-	500,000

Source: KDARs 1946-1960; Fallon 1962; Bekure et al. 1987; Prole 1967

Note: * six months only; # Kajiado District Livestock Census; @ author's estimate based on data from KDARs 1947-60, Prole 1967; Bekure et al 1987 and White & Meadows 1981.

The increase in cattle prices could not stop black-market trade. An increasing number of Maasai, mainly with some Kikuyu blood, became itinerant traders replacing the Somali who had been banned from these practices in the district.

In trying to stop the illegal trade an Order was promulgated that stated that the new Meat Marketing Board was the sole official buyer and exporter of slaughter stock in the district. Other traders had to obtain permission from the Board, before starting their business. These traders had to introduce an element of competition, but all stock purchased by them had to be resold to the Meat Marketing Board over scales with varying prices for distinct qualities at Athi River. This turned out to be un-profitable for most of the individual traders. Later in the year, after a request from the Maasai to allow outside traders to join the auctions, prices reached a peak making sales to the Meat Marketing Board and Liebig unprofitable. Most cattle were purchased by local traders. However, they were not allowed to export these animals from the district, despite a request from the District Commissioners of Central Province to relax this prohibition. The Veterinary Department stated that private trading between Maasai and other districts could not be allowed due to the incidence of pleuro-pneumonia in Maasai cattle.

In 1948 Kikuyu traders from Kiambu were allowed to attend the auction sales. After testing for pleuro-pneumonia at Ngong, the animals purchased could be transported out of the district. At three sales in April, August/September and November, 3,350 head of cattle were offered of which 3,204 were sold. Over the year prices dropped from Sh. 102/- to Sh. 76/- due to the lack of grazing as a result of poor rains and an invasion of army worms which devoured most of the grass over half the district. The Meat Marketing Board, using the weight and grade system, purchased 2,152 head at these

auctions; Kikuyu traders bought 435; local traders 308; Sayed Omer & Bros, a company mainly acting as a buying agent for the Magadi Soda Company, obtained 309 head of cattle. At Loitokitok Chagga buyers from Tanganyika purchased some 316 animals. Liebig's Ltd. did not buy at the auctions but was able to purchase 3,708 head of cattle at their factory at Athi River offering an average price of Sh. 81/- slightly below the annual average of Sh. 86/- per head of cattle. In total the Maasai sold 7,228 animals for Sh. 627,070/- at these official markets in 1948.

The following year a rinderpest epidemic prohibited the holding of sales during a long period of the year, owing to the Veterinary Department ban on the export of cattle from the district. Nevertheless, four auctions could be held at which 2,025 cattle were sold at an average price of Sh. 79/-. The principal buyers were Somali, Kikuyu and other African traders who purchased a total of 1,291 head. The Meat Marketing Board was unable to compete with the prices offered by these traders and purchased only 606 head of somewhat inferior cattle. 'The sale of cattle direct to Liebig's at Athi River continued to be extremely popular and the Masai were very sorry to see the Company close down in September. During the period 1-1-1949 to 5-9-1949 a total of 4,913 head were sold to Liebig's at an average price of Shs 85/73' (KDAR 1949:18). Another 400 head of cattle were sold at cattle auctions held in Ngong.

A goat and sheep market was started in Ngong in October 1949. During the last two months of the year a total of 3,127 goats and sheep were sold. The total number of stock sold officially in the district during 1949 was therefore 7,892 head of cattle and 3,127 sheep and goats. The Local Native Council received a total cess of only £605 from these sales. Cattle directly sold to Liebig' Ltd. as all cattle distributed illegally to Kikuyu and Chagga buyers were not levied. Had they been this would have provided an increase of approximately 400 per cent in cess revenues.

In 1950 the Kenya Meat Commission (KMC) was established. It replaced the Meat Marketing Board and also took over the Liebig's Ltd. factory at Athi River. It was hoped that an expanding outlet could be established for the disposal of stock from the African pastoral areas. However, being a strictly commercial enterprise, the KMC applied a differential pricing policy. It sought to create a great margin between producer and consumer prices in order to offset its large capital and overhead costs. The outcome was a reduction of prices offered to African livestock producers.

In 1950 the KMC bought only 750 head of cattle in Kajiado District. By 1951 this had dropped to only 76 head. The remaining official sales were purchased mainly by Somali, Kikuyu and Maasai traders offering much higher prices. For instance, while the KMC offered an average price of Sh. 94/- per head of cattle, the Chagga buyers at Illasit paid an average price of Sh. 216/-. Moreover, the lack of sufficient outlets resulted in large numbers of cattle being sold illegally to Kikuyu and Chagga buyers. Maasai traders acted as

middlemen by visiting the potential seller at home, saving the latter the trouble of trekking their animals to an authorised sale centre This guaranteed a continuous flow of livestock, whereas official sales were very often cancelled due to the outbreak of livestock diseases. In 1952, for example, Kikuyu and Chagga official traders were no longer allowed to attend the auctions from August onwards as a result of Foot & Mouth disease. This meant a loss in competition and a severe drop in the average price of cattle. African livestock marketing facilities in Kenya had been neglected for many years in favour of the development of European marketing facilities.

This lack of interest from the KMC caused much frustration among the Maasai and other African people. To overcome this, the African Livestock Marketing Organization (ALMO) was set up in mid-1952 to purchase stock directly from Africans, to encourage local cattle sales, particularly for local consumption and to employ licensed traders, under controls, to buy in the more remote districts' (see Swynnerton 1955:31) Initially ALMO succeeded in obtaining a reasonable share of approximately 30 to 40 percent of the official auction sales. However, by 1956 their share had dropped to only some 10 per cent. 'ALMO proved no more successful than had been KMC in competing with private traders in the African areas. Two livestock marketing systems emerged, with private traders purchasing African stock on-the-hoof, and KMC buying the stock of Europeans at controlled prices, paying producers on a quality and dressed-weight basis' (Evangelou 1984:44).

A drought which had hit the district hard in 1953, increased the need for markets. Constant propaganda to the Maasai that they should destock their area was not matched with deeds at the time that it was the most vital to act. This made the illegal trade even more popular among Maasai as far away as Narok. Even Kamba sent their cattle to Illasit Approximately 4,000 head of cattle followed this Tanganyika route. By 1954 the figure was estimated to be at least 6,000.

Throughout the 1950s the competition from individual traders, legal or illegal, was too strong for the KMC.

> 'The price paid for Masai cattle by the monopolistic Kenya Meat Commission is still in the order of one-half of what is generally paid for comparable Masai cattle in Tanganyika. (...) there has flourished for years now an illegal market trade across the border, to which many Kajiado Administrators have deliberately turned a blind eye because it is an important source from which Masai can secure monies to pay their poll tax, as well as relief overstocking, in the absence of adequate or fair marketing conditions in their district' (Jacobs 1963:71).

Nonetheless, to canalise and control at least part of this illegal trade Illasit was made an official outlet by July 1955. Moreover, cess income for the Kajiado

District Council was an important source to finance several development projects. Sales were held weekly and the average prices paid were Sh. 195/- in comparison to Sh. 127/- being the average official auction price paid for cattle. 'Estimating the number sold illegally to Chagga in the first 6 months of the year at 3,500 and a similar number sold throughout the year along the border from Loitokitok to Shombole, we get a total of 19,876 which is within sight of the 1956 target of 25,000' (KDAR 1955:16). To relieve pressure on Illasit, Namanga was made a third outlet.

In the latter half of the 1950s total cattle sales from Kajiado District were estimated to be approximately 50,000 head of cattle per year. Only 1959 showed a drop to 30,000 total cattle sales due to the closure of the sale yards during the first months of the year because of F&M and Pleuro Pneumonia quarantine regulations. At the official sale yards, including Kisamis from 1959 onwards, only some 14,000 animals were marketed. This seriously affected the finances of the African District and Section Councils who derived much of their revenue from auction fees of Sh. 2/- per animal sold.

But worse was still to come. In 1960 the rains failed totally resulting in the most severe drought in the previous 25 years. 'By roadsides in all parts of the District can be seen skeletons of dead beasts and recently a complaint was received from a farmer at Sultan Hamud asking that the carcases should be buried as there were so many [that] even the hyena, jackals and vultures were not able to eat [them] fast enough' (KDAR 1960:14/5). Various estimates concerning the number of cattle deaths range from 300,000 (Fallon 1962) to 400,000 (Jacobs 1980) or 65-80 per cent of the pre-drought herd size. Famine was widespread. 'More than six million pounds of posho and over one half million pounds of dried milk, as well as edible oil, meat powder, vitamins and other foods were distributed to Kajiado Masai free of charge during the 16-month period from February 1, 1961 to June 1, 1962' (Fallon 1962:9). Other districts in Kenya were also suffering from the drought. In total an estimated 450,000 people, of whom 38,000 Kajiado Maasai, received food aid.

Cattle sales were cancelled in most areas for three quarters of the year because of the still prevalent diseases mentioned above as well as outbreaks of malignant catarrh and localized trypanosomiasis. Tax collections were poor and, as a result, many development schemes had to be postponed. Because Tanganyika also suffered from drought conditions the market to dispose of livestock was rather limited. Alternatives were sought without success, in the Kikuyu region. According to Fallon the Maasai were also to be blamed. 'The Masai had waited too long. Little demand existed for animals in a starved condition. At the Namanga sale only 2 buyers appeared although the sale had been publicized days in advance. They bought less than 25 animals at an average price of shs 60/= each from the more than 300 offered' (Fallon 1962:3).

On the other hand Jacobs, at the time conducting his research among

Tanganyika and Kenya Maasai, informs us that:

> 'the Kenya Meat Commission was paying on the average of Sh. 30/- for premortal Masai beasts (of which Sh. 20/- could be recovered from the sale of their hides alone), but only accepting about one hundred beasts per month at the Athi River Factory because they were not equipped to handle more. Yet I was told, in no special confidence, by a well-known employee and buyer for Tanganyika Packers in Arusha, that a request from them for permission to buy cattle in Kajiado District at this time, at approximately Sh. 90/- to Sh. 120/- per beast, was refused - allegedly on the grounds that Tanganyika Packers would flood the world market with Masai tinned beef at a time when the Kenya Meat Commission was *first attempting* to expand into this market. It was also said that Masai of Kajiado would have profited by an estimated £500,000 at this time if permission to buy had been given' (Jacobs 1963:72).

Indeed, if we take into account the inadequate official marketing facilities and/or prices in combination with the prohibition from importing high quality Boran stock to improve the Maasai herds, which was only relaxed in 1961, it is a rather onesided if not inaccurate statement to suggest that the "enormous" quantity and "poor" quality of Maasai cattle should be considered to be primarily responsible for the 1960/61 disaster.

The KMC was mainly interested in first grade cattle from the European areas for fresh meat production as, until 1958 when the canning plant at Athi River was opened, it was not able to deal with tinned meat as the Tanganyika Packers Ltd. were able to already for a long time. 'Masai have been restricted from selling cattle on a truly competitive open-market and, like keen businessmen everywhere, the only reason which has prevented them from selling more cattle than indeed they do has been the lack of what they consider fair prices' (Jacobs 1963:70).

Heavy rains finally came by November 1961 and the land once again became a vivid green. By mid 1962 the number of destitutes had dropped to some 10,000 people. Food-for-Work projects were initiated such as the repairing of roads and dams and the clearing of bush. But it was not until 1965 that all of them had fully recovered from the 1960/61 disaster.

The export of hides and skins, which had almost come to a standstill during the war years increased sharply thereafter. 'The buying of hides and skins by the Bata Shoe Co. at Loitokitok has been a great success. The excellent prices paid by this firm have caused a general rise in prices paid by Indian traders in the area' (KDAR 1950:18). In 1947 4,044 hides and 1,356 skins were officially exported. By 1953 no less than 20,982 hides and 17,785 skins were transported from Kajiado District. An estimated extra 20 per cent left the district illegally in order to avoid the payment of a cess of 75 cents per hide and 25 cents per

skin to the Kajiado African District Council. Despite the posting of 12 instructors sent out to teach the Maasai the principles of suspension drying and the correct way of flaying and cleaning hides, no noticeable improvement in the quality of the product was achieved. Nonetheless, some success was achieved in organizing the hide and skin trade. Traders were obliged to have suitable hide stores and the clerical ability to maintain detailed records of all transactions. In 1956 new hide drying *bandas* were built.

In accordance with the periods of starvation among cattle the number of officially exported hides and skins fluctuated between some 10,000 to 20,000 during the 1950s. By 1959, as a result of the drought, a record number of 35,380 skins and 23,682 hides were marketed. For 1960 these figures stood at 28,399 skins and 31,671 hides. Prices received were as low as Sh. 5/- to Sh. 7/- per hide.

2. Veterinary assistance

After World War II veterinary activities in Kajiado District were improved by the establishment of 7 centres spread over the area. Contagious Bovine Pleuro Pneumonia (CBPP), East Coast Fever (ECF) and Rinderpest were the main diseases by the late 1940s. Appearance of the latter was in fact caused by a mistake made by the Veterinary Department. They had inoculated Maasai cattle with a faulty vaccine. As a result, approximately 10,000 cattle, mainly belonging to Kaputiei Maasai, died in 1949.

In the early 1950s quarantine regulations were still in force in about 6 areas of Kajiado District because of CBPP. The whole of the district was placed under quarantine in 1952 due to an outbreak of Foot & Mouth disease. In 1953 the Rombo and Loitokitok areas suffered from ECF resulting in livestock losses as high as 75 per cent. With a newly developed vaccine to attack CBPP an inoculation scheme was launched in June 1957 with the object of eradicating the disease throughout the district. Unfortunately, the stock in the Loitokitok area reacted badly and hundreds of cattle died. Other areas did not suffer from this but, by the end of 1959, CBPP was showing itself again. The weakened situation gave several other diseases a chance. By May 1960 all Veterinary staff were concentrated along the Machakos border, not in order to protect Maasai cattle but to protect those belonging to the European farmers in the settled areas. The annual rinderpest campaign had to be curtailed and cattle sales were suspended for six months.

By 1960 three dips (Illasit, Konza, Kajiado) were available to prevent tick-borne diseases, a fourth being constructed in Loitokitok. The Kajiado township dip was used by about 600 head a week, most of the animals belonging to the school farm and local ranchers.

3. Water development

Water development was initially still an activity mainly undertaken by the Kajiado Local Native Council. A new Township water supply was installed for

Kajiado Town in 1947. The next year £3,000 was provided to (partly) cover the costs of the drilling of 5 new boreholes for as many sections. Two boreholes in favour of school farms were financed by the DARA. Three sections produced the finances for a borehole themselves. 'It has become increasingly evident that the Masai themselves are anxious to play their part in this programme. During the year, and a very hard year at that, over £300 was collected by voluntary contribution and deposited with the District Commissioner for the construction of various water supplies' (KDAR 1949:14). Unfortunately the results of the boreholes drilled were disappointing. Of the five LNC boreholes three were complete failures and the other two produced only small quantities. The two school boreholes were successful, but of the three private Maasai boreholes only one turned out to be productive.

In spite of these difficulties new plans were made for the drilling of 20 boreholes to be financed by a DARA grant. A proposal to collect money for the maintenance of the LNC boreholes was, after an earlier rejection accepted by 1949 and a Sh. 6/- Maintenance of Water Supplies Rate, as part of the annual Native Council taxation, was introduced in 1950. Recurrent expenditure for Water supplies was £2,366 in 1951 rising to £6,824 by 1955.

In 1950 the African Settlement Board had provided additional DARA funds for the establishment of a Dam Construction Unit, with the object of showing the Maasai how to make earth dams for themselves using their own labour and oxen. In the first year a total of 8 dams was constructed, in Kaputiei, Matapato, Konza and Kajiado, with the help of 60 Maasai *ilmurran* and 56 oxen trained to draw scoops. Only two dams had water by the end of the year but in later years more dams were built.

Another way for the Maasai to obtain water was by agreements made with companies which applied for mining concessions in Kajiado District. As a result 2 boreholes were drilled in the Sultan Hamud area. The Magadi Soda Company, having obtained approval for the construction of a 200,000 gallons per day pipeline from the Oloibortoto River on the Nguruman Escarpment to their factory at Magadi, agreed to provide 10,000 gallons of water a day to the Loodokilani living along the pipeline. This arrangement was also made with the Railway Company who constructed a 100 km pipeline from Noolturesh near Loitokitok to supply a 3,000,000 gallons reservoir near the main railway line at Sultan Hamud. Along the new pipeline, completed by 1956 and transporting 500,000 gallons a day, 5 take-off points were created for the Maasai providing 50,000 gallons a day. By 1960 38 boreholes and over 50 dams were operating in Kajiado District belonging either to the African District Council, the Central Government or to individual Maasai.

4. Education

Other fields of development in the period before Independence were education, health and infrastructure. As compared to the pre-war years some progress was made, but it should be realized that, compared to other districts, the Maasai

were in a less favourable position.

In 1946 Kajiado District had five Government primary schools in Kajiado, Loitokitok, Mashuru, Bissel and Oloyiangalani, plus two missionary schools at Ngong. The Kajiado and Loitokitok Secondary schools had long been closed due to insufficient pupils. In 1945 the first two Maasai students at Makerere University pleaded for the use of sanctions, if needed, to bring about social change through education. One of their proposals was to enrol girls in the schools. In 1948 there were only 15 girls as opposed to 279 boys on the school registers and a total of 11 teachers. The quota system was still in use.[25]

According to the District Annual Report of 1948 education remained unpopular with the bulk of the Maasai primarily because of the 'necessity for the mother and a sufficient number of cattle to accompany the child to school, but others maintained that it was merely because children were wanted for herding' (KDAR 1948:18). An attempt had been made to overcome a former important complaint, concerning the non-relevant curriculum used in the schools. It was stated that education 'paid no attention to the priority of cattle in Maasai life, and did not attempt to inspire any reforms in land use or animal husbandry' (King 1970:226). However, the emphasis of training Maasai youths to become veterinary officers was not appreciated either.

By 1949 a primary boarding school was opened at Kajiado. This turned out to be a success as there was no longer a need to send a wife and cattle to the schools to accompany a child. The Maasai asked for all the other out-schools to be turned into boarding schools. The Kajiado Intermediate School was opened in 1953 with 36 pupils in Standard V. The following year the school totalled 104 boys and 14 girls, 80 per cent being pure Maasai.[26] School fees were raised to Sh. 80/- in 1954 covering approximately 20 per cent of the recurrent expenditure for boarding schools. By 1957 the District Education Board schools numbered 442 boys and 104 girls. The Kajiado Government school had 153 (primary) pupils. That same year two Intermediate Schools were opened in the Ngong area, one under PCEA and the other under the (Catholic) Holy Ghost mission. The AIM Girls' school at Kajiado made the most spectacular progress. The school started in May 1959 with 53 girls and a year later had 150 pupils, mostly from nomadic homes. A primary school was opened at Mile 46. By 1959 Kajiado District had 15 primary and 4 intermediate schools.

Still, school attenders as a percentage of school-age youth would only have been in the order of 5 to 10 per cent. In addition, the number of drop-outs, especially among girls, was very high. Moreover, it should be realized that the

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[25] The quota settled, however, was very low. For example the Loitokitok Section, with some 2,500 school-age children by 1959, was supposed to send only 27 pupils every year.

[26] Intermediate schools included standards V to VIII. Until 1966 they acted as an intermediate between the 4 years primary and the secondary schools.

increase in schools and pupils was partly the result of the influx of non-Maasai into the district. For example, out of the 15 primary schools in Kajiado by 1959, 8 were located at Ngong and almost exclusively used by the agricultural Kikuyu. The wind of change that swept through the district in the beginning of the 1960s resulted in greater emphasis being laid on the efforts to increase literacy among the Maasai. Plans were made to raise the number of schools in the District to 41 by 1963. 'Of these, board day primary schools for the pastoral Masai are expected to be built at the rate of four in 1961, three in 1962 and two in 1963. The other schools are for the more static agricultural groups who are very keen on education' (EAS 28/08/59). The Maasai realized that they had been placed in a disadvantaged position and had to change as quickly as possible.

Education received a big impulse from the arrival of more missionary societies. The Mill Hill Mission took over from the Holy Ghost Mission and promoted three new schools in the Kisonko and Kajiado areas. Loitokitok and Bissel opened an Intermediate School in 1960. 'Desertion by pupils from intermediate schools has also become a rarity and almost all pupils now show determination to finish the school course' (KDAR 1960:26). Despite the intentions to increase the number of primary schools to 41, only 22 Government aided schools, nine of them being intermediate, were available by 1963. The number of pupils, however, had increased to just under 3,000 or approximately 15 per cent of the eligible age group of 7-15 year olds (see Gorham 1977:5). Again, children of agricultural groups like the Kikuyu and Kamba and young Maasai of mixed parents were mainly responsible for this expansion. 'In 1965, for instance, it was noted with concern that the recently established AIM girls' boarding school at Kajiado had changed to being non-Maasai' (King 1970:229).

Also the geographical distribution of these 22 schools favoured the non-Maasai population of Kajiado District. Ngong Division was served by 9 schools, Loitokitok by 6 and the remaining 7 were located in Central Division. Moreover, most schools were present in the small, non-Maasai dominated, towns of the District. Sections like the Loodokilani, Dalalekutuk, Ildamat and Purko had no primary school at all. 'Clearly then, in 1963, the majority of Kajiado District schools were located either in areas where there were very few Maasai at all (i.e. Township) or in those rural parts of the district where Maasai were well outnumbered by other ethnic groups' (Gorham 1977:9).

Finally, mention should be made of the start of two adult literacy classes at Ngong and Kajiado in 1960.

5. Health

By 1948 the Kajiado District Health sector was made up of two hospitals at Kajiado and Magadi, and 3 dispensaries at Namanga, Mashuru and Loitokitok. By 1960 the number of dispensaries had increased to 7 (Namanga, Mashuru, Shompole, Bissel, Euaso Kedong', Meto and Zebra (near Amboseli National Park) and Health Centres present in Mashuru, Loitokitok, Ngong and Bissel. A mobile unit was also operative in the District.

6. Infrastructure

In 1948 the Kajiado-Namanga track was resurveyed in preparation for rebuilding and tarmac surfacing of the Athi river-Namanga road. Funds from DARA were provided for road improvement in the district. Still, by the beginning of the 1960s large parts of Kajiado District were almost inaccessible to motorized transport. Air transport to Loitokitok became possible in 1954. Buildings constructed were mainly for educational, medical and administrative purposes.

In addition an "Improved Housing Scheme" costing £200,000 was started in 1953. *Ilmurran* were often used as labourers for the Public Works Department. Courses were once in a while held in instructing the *Ilmurran* in animal husbandry, hygiene and Government affairs. Most importantly attempts were made through these contacts to control the Maasai warriors as they were often engaged in raiding the stocks of neighbouring groups. In 1948 a special *Ilmurran*-Officer was appointed to deal with these issues. Discussions over the abolision of the *Emurrano* System and/or a reduction in the warrior period continued all through the years now under review.

7. Cultivation

Agricultural activities in Kajiado District fluctuated over the years as a result of land use legislation, weather conditions and the availability of non-Maasai labour. This last had been affected by the Emergency and by the resultant immigration restrictions (see section 5.5.4). As far as the Kajiado Kikuyu are concerned it should be noted that eviction was mainly a measure to control and destroy the Mau Mau movement rather than to safeguard the Maasai grazing grounds. The Government and individual Maasai alike welcomed the increase of agricultural activities. For example, during the drought of 1953 the eastern portion of the district had obtained maizemeal produced at the gardens located near Loitokitok along the Tanganyika border. The rest of the district had to rely on maize released by the Nairobi controller. So "absentee landlordism" with Chagga, Kamba, Kikuyu and Sonjo wives and/or labourers working for the Maasai remained the primary arrangement in most areas.

Irrigated agriculture which had come to Kimana, Sinnet and Rombo parts of the Loitokitok area was initiated by Maasai with mixed blood and by illegal non-Maasai cultivators. In the Ngong area, even under the difficult conditions of the mid-1950s, 3,299 bags of maize and 4,635 bags of potatoes could be exported to the Nairobi markets by 1955. That same year a District Agricultural Committee was gazetted. Loans for farm improvement were provided to some Maasai cultivators. Cash crops made their appearance in Ngong by 1961 when 20 acres came under pyrethrum and another 19 acres were planted with coffee. Some farmers' co-operatives were started in that

same year (see Muranja 1973/74:59). Irrigated agriculture at Nguruman by Sonjo and Maasai was slightly expanded.

8. Wildlife and Tourism

The abundant availability of wildlife sharing the Maasai pastures started to become a major source of revenue for the local Administration through the licensing of controlled hunting parties and the development of a tourist industry. '130 hunting parties, of which 30 came to shoot birds only or to photograph, entered the district in 1953 and accounted for 4 lion, 1 leopard and 202 'hoofed' game for which the African District Council received revenue of Shs 2,300/-' (KDAR 1953:16). Furthermore, the 50 acre Ol Tukai Camp Site in the Amboseli Reserve was leased to Kenya National Parks who administered the Reserve. A proportion of the entrance fees and accommodation charges was also to benefit the District Council.

During the 1950s the number of visitors to Amboseli Game Reserve had risen from less than 1,000 by 1952 to just over 10,000 by 1962. The transfer of the Amboseli Game Reserve and the difficulties of collecting taxes during the drought of the early 1960s suddenly made tourism the foremost supplier of revenue for the Kajiado District Council.

9. Mining

In the late 1940s, the Local Native Council agreed to some land concessions requested by companies in various parts of the District (e.g. near Sultan Hamud and near Elang'ata Wuas). Most of the enterprises were seeking magnesium free limestone for the manufacture of cement. Other concessions included the KMQ area near Mile 38 (Magadi Line) (176 acres), a Military Camp near Athi River (600 acres), a tourist rest camp near Loitokitok (2 acres) as well as fuel (charcoal) and sand concessions for Indian traders, KMQ and the Magadi Soda Company.

The decade following the war saw business increasing steadily for the Magadi Soda Company. In 1948 it produced 116,350 tons of soda ash which, in cash terms made this the third most important Kenyan export. During the 1950s total production had risen to 182,500 tons by 1959. South Africa, India, New Zealand and the Belgian Congo were among the main importers of Magadi Soda Ash. Other products made by the Magadi Soda Company were salt, household soda and cattle salt.

KMQ's production of limestone, chips and marble rose from some 3,700 tons in 1952 to 5,000 tons by 1957. Over this period the number of labourers increased from 103 to 155. Towards Independence KMQ's production and labour force declined to the level of the early 1950s.

After years of standstill the East Africa Portland Cement Company took over the dormant Sultan Hamud limestone project. A total of 900 acres located in the Kibini Hill limestone area were leased to the company. A branch railway line was laid to Sultan Hamud in 1955 as the production of cement was to take

place at Athi River. By 1959 production was started. Over 80,000 tons of limestone were extracted.

Indian traders exploited sand taken at various centres from rivers adjacent to the Mombasa Railway Line for building and other construction work in Nairobi. A parallel trade in *boma* manure also existed and most of the sand exporters also exported manure. Royalties had to be paid to the Local Native Council. In 1949 55,000 tons of sand and 7,300 tons of manure were exported from the district. Royalties paid per ton were 50 cents and Sh. 1/-, respectively.

Wood fuel royalties, at Sh. 2/- per ton, stood at £1,680 for 16,800 tons of fuel. This resulted mainly from the concession granted to the Magadi Soda Company to cut trees in the area between the Euaso Ng'iro River and the Nguruman Escarpment.

In 1952 the export of manure came to a standstill owing to the ban on its movement caused by Foot & Mouth disease. This lasted until 1955. Sand and wood fuel continued to leave the district and a total of 54,876 tons exported brought in £4,860 revenue to the African District Council. In latter years, with slightly raised royalty rates, revenues for the ADC from these sand, manure and wood fuel concessions ranged between £4,000 and £6,000 annually.

10. Trade

Imports into Kajiado District of mainly sugar, maizemeal and cotton piece goods, remained firmly in the hands of Indian and Somali traders, despite the establishment of the Kajiado Joint Loans Board in 1956 for the purpose of issuing and administering loans of between £50 and £100, to selected African traders. In 1955 Somali traders had tried to obtain import licences for goats but their attempts were unsuccessful. In an attempt to get Maasai traders established in areas free from competition by Indians and Somali, markets were set up where no plot rents were payable and only an ADC licence of Sh. 15/- was required. A few cashed in on this, "renting" their plots to alien traders. By the end of the 1950s more Maasai had applied for loans to venture into local business, mainly livestock trading.

6.4 Summary and Conclusion

In this chapter we focused our attention on the Maasai economy and its development since the late 19th century until 1963, the year Kenya gained Independence. We also reviewed the development policy conducted by the former British colonizers in Kenya and Maasailand in particular and we looked at three distinct periods.

In the first period 1895-1919, the Colonial Administration tried to stimulate the European settler economy by every possible means. Huge tracts of land were offered at low prices and concessions granted to The Maasai, whose economy was in disarray due to the 1890/91 outbreak of rinderpest and smallpox and

who had lost their best grazing areas. As a strategy of survival some Maasai settled in the fertile Ngong and Loitokitok areas and commenced cultivation. This move was warmly welcomed by an Administration striving to hold back "the pernicious pastoral proclivities" and encourage peasant agriculture as a first step towards "civilized" forms of land tenure and usage.

However, this switch was only of a temporary nature as by the beginning of the 20th century Maasai herds had recovered and nomadic pastoralism became the mainstay for all of the Maasai once again. This building up of the herds again had been actively speeded up by young Maasai *ilmurran* involvement in raiding expeditions undertaken by British against other African groups. In return for their assistance they received a share of the loot. A negative aspect of British pressure was the declaration of quarantine regulations in 1917 to protect the settlers' livestock industry. This put an end to the Maasai tradition of selective breeding using Boran bulls from Samburu and Somalia.

Within the Maasai territory the colonial development policy was mainly directed at the "pacification" of the population and to maintaining law and order. For this purpose heavy fines were levied now and then upon the Maasai. Some minor projects were funded from the proceeds. Another interest was the supply of Maasai cattle to newly arriving settlers. Only towards the end of World War I were the first plans formulated to raise the productivity of these areas.

By this time colonial officials considered the Maasai to be among the richest peoples in the world, their owning some 600,000 cattle, 2 million smallstock and 10,000 donkeys. Taxation was proposed but difficult to employ. Understaffed departments meant that the assistance offered was restricted to some small attempts in the commercialization of ghee for instance, in offering veterinary care to intensify the cattle farming and in various constructions such as irrigation works to diversify the Maasai economy.

A second distinct period is the 1920-1945 timespan. The Kenyan economy went through a series of rises and falls in its economy and in some years several settlers were forced to abandon their farming enterprises. Economic activities in Kajiado District suffered less from these developments as, since the early 1920s, the Maasai had become even more restricted from trading livestock in order to protect European sales. Moreover, settlers demand for cattle had been fulfilled by this time. Maasai did have problems, though, as livestock diseases killed many animals by the early 1920s.

Education (opening of the Government school in 1927 in Kajiado Town), the provision of water (e.g. borehole construction near Simba, earth dam near Oloyiangalani, troughs and tanks along stock routes) and veterinary care (inoculation and experimental crossbreeding), were the most important efforts to develop the Maasai of Kajiado District by the middle and late 1920s. The Maasai often openly asked for this kind of assistance but frequently without success. The funds for these kind of projects were, in fact, provided by the

Maasai themselves. Being the highest taxed group in the country, the Colonial Government received three to five times as much money than it actually used for (development and recurrent) expenditure in the area. Increased interest in the Maasai had been the result of the 1923 declaration of the "Dual Policy"; European and African areas should develop alongside one another.

Disagreement appeared to exist, however, between the kind of development needed in the Maasai reserve; meat or dairy-oriented. A major problem for the first option which had the support of the Department of Livestock, was the lack of a meat-canning factory. Thus the second option, promoted by the Department of Agriculture, was adopted and attention was concentrated on the processing of ghee. After some successful years the production of ghee collapsed due to the 1929 drought and by 1932 all dairies had been closed. The trade in hides and skins was more successful but also came to a standstill by the 1940s. Other measures initiated by the Colonial Government interfered with Maasai customs and pastoral economic practices (e.g. the attempt to abolish the *ilmurran* system and heavy stock fines).

The most important for the Maasai was the trade in livestock. Some livestock auctions organized by the late 1920s failed, because of the low prices offered and because of quarantine restrictions. After eradicating livestock diseases and establishing more livestock outlets (e.g. Loitokitok for sale to Tanganyika) prices increased slightly. This increase was brought to a standstill as a result of the 1933 drought. The Colonial Administration blamed the Maasai for having too many animals. The Maasai responded by reminding that they had lost large tracts of their best grazing pastures. The Maasai gained support from an official report stating that some 40 per cent of the Maasai pastures were now useless, either due to the presence of livestock diseases or as a result of lack of water.

By 1937 the Liebig's meat processing factory was in production in Athi River. Though started under favourable conditions the Company could not compete with individual traders due to the too low prices (25-50 per cent of private trader's prices) offered. Illegal trade to Ngong and Tanganyika by contrast was flourishing.

The Maasai contributed to the finances of the Colonial Administration by giving "donations" of cattle during World War II. Alternately Narok and Kajiado District provided some 2,000 cattle at fixed prices every month. Though the price was fair the Government made a huge profit from this arrangement. During the war Kajiado District supplied between 10,000 to 13,000 head of cattle annually, or almost 60,000 in total.

Developments in other sectors of the district's economy (e.g. mining and cultivation) showed that the Magadi Soda Company suffered from the collapse in the world economy in the 1930s. Production and employment fell significantly for non-Maasai in the main. Cultivation was of minor importance. In 1931 an area of less than 1,000 acres was under the plough in the whole of the Maasai Reserve. During the 1930s and 1940s it remained an activity

mainly performed by Maasai stricken by drought and by immigrants. Trade was in the hands of Indians and Somali.

The third period 1946-1963, is foremost characterized by an increased concentration of interest in the African areas. This commenced after World War II at the instigation of the British Government, at least partly to benefit the British economy and to replace the laissez-fair attitude by an approach oriented at a kind of planned economic development. Special agencies were created to produce and implement a 1946-55 Ten Year Development Plan. Veterinary assistance, hides and skins drying training, livestock marketing organizations, education and water development (e.g. boreholes and dams) were some of the major projects implemented. The scope and volume of the Provincial Administration changed from one of only collecting taxes and maintaining law and order into a more active one. This process was speeded up as a result of growing tension among agricultural groups (mainly Kikuyu).

Over the years the revenues collected in Kajiado District had been approximately twice that of the expenditure. By 1953 this situation had changed as a result of a threefold increase from 1949 to 1953 (Sh. 250,000/-). Emergency measures and development funds were the main causes of this rise. Revenue from taxation rose to some Sh. 200,000/-. In addition, the Local Native Councils had become involved in development-oriented projects (water, education, health and infrastructural developments mainly) averaging some Sh. 300,000/- annually. Finances were derived from a Local Native Council tax, fees, fines, grants and sand, wood and limestone royalties. The Maasai continued to be the highest taxed group in Kenya.

Finally mention should be made of missionary activities that had gained in importance by the end of the 1950s. Most of their efforts were in the field of education, health care and water development.

The Maasai pastoral economy in the post-war period was characterized by both an initial drop in livestock numbers to some 335,000 head of cattle and an increased (legal) off-take, partly in response to increased livestock prices. Until the mid-1950s black market sales (to Nairobi, Central Province and Tanganyika in particular) doubled official sales with the former receiving prices some 20 per cent higher than the latter. Auctions organized on a voluntary basis were a failure even after when official livestock prices were raised. The prohibition of private trading between districts, only relaxed in 1961, also made buying cattle at official auctions unattractive. Liebig's also ran into trouble and closed down in 1949. The next year the Kenya Meat Commission (KMC) was established which took over the Liebig's factory. Now official producer prices became even less lucrative with private traders paying more than double the KMC prices. Illegal trade towards Tanganyika via Illasit became very popular. Kajiado Administrators were said to have prolonged this practice deliberately as it was an important source of money for

the Maasai and therefore by way of taxes also for the Administration. Still, by 1955 Illasit was made an official outlet and official sales increased dramatically to some 25,000 annually.

By 1960 the Maasai livestock economy had collapsed as result of a severe drought. Livestock numbers had decreased by some 65-80 per cent. Food aid had had to be provided to some half of the Kajiado District population. The KMC was paying very low prices and could not handle the huge numbers of cattle offered. Outside assistance from Tanganyika was refused for commercial and strategic reasons. As with the cattle sales the marketing of hides and skins increased sharply in the mid-1950s.

Cultivation in Kajiado District fluctuated over the years as a result of land use legislation, weather conditions and the legal or illegal availability of non-Maasai labour. Irrigated agriculture was started in the Loitokitok locations of Kimana, Sinnet and Rombo. In the Ngong area some cash crops such as coffee and pyrethrum were introduced and also tourism gained importance. Within a decade the number of visitors to the Amboseli Game Reserve had increased tenfold, making tourism the main source of revenue for the Kajiado County Council. The mining of limestone, marble and soda ash all increased considerably. In the next chapter the creation, performance and subdivision of group ranches will be discussed.

Figure 7.1 Kajiado District Group Ranches

CHAPTER 7

KAJIADO GROUP RANCHES: CREATION, PERFORMANCE AND SUBDIVISION

7.1 Introduction

In chapter 5 we outlined the history of land use and land use policy in colonial Kenya and the position of the Maasai pastoralists in this respect. In chapter 2, we had already highlighted the Kenyan land issue in the humid and semi-humid areas. We concluded that a huge shortage of land, partly the result of a large population, but even more due to an unequal distribution of land among the population of this zone had pushed farmers away to the best agricultural areas within the semi-arid zones of Kenya. As a result, and in addition to the natural growth of the pastoral population, competition about land in the dry regions of Kenya increased.

In the following an analysis of post-colonial land policy and the state of affairs in Kajiado District will be presented. Pressure on ranging land in Kajiado District shows itself mainly by way of loss of pastures to other land use activities such as cultivation and National Parks and through a process of privatization and individualization of land use and ownership. The growing importance of agriculture and immigration to the relatively high-potential zones of Kajiado District and of wildlife conservation activities have been intensively studied by Campbell (1979a, 1981b), Muranja (1973/74), UNDP/FAO (1978), Western (1982a) and Ecosystems (1982).

In the last section of this chapter an updated overview of these developments will be presented. First and foremost, however, we will address ourselves to the creation, performance and, most specifically, to the process of the subdivision of group ranches into small individual ranches in Kajiado District. This is the most hotly debated item in Kajiado District today.

7.2 The Creation of Group Ranches in Kajiado District

7.2.1 Diminishing Opportunities for Nomadic Pastoralism Around Independence

We ended our description of land use in the late colonial period in Kajiado District by concluding that a process of setting aside individual ranches had started by the early 1950s, and this had resulted in the creation of 24 individual ranches by 1963. This development had worried Colonial Government officials, because they feared a land grab by rich, influential and educated Maasai at the expense of the majority of the Maasai people. Still, as the Administration favoured an eventual transition to freehold land tenure, it declined to register

the Kaputiei section as one unit having one title deed as had been proposed by the newly created Kaputiei Development Committee. With the consent of the Kaputiei senior elders this committee had been formed by a few formally educated members of both junior elders and senior warriors. According to Hedlund (1979:31) the one title deed option was rejected by the colonial authorities 'as it would only preserve the present economic structure and circumscribe expected commercial changes'. Not surprisingly, a new proposal made by a few members of the Kaputiei Development Committee to allocate a limited number of private ranches was accepted by the Authorities. However, elderly Maasai were opposed to the creation of individual ranches, thought to be too small and not viable.

Those in favour of individual tenure mentioned the possibility of forming a buffer of individual ranches on the fringes of Maasailand to stop illegal intrusion. In chapter 5 we reported on the fear among the Maasai at the time of Independence concerning the dissolution of the old Maasai Treaties which had resulted in the removal of the status of closed district, enabling other groups to enter the Maasai Districts freely.[1] As early as 1966 the Lawrance Mission on Land Consolidation and Registration quite boldly stated that securing tribal lands against infiltration by members of other ethnic groups through a process of registration would turn out to be an illusion. To underline their statement the Mission pointed to the Ngong area where 'registration of land to individual Masai has resulted in immediate sale to Kikuyu farmers and consequent loss of the land to the Masai tribe, probably for ever' (Lawrance et al. 1966:25).

By 1964 over 8,000 ha, or more than half of the best dry season grazing areas round Ngong had been allocated to small individual farms (see Bekure et al. 1987:92). By mid-1968 this had increased to over 10,000 ha in the Ngong Division alone (see EAS 07/06/68). Indeed, increasingly these small plots were sold to Kikuyu holders either for agricultural or speculative purposes. The Kajiado District Annual Report for 1967 reports 'While some plot holders have endeavoured to get money for development, others have spent their time searching for rich people who could buy their land at high prices' (KDAR 1967:4). Land was turning out to be a very valuable investment. In 1963 land in the Ngong area could be bought for as little as fifty shillings per acre, but the price for an acre had risen to four to five thousand shillings by 1972. In that year alone, some 431 hectares (almost 3 per cent of the total Ngong area) was sold and 188 land transfers carried out (see KDAR 1972:38). According to Muranja:

'The infiltration of the Kikuyu in this Region has completely destroyed the

[1] Tobiko (1989a:58) dismisses the idea that the acceptance of land registration was connected with a fear among the Maasai concerning the expiring of the Maasai Treaty of 1911. However, he agrees that the Maasai were looking for means to stop infiltration by non-Maasai and Game Reserves. In my view the two are definitely linked as explained above.

> Masai economic system and the Region is now like any other Kikuyu area in the Central province. Kikuyu being agricultural people (...) were obliged to fence their acquired plots to protect their crops. This process of land enclosure has reduced the area of grazing land and has left no room for pastoralism. (...) All that land consolidation has done for Masai in this area is to render them landless' (Muranja 1973/74:58).

By January 1967, the then Minister for Land and Settlements, Mr. Angaine, assured Maasai representatives that no newcomer would be allowed to settle in their areas without their consent, as the areas were owned by the Maasai people and not by the County Council. The latter's task was only to protect the existing rights and interests under customary law. The Government would ensure that the selling of land as had happened in the Ngong area would not be repeated. He urged the Maasai to set up group organizations and register their land (see EAS 13/01/67).

However, the influx of non-Maasai continued especially in the Loitokitok area on the higher-potential slopes of Mt. Kilimanjaro. Between 1966-1969 over 16,000 ha were allocated there to individual holdings. 'The original land owners were Maasai leaders, government officers and others who realised the value of obtaining title to land, and many acquired large tracts' (Campbell 1979b:4).[2] Once the monetary value of these lands had become apparent when immigrant farmers from other districts offered to buy or rent them, subdivision into small farms took place.

From the early 1960s onwards the initial idea of individual ranches had been backed by the Kajiado County Council. They also acted as a guarantor to the Agricultural Finance Company (AFC) when loans were provided to individual owners (see Sadera 1986:21). Peron (1984:53) sees the role of a political element setting the tone for the pro-individual land tenure position of the Kajiado County Council; two opposing influential politicians, both candidates in the 1963 general elections for the position of Member of Parliament, rewarded their supporters by granting them title deeds.[3] Some of the recipients were members of the sectional development committee in the Kaputiei area.

Although a process of land adjudication was started in Kajiado District in 1961 under the Land Consolidation Act, the Lawrance Mission stated that this act and the procedure followed by the County Council was not suited to and

[2] According to Fallon in addition to requests made for 2,000 acre ranches in the plains, a number of Maasai had earlier made applications for farms varying in size from 30 to 180 acres in the high- potential areas on the slopes of Kilimanjaro on which they planned to establish mixed farming enterprises (see Fallon 1962:26).

[3] Over the years until the early 1980s, one of the candidates managed to acquire a vast territory of 15,000 hectares for his own purpose with the help of the County Council (see Peron 1984:45).

was in principle illegal for the Kaputiei area. The report did not rule out individual ownership entirely, but warned that it required urgent and firm control. Most of Maasailand was considered unsuitable for mixed or arable farming and the report opposed the haphazard approach of the Government towards the land issue in Maasailand (see Lawrance et al. 1966:31 and EAS 22/08/67).

By 1965, 22,000 ha (out of 322,000 ha) in Kaputiei Section alone had been allocated to 28 families out of a total of approximately 8,400 people (see Hedlund 1971:3).[4] In the whole of Kajiado District the number of individual ranches was 82, the average size being 1,630 acres. This means that by 1965 some 53,475 ha or 2.5 per cent of Kajiado District was set aside under individual ownership. Yet it was estimated by the Lawrance Commission that if the whole of Maasailand was divided between Maasai adult males each one would only get about 200 acres, which was not considered viable for a single person let alone for a family (see Lawrance et al. 1966:31).[5] This development created growing opposition to the allocation of individual ranches and had to be brought to an end for three main reasons:

1. Fear that people in the Kaputiei area would be left landless if land continued to be distributed in parcels of 2,000 acres. The alternative would be the creation of small non-viable units;

2. Risk of losing land to non-Maasai (e.g. Kikuyu and Kamba) wishing to start cultivation in the area or engage themselves in speculation with land bought from the individual Maasai owners;

3. The Lawrance Mission on Land Consolidation and Registration declared in 1966 that "approval" by the Kajiado County Council in the case of the individual ranches had no legal authority.

[4] According to information provided by the Office of the Central Bureau of Statistics in Kajiado, the Kaputiei area amounted up to 264,900 ha with a population of 6,674 people in 1962. By 1969 the Kaputiei area measured 280,600 ha and supported 9,328 people. Perhaps the difference between Hedlund's total Kaputiei area and these figures stems from the inclusion of the Kitengela Game Conservation Area totalling 54,130 ha and populated by 949 and 1,759 people for the respective years. Including these people and averaging the resulting population figures for 1962 and 1969 gives a total population of some 9,355 people. If we presume 10 per cent to be non-Maasai (district-wide this was 31 per cent) and the Maasai family size to be 10 persons, we can calculate that 280 people (3.3 per cent of all Maasai in Kaputiei area) had obtained 6.8 per cent of the total area as their own ranch.

[5] For the Kaputiei area, Halderman (1972b:1) estimated a potential average ranch size of 471 acres by 1968/9.

7.2.2 The Group Ranch Concept: Objectives and the Search for Traditional Land Units

It was now time to search for an alternative. According to Davis (1970:13) the birth of the group ranch concept should be placed in time between the East African Royal Commission of 1955 favouring individual tenure in the whole of Kenya and the Lawrance Mission in 1965-66 preferring the establishment and registration of group ranches in the semi-arid regions. Grandin refers to the Range Management Division (RMD) and a report written by L.H. Brown in 1963 entitled 'Development of the Semi-Arid Areas of Kenya' as an important marker in the start of the land tenure changes in Maasailand.[6] From 1963 to 1967 RMD laid the groundwork for the Kenya Livestock Development Project Phase I (KLDP I) by recruiting and training staff; designing ranch structures and pilot projects; promoting legislation for the allocation of communal pastoral lands; introducing ranch research and drafting a credit request for the necessary funding (see Grandin 1981:1). Another plan for the development of Maasailand, the "Lewis Document" of 1965 divided the area into three ecological zones of high, medium and low-potential areas. It recommended mixed farming in smallholdings for the high-potential areas, commercial dairy and beef ranching for medium-potential areas whilst low-potential rangelands were to be adjudicated for group ranch development (see Njoka 1983:56).

After consulting with educated Maasai the RMD held meetings throughout the Kaputiei area to inform people of the group ranch concept. In brief this concept involved the setting aside of a certain piece of land, communally owned by a group of people and recorded and registered as the legal owners through membership of the particular ranch. Livestock movements would be restricted within the boundaries and outsiders not allowed to enter with their stock. Development capital loans were to be provided for infrastructural development such as water facilities, dips and firebreaks. In addition, by

[6] In my opinion, a report written in early 1962 by Leland Fallon, range management advisor of the United States Agency for International Development for the Kenyan Government Ministry of Agriculture and Animal Husbandry has also been of importance in this respect. Fallon (1962:47) recommended that 'the era of unregulated and free use of the land resources in the Kajiado District should be terminated as soon as possible through the formation of Land Use Commissions, Co-operatives or Corporations under proper legal authority'. These new legal bodies should preferably be established at the *enkutoto* level. A Commission of 6-12 elected members should be appointed responsible for the management and development of resources including all administrative functions and the collection, borrowing and expenditure of funds and the ownership of property. These administrative organizations should be subdivided as soon as possible into individually and family owned ranches 'where water and other conditions permit' (see Fallon 1962:46)! Fallon further proposed an annual development fee (Sh. 1/- for cattle and donkeys and Sh. 0/20 for small stock) to be paid by each family for the use of the grazing resources based on the number of livestock owned or controlled. In addition, a range management system based on 4-paddock rotational grazing combined with a three-month grazing period should be introduced.

providing working capital loans, young animals could be purchased, fattened and afterwards sold on the Nairobi meat market to repay these loans This new approach to pastoral development was conceived as a first step in the radical transformation of nomadic subsistence production systems into sedentary, more commercially oriented systems. We will now summarise the targets set by the Government authorities concerning the introduction of the group ranch concept.[7]

1. Reduction of the total number of livestock from the pastoral areas who were thought to be responsible for pasture degradation. The 1960/61 drought had turned the arid and semi-arid zones into a deplorable area. Free access to land, in combination with private herd ownership was thought to be the wrong basis for a sound ranch management strategy. Small ranches restricted to the livestock only of registered members should promote strict grazing controls and "create a feeling of responsibility";

2. Production of meat for the national market. A report by the East African Livestock Survey of the mid 1960s had warned that, unless something was done to commercialise the pastoral areas, Kenya would have to import meat by the 1970s (see Tobiko 1989a:59);

3. Prevention of the spread of livestock diseases by dipping, vaccination and quarantine. In addition, stock should be improved and water provided. Loans could be provided with the group's title deed as security;

4. Settlement of pastoralists in group ranches would considerably ease in meeting basic needs such as education, health and infrastructural facilities.

Implications of the introduction of the group ranch lay in the organisational, juridical and economical sphere. In the remaining of this and in the next section these consequences will be discussed.

One of the most important organisational adjustments was the formation of specific groups of Maasai whose area was, in future, to be confined to strict boundaries. FAO experts stated that group ranch boundaries had been based on "sociological groupings of the population". It was assumed that the Maasai group was made up of several sections, each of these made up of smaller political units, known as *elatia*. Group ranches, it was believed, could be formed by subdividing these *elatia*. Unfortunately, this analysis of Maasai society was essentially faulty. *Elatia* can be translated as 'neighbourhood'. Depending on a specific region within Maasailand and upon a time in history this refers to all members of a *boma*. As early as 1970 Davis reported that,

[7] Chapters 9 and 10 will go into more detail concerning pastoral production strategies and commercial systems of livestock production

after consultation with a large number of Maasai, the term *elatia* referred to the members of a single *boma*. Jacobs used the same definition. Later, some authors (e.g. Bekure et al. 1987.126) included one or more adjacent *bomas* as making up a neighbourhood. In all probability this was due to the fact that, since the early 1970s, the size of *bomas* had decreased considerably, resulting in the dispersal of the *elatia* over a larger area. As a result, today *elatia* refers to the members of one large or a number of adjacent small camps. In any case it will be clear that a group ranch could never have been formed by subdividing an *elatia*. Jacobs explained that the group ranch identification exercise had not been done by an anthropologist or a sociologist but rather by a grassland botanist (see Halderman 1972a:17).

Another confusion exists concerning the term *enkutoto*. According to Jacobs (1963:48-9) each Maasai section is further subdivided into a number of named localities (*enkutoto*), in which adequate water and pasture to support local concentrations of kraal camps throughout the dry season may be found. Each such locality is a self contained ecological unit with contiguous areas of wet season pasture, to which camps disperse in the rains on locally scattered temporary water. A typical locality of the sort described by Jacobs is rarely more than 200-300 square miles and contains some 600-700 people divided amongst twelve to fourteen kraal camps. The average cattle population for the area would be of 8,000-9,000 head, with roughly fourteen to twenty-four acres per beast. Individual kraal camps always tended to move within the same locality from year to year. In addition each locality had their own council of elders and warrior group. The self-contained ecological unit enabled the council of elders to manage the affairs of the area as if they "owned" the land.

However, as Hedlund and Tobiko pointed out, Jacobs' *enkutoto* concept is wrongly applied. According to Tobiko (1989a:77) *enkutoto* as a subdivision of the Maasai section is simply unknown. *Enkutoto*, in fact, means something quite different from Jacobs assertion. It is a flat area of land which encroaches into the hillside particularly in arid areas where good forage exists as a result of fertile soil deposits coming from erosion of the hills. Apart from this geographical perspective, it bears no socio-political characteristics. It constitutes a small area of land, normally used for grazing, but which is neither self-contained ecologically nor capable of being the basis of a group ranch. In fact, a group ranch might have several *inkutot* or might contain none at all. For Kiboko group ranch Hedlund found 21 such areas. He further reports that the word *enkutoto* is normally not used by the Kaputiei, but in the rare instances when it is used, it defines an area where people have settled down more permanently (see Hedlund 1971:5).

In fact this brings us to the concept of "*emparnat*", meaning permanent *boma* or home area. It is an area in which the family's patriline has stayed for a long time, one to which it belongs and in which it has a right to live. So indeed, despite frequent movement, each Maasai household has a place to which it has a unique sense of belonging (see Bekure et al. 1987:69). This residential

association normally referred to as *emparnat*, sometimes called *enkutoto*, is of a much smaller scale, however, than a group ranch territory. For now, the most important point to be made is that we can conclude that group ranches had nothing to do with traditional land units.

Why then, did the Maasai accept the group ranch concept? Part of this question has already been answered in our discussion of the increase in the number of individual ranches and encroachment of non-Maasai into the district. Also, the fear that more land would be lost to Game Reserves or National Parks can be seen in this light (see Western 1982a:304). In addition, it is mentioned that the Kaputiei especially, whose area was the first to be placed under the group ranch programme, were willing to accept the group ranch concept because their area was closest to the neighbouring groups of Kikuyu and Kamba to the north.[8] Towards the south the Kaputiei feared the Maasai of the Kisonko section. Several disagreements mostly over water and land resources had occurred between the two sections. For example, Mr. Stanley Oloitipitip, a Kisonko Maasai who had become a Member of Parliament (MP) for Kajiado South in 1963, employed his position to deprive the Kaputiei of their water point at Eselenkei river and transfer it to his own section. This situation obtained until 1988 and required a series of violent confrontations before it was handed back to the Kaputiei.

Furthermore, the disaster of the early 1960s is said to have been responsible for making the minds of many Maasai "development oriented". However, as we have seen before, Maasai pastoralists have always been interested in new opportunities. This desire for improvements in water facilities and veterinary assistance could be obtained by the provision of loans using the group title deed as collateral. Grandin (1981:6) reports 'The average Maasai seems to have accepted the group ranch concept because it was presented as a "total package" - as the only way to get a title deed, dips, water, etc.' From the start the international donors had insisted that, without some policy of privatization of land-holdings and without the certainty of ownership, no agency would be prepared to lend money for range development (see Holland 1986:38). Tobiko (1989a:61) and Gutto (1981:47) believe that the role played by the Government of Kenya and international donors has in the end been the most important driving factor behind the creation of group ranches in Kajiado District. Some backing for this statement can be found in the Lawrance report statement that initially the Mission was:

[8] When the World Bank Appraisal Mission took place in April 1967 it was initially decided to restrict group ranch development to the Kaputiei section because the area had a comparatively high grazing potential, its people seemed to be more in favour of development than those in other areas, the Kaputiei Maasai had had some level of education and they had a history of contact with outsiders. Lessons learned in the Kaputiei section would later be extended to other parts of Kajiado District and Kenya as a whole.

> 'in some doubt as to the real need for registration of group ranch land as a condition of loans. Individual ranches whose land is not registered have already been given credit by the Agricultural Finance Corporation on other security, and obviously the pledging of group range land against a loan will not by itself provide any valid security to the lender, (...) We are, however, convinced after discussions with representatives of the World Bank, that registration of group ranches is a prerequisite to the loan of money for development purposes. Without the certainty of ownership and the clear right of the group to exclude outsiders, which is provided by registration, no agency would be prepared to lend money for range development' (Lawrance et al. 1966:31).

Did all Maasai accept the group ranch concept? No, in northern Kaputiei and south-eastern Keekonyokie especially, near the better watered Ngong area, strong opposition existed towards the introduction of group ranches. Those Maasai favoured only the demarcation of individual ranches. In the end their group ranches (Kisaju/Kipeto, Olooloitikoishi/Kitengela, Nkatu/Saikeri and Olchoro Onyori) never functioned as such and the area was, in fact, under individual ownership (see Bekure et al. 1987:102).

In a survey conducted by Njoka in 1977 76 per cent (out of 148 responding Kaputiei Maasai group ranch members) were said to be in favour of the group ranch concept. Of the 24 per cent not in favour 85 per cent preferred an individual ranch. Developments like water, dips, schools and shops were mentioned by 49 per cent of the respondents as being the most important advantages of the group ranch concept. Free grazing under communal rights and land rights for the Maasai were mentioned by 30 and 16 per cent of the respondents, respectively. In other words, improvements and security of land rights were virtually seen to be of equal importance, at least by the late 1970s (see Njoka 1979:216-7).

In conclusion it can be stated that the group ranch concept was, in many respects, an artificial creation having no traditional basis, being established as a result of administrative propaganda for change and accepted by a majority of Maasai because of securing access to land and the provision of several improvements such as water and veterinary facilities.

7.2.3 The Process of Adjudication and Registration of Group Ranches

The actual establishment of the group ranch followed a phased structure that started with the declaration of an "Adjudication Area". The essence of this land adjudication programme was the turnover of "Tribal Lands" held under trust by the County Council, from common property into private property to be held by individuals or groups. Supervision of this process was in the hands of a District Land Adjudication Officer (DLAO). Demarcation, recording and survey officers were appointed to assist in the technical process of this exercise.

Determination of the Adjudication Section's boundaries was preceded by feasibility studies performed by the RMD. After discussions with the chiefs and elders of a section rough boundaries were drawn. Next, parts or the whole of an adjudication area were declared an Adjudication Section. In Kajiado District the Adjudication Sections were virtually congruent with the administrative boundaries where these tended to coincide with *il-oshon* boundaries.

The moment that Adjudication Sections were pronounced, any person claiming to have an interest in that section had to bring his claim before an Adjudication Committee, formed by no less than ten persons resident within the Adjudication Section and appointed by the Adjudication Officer. According to Peron (1982:54) the Adjudication Committees were 'essentially composed of educated Maasai, politicians and government officials' and Grandin reports that most of them were given individual ranches (see Bekure et al. 1987:101).

In addition, an Arbitration Board for the whole of the adjudication area was set up in early 1967 and was comprised of ten Maasai originating from every Maasai Section in Kajiado District including a representative for the Ngong area. Most of them were individual ranchers and/or politicians whose main task was to deal with disputes over sectional boundaries or claims concerning land ownership which could not be dealt with by the Adjudication Committee. Among the cases dealt with by the Board were a dispute between Purko and Matapato Maasai in 1967 over the drilling of a borehole by a Matapato individual rancher who had been "given" the ranch in Purko area by the Matapato.[9] Galaty has reported on other more bloody armed clashes over boundary disputes, which occurred between the Matapato and the Dalalekutuk in 1965, between the Purko and Loodokilani in 1972 and between the Ildamat and Loodokilani in 1975. In the last case it was said that an Ildamat chief had influenced the Land Adjudication Officer as a result of which a substantial portion of the Loodokilani section had been adjudicated to the Ildamat (see Galaty 1978:15/6). Like the Purko, it should be noted that the Dalalekutuk and Ildamat only entered Kajiado District after the Maasai Moves of 1911-13.

The Adjudication Record was usually open for a period of sixty days. The Adjudication Section was divided into individual and group ranches and people were recorded as belonging to one specific parcel (a group or individual ranch) marked on the section demarcation map. The map and the record together comprised the Adjudication Register. All those who were recorded in the said Adjudication Register as having an interest in the group land were entitled to become members of the group. After completion of the registers they were

[9] It should be remembered that the Purko Maasai entered this part of Kajiado District only after they had been removed by the Colonial Government from Laikipia in 1912. At that time few people inhabited the area and the Matapato Maasai did not bother so much (see GoK/MLS 1967). Troubles between the Matapato and the Purko continued into the 1980s (see DN 15/08/81).

open for inspection for a period of sixty days during which complaints could be made to the Adjudication Officer. Finally the Adjudication Register, including the amendments made, was sent to the Chief Land Registrar.

At a meeting the group of potential members then elected at least 3 but no more than 10 representatives. Their task was to apply for incorporation of the group ranch to the Registrar of Group Representatives (see below). In addition, the group members elected group ranch committee officers from among themselves (i.e. the Group Ranch Committee) responsible for day to day management of the group ranch. Finally, a certificate of incorporation and the Adjudication Register was forwarded to the Land Registrar of the District concerned who then issued a group title in the name of the group. This marked the birth of a legal group ranch; a corporate body, with a distinct name, a perpetual succession and with the rights and obligations to sue and be sued, to acquire, hold, charge and dispose of property of any kind and to borrow money with or without giving security (see Coldham 1982:2).

Legal authority concerning group ranches was based upon the Land Adjudication Act 1968 and the Land (Group Representatives) Act 1968 (see RoK 1970b and Wanjala 1990:34). The former governs the process of creation, demarcation of group boundaries, adjudication of group rights and consequent registration of title under the Registered Land Act. The latter deals with the operation and administration of the groups. These Acts had to be newly introduced in 1968 because the Land Consolidation Act and Registered Land Act contained no provisions for the ascertainment and registration of group rights.

7.2.4 The Structure and Administration of a Group Ranch

For the internal functioning of the group ranches four main components are of vital importance;

1. The Registrar of Group Representatives
2. The Group Representatives
3. The Committee
4. The Members

ad 1. The Registrar of Group Representatives, appointed by the Minister of Lands, is a public officer responsible for the general supervision of the administration of group ranches. The Registrar keeps a copy of the list of members and may check on the group's financial performance and day to day functioning. Decisions of the group representatives, the committee and the members are all subject to the approval of the Registrar;

ad 2. The Group Representatives hold the land and other assets of the group on behalf of and for the collective benefit of all members of the group. Group

Representatives can be replaced voluntarily or by resolution of the members;

ad 3. The Group Ranch Committee is composed of a chairman, vice-chairman, secretary, treasurer and three members. The Committee is responsible for the conduct of all business. It is charged with the responsibility to draw up and implement development plans. Correspondence and the maintenance of proper record keeping and accounts is also done by the Committee. It may issue instructions to Group Ranch members and make rules for the operation of the group. Among the most important regulations are the enforcing of grazing quotas and grazing management as well as the maintenance of the recognition of the group ranch boundaries. Group Ranch Committee officials are elected at a General Meeting held, in principle, once a year;

ad 4. The Group Ranch Members are in fact shareholders of the group land and other assets such as water facilities and dips. Their share in the ownership of land is in undivided shares. A group ranch member is entitled to reside free of charge on the group land together with his family and dependents and is entitled to use the land, water, machinery, credit facilities, veterinary services, marketing arrangements and other provisions either free or in return for a cess, fee or other charge. Members are responsible for the election and removal of the group officials. At the time of group ranch incorporation all those people listed in the adjudication register were automatically recorded in the Group Ranch register. New members could only be added to the register by decision of the group representatives confirmed by a 60 per cent majority at a General Meeting of the Group Ranch. As we will see, this is the most debated issue in the process of group ranch subdivision in Kajiado District of today.

Beside the Registrar of Group Representatives within the Ministry of Lands, the Kenya Livestock Development Project meant the involvement of a whole range of other Government agencies: the Range Management Division (RMD), Agricultural Finance Corporation (AFC), Water Development Division, Veterinary Department and the Livestock Marketing Division (LMD). UNDP/FAO assisted in preparing detailed studies of range resources, hydrology, livestock and wildlife populations. Initially, the Kenyan Government proposed establishing a special unit within the RMD for the supervision of group ranch development. However, the World Bank Appraisal Mission of 1967 decided to lay the responsibility for project implementation in the hands of the AFC. A special Range Division, headed by an international development expert supported by 5 livestock specialists, was newly established within the AFC (see Grandin 1981:7).

7.2.5 Poka Pilot Group Ranch

In 1964 the pilot Poka group ranch located in South Kaputiei location south-east of Sultan Hamud was started. The ranch was viewed as a test case for the

group ranch concept to be extended to the rest of Maasailand, Kenya and possibly even Africa. Some 30 families were grouped together in an ecologically favourable ranch of 8,926 hectares and given grants for water and dip facilities. In 1967 they were granted a loan through which every member was given a Sahiwal bull and cash to buy steers for fattening. In addition poorer members were provided with breeding stock. Twelve year span livestock projections were made by UNDP/FAO experts, which intended to bring down the number of breeding cows from 1,328 before development to 900, the number of bulls from 84 to 30 and the number of 214 old steers of above 4 years of age to nil, whilst raising the number of calves, heifers and purchased steers for fattening. Over the twelve year period it was planned to purchase 3,714 steers. In terms of stock units the grazing pressure of 1,462 KSU before development was allowed to rise to the carrying capacity placed at 1,567 KSU.[10] A total of over K£ 10,000 investments were planned, of which the bulk (K£ 6,000) was used to pay for the improved Sahiwal bulls. Water facilities, buildings, dips, tools and firebreaks completed the investments. It was calculated that, after an initial discounted balance in the first four years because of having employed development loans for working capital and operating costs, the following eight years would then make up for the deficit and, taking into account a 19 per cent rate of return, result in a final positive balance.[11]

According to John Halderman, who was attached to the group ranch as a ranch manager, Poka turned out to be rather successful in comparison with the traditional Maasai way of herding. Most of the Poka Maasai were progressive men who wanted to settle and take advantage of water development and cattle dips. Poka cattle was watered daily, dipped every week, covered only short distances and was as a result in better condition, produced more milk and had lower rates of mortality. However, as Halderman stresses, concerning the reproducibility of the Poka experiment it should be taken into account that the Poka members *were convinced that settlement in this area would be possible due to the unusually favourable conditions* of relatively high and consistent rainfall and the presence of both wet and dry season forage' (Halderman 1972a:28). Let us analyze the functioning and impact of the Kajiado group ranches which came into operation by the end of the 1960s.

7.2.6 Kajiado District Livestock Development Project Phase I, II and III

Officially Phase I of the World Bank Kenya Livestock Development Project

[10] In those days Kenya Stock Units (KSU) were used: an average ratio of 0 55 for cattle, and 0.07 for shoats.

[11] Poor members would be provided with working capital loans for steer fattening providing an additional income.

(KLDP I) commenced on the 1st of May 1969.[12] Besides the development of group ranches in Kajiado District, KLDP I created grazing blocks in North Eastern Province, commercial ranches (especially in Nakuru, Laikipia and Machakos districts) and company and co-operative ranches (in Tana River, Kwale, Kilifi and Taita-Taveta). A total of US$ 11.8 million was set aside under Phase I of the Kenya Livestock Development Project of which US$ 1.8 million (about Ksh. 13-14 million) was reserved for Kajiado District group ranch development (see Njoka 1979:27/49). Water development was given priority under KLDP I in Kaputiei area as it received 57 per cent of the allocated funds. Upgrading of herds was also a major area of investment.

On December 1st 1966 the Kaputiei Section was declared an Adjudication Section. UNDP/FAO planners proposed to demarcate a total of 19 ranches covering an area of 798,000 acres for some 900 families. This, however, was far from the FAO standard model for ranch development which proposed 30 families on 35,000 acres. The need for entities to be manageable seemed to have reduced group ranch sizes. By 1970, in addition to Poka, 14 group ranches covering 603,000 acres for some 1,300 families had been created in the Kaputiei area.[13] With respect to land availability this was a shortfall of over 50 per cent in comparison with the model figure of 1,166 acres per family!

Group ranch boundaries were tentatively established after discussion between the Maasai section leaders and the Range Management Division staff in consultation with local residents. In most cases, these boundaries followed natural landmarks such as hill tops and rivers. They were later demarcated by Land Adjudication officers.

The Maasai were free to choose to become members of any group ranch. Most people registered for the ranch in which they were residing at the time. In violation of the group ranch rules some people managed to register in more than one group ranch. Those fully aware of the possible consequences of the group ranch concept spread their families and herds over adjacent group ranches in order to be able to transfer their cattle from one group ranch to another or to reduce the family's herd size in trying to prevent forced

[12] According to Halderman (1972a:8) Kaputiei area had already been divided into group ranches in 1965. However, it seems these were "self-help" schemes, by which groups of Maasai worked together to develop a particular area. For example, Embolioi scheme had 10 participating families who constructed a dip and a watertank in 1966/7. In general, however, there was no development, except on Poka and the individual ranches and the Maasai continued their semi-nomadic practices.

[13] It should be noted that Grandin (1981:8) speaks of 1,700 *families*. Grandin's figure, however, is based on membership totals. For 1970 1,700 members are equivalent to some 1,300 families as confirmed by Njoka (1979 41). For example, Kiboko members, numbering 67 in 1970 had 37 different family names. So, some of the members will have been brothers or fathers and (still dependent) sons as well as independent brothers having established their own independent household.

destocking. In general, however, most Maasai did not have a clear idea of all the consequences of the group ranch concept. This is partly due to the fact that planners did not stress issues like grazing quotas and strict boundary maintenance so much as they emphasised the positive aspects such as dips and water development. In order not to cut off any Maasai from their culturally defined right to residence and grazing in their section, great efforts were made to register all the Maasai, whether or not they were still engaged in pastoral pursuits at the time (see Bekure et al. 1987:100).

The Adjudication Registers for South Kaputiei were completed by the end of November 1968, and those for North Kaputiei by March 1969. It took another year before the first group ranches (Poka, Kiboko and Olkarkar) were officially incorporated by the 3rd of April 1970. Table 7.1 summarises Kajiado District Phase I group ranches.[14]

Phase II of the Kenya Livestock Development Project (KLDP II) commenced in late 1974. Nationwide, KLDP II was a much more ambitious plan. Funds were increased fourfold and targets set at the development of 2.8 million ha of grazing land in North Eastern Province and the establishment or improvement of 60 group ranches, 100 commercial ranches, 21 company and co-operative ranches and 3 feedlots all over Kenya (see Evangelou 1984:47).

Most of the new group ranches were established in Kajiado District. Adjudication sections in other parts of Kajiado District had already been declared during the Phase I period. In the Loodokilani, Ildamat, Purko and part of the Kisonko and Matapato sections 16 Phase II group ranches were incorporated. Table 7.2 shows Phase II Kajiado District group ranches. With the exception of those of the "intruding" Ildamat and Purko sections, most Phase II group ranches were considerably larger in size in comparison to the Kaputiei section group ranches. In most cases the whole of an adjudication section was turned into a single group ranch. Group ranches created in Magadi Division, a dry area having a recommended carrying capacity of 8 hectares per stock unit, had to be sizeable of necessity. In spite of this improvement, World Bank evaluation reports of 1976 criticized the group ranch programme especially for its failure to increase herd offtake.

[14] In a RMD inventory of June 1969 a total of 16 group ranches comprising 26,565 hectares were considered to have a stock potential of 51,770 Stock Units (mature bull 1.25/cow with calf 1.0/steer and heifers: 1 year old-0.5/2 year old-0.75/3 year and over 1.0 SU). Their baseline survey numbered a total of 43,331 SU and a human population of 5,232 Adult Equivalents (AEs). In other words, the Kaputiei area overall was not overstocked and average livestock ownership amounted to 8.3 stock units per AE. From these figures and using 1973 membership data it can be calculated that on average 1 group ranch member is probably equivalent to 3.0 AEs. A sample for Merueshi and Olkarkar made by ILCA (1981:18) in early 1980 included 76 households totalling 813 people (717 AE) of which there were some 135 official group ranch members. This means on average 10.7 people (9.43 AE) per household or 1.77 member (1.56 AE) per household or 5.3 AE per group ranch member. So the 1988 livestock census total of 1,385 households for 2,430 members (1:1.75) matches exactly with ILCA's figures.

Table 7.1 Kajiado District Phase I Group Ranches

Group Ranch	total ha	members 1973-90	ha/mb 1973-90	total su 1988@	su/mb 1988	ha/su 1988	recom. ha/su	hh 1988#	subdiv. status~	section^
Poka	8,926	30-30	298-298	3,195	106.5	2.79	6.0	42	1	Kap
Kiboko	15,870	66-67	240-237	5,554	82.9	2.86	7.0	66	4	Kap
Olkarkar	10,280	58-93	177-111	6,060	65.2	1.70	7.0	103	4	Kap
Merueshi	18,546	71-119	261-156	5,606	47.1	3.31	6.0	69	3	Kap
Mbilini	14,723	64-89	230-165	4,695	52.8	3.14	4.0	56	3	Kap
Mbuko	18,477	88-134	210-138	6,621	49.4	2.79	7.5	103	4	Kap
Nkama	39,760	322-489	123-81	12,432	25.4	3.20	4.5	266	3	Kap
Arroi	18,692	110-171	170-109	6,170	36.1	3.03	6.0	108*	2	Kap
Imaroro/Mashuru	19,483	316-383	62-51	7,292	19.0	2.67	6.0	143	3	Kap
Erankau	8,985	68-89	132-101	3,767	42.3	2.39	6.0	79	4	Kap
Ilmamen	12,194	102-125	120-98	2,513	20.1	4.85	5.0	78	4	Kap
Emarti	13,211	94-128	141-103	3,034	23.7	4.35	5.0	55	4	Kap
Empuyiankat	15,270	76-98	201-156	3,485	35.6	4.38	5.0	57	1	Kap
Embolioi	24,000	205-299	117-80	1,968	6.6	12.20	6.0	68	1	Kap
Olkinos	6,020	90-116	67-52	3,469	29.9	1.74	5.0	92	1	Kap
	244,437	1,760-2,430	139-101	75,861	31.2	3.22		1,385		

Source: 1973 membership data from progress report land adjudication programme DAO Kajiado to Head RMD Nairobi 6th of April 1973 (see also Hampson 1975:30). Data on 1990 membership obtained via personal communication

@ MoLD 1988 (1 SU = 300 kg animal: 0.6 cattle or 0.125 shoats);
# 1988 household numbers derived from author's calculation based on raw data of the Kajiado District 1988 livestock census. The Embolioi figure is probably explained by their high number of not yet occupied plots. The owners mostly remain in neighbouring Olkinos ranch which has a high stocking rate. A large number of households on most group ranches reported livestock sent away elsewhere;
* Excluding an unknown group of Kamba having 523 cattle, 974 shoats and 46 donkeys;
~ Subdivision status refers to whether the group ranch has:
1. subdivided and titles issued; 2. given consent to subdivide by Registrar of Representatives and Land Control Board; 3. obtained consent by Registrar of Representatives; 4. no consent obtained; 5. not wanted to subdivide; 6. taken no decision yet to subdivide;
^ Kap = Kaputiei; Kee = Keekonyokie; Kis = Kisonko; Dal = Dalalekutuk; Dam = Ildamat; Loo = Loodokilani; Mat = Matapato; Pur = Purko.

Table 7.2 Kajiado District Phase II Group Ranches

Group Ranch	total ha	members 1982-90	ha/mb 1982-90	total su 1988	su/mb 1988	ha/su 1988	recom. ha/su	hh 1988	subdiv. status~	section^
Rombo	38,365	512-513	75-75	21,210	41.3	1.81	5.0	136	6	Kis
Kuku	96,000	544-862	176-111	36,520?	42.4	2.93	6.0	223	6	Kis
Kimana/Tikondo	25,120	167-168	150-150	16,370	97.4	1.53	6.0	302	6	Kis
Osilalei	38,629	435-555	89-70	6,812	12.3	5.67	5.0	97	6	Mat
Oldoinyo Nyokie	68,566	162-354	423-194	8,602	24.3	7.97	8.0	112	5	Loo
Kilonito	25,685	122-178	211-144	3,958	22.2	6.49	5.0	36	4	Loo
Shompole	62,689	366-670	171-94	18,119	27.0	3.46	8.0	124	5	Loo
Olkiramatian	21,612	200-348	108-62	9,161	26.3	2.36	8.0	104	5	Loo
Enkaroni	11,378	190-332	60-34	3,720	11.2	3.06	5.0	41	3	Pur
Nkoile	6,208	171-272	36-23	666	2.4	9.32	6.0	7	2	Pur
Esokota	4,109	72-91	57-45	592	6.5	6.94	5.0	20	2	Dam
Olkiloriti	6,109	88-96	69-64	1,186	12.4	5.43	5.0	36	2	Dam
Oloyiangalani	9,606	118-122	81-79	816	6.7	11.77	4.5	31	2	Dam
Elang'ata Wuas	59,497	416-487	143-122	19,804	40.7	3.00	5.0	227	3	Loo
Olkeri	24,852	164-339	152-73	7,118	21.0	3.49	8.0	120	5	Loo
Torosei	46,445	165-279	281-166	12,875	46.1	3.61	5.5	109	3	Loo
Subtotal	545,197	3,892-5,334 (+37%)	140-102	167,529	31.4	3.25		1,605		

Source: MoLD Kajiado District personal communication; MoLD 1988 and authors calculations.

~ see table 7.1 for subdivision status key;
^ Kap = Kaputiei; Kee = Keekonyokie; Kis = Kisonko; Dal = Dalalekutuk; Dam = Ildamat; Loo = Loodokilani; Mat = Matapato; Pur = Purko

Table 7.3 Kajiado District Phase III Group Ranches

Group Ranch	total ha	members 1982-90	ha/mb 1982-90	total su 1988@	su/mb 1988	ha/su 1988	recom ha/su	hh 1988#	subdiv status~	Section^
Ewaso Kedong	53,136	484-1,062	110-50	38,816	36.5	0.16	5.0	413	1*	Kee
Loodo Ariak	57,065	0-500@	???-114	20,478	41.0	2.79	5.0	168	1#	Kee
Oldoinyo Orok	28,701	322-484	89-59	4,640	9.6	6.19	5.0	??	3	Mat
Sajiloni	15,711	450-571	35-28	2,704	4.7	5.81	6.0	71	2	Dal
Enkorika	15,923	317-369	50-43	2,044^	5.5	7.79	6.0	52	2	Dal
Oolomunyi	10,057	151-200	67-50	3,266	16.3	3.08	6.0	43	2	Dal
Oloontulugum	12,925	153-205	85-63	2,311	11.3	5.59	6.0	28	2	Dal
Meto	28,928	408-607	71-48	13,151	21.7	2.20	5.0	130	3	Mat
Lomgosua	38,282	472-815	81-47	11,243	13.8	3.40	6.0	105	3	Mat
Mailua	63,026	642-642	98-98	15,348	23.9	4.11	6.0	???	3	Mat
Nentanai	3,692	51-56	72-66	5,527	98.7	0.67	6.0	???	3	Mat
Bartumaro	19,645	225-445	87-44	10,331	23.2	1.90	6.0	70	3	Mat
Olgulului/Oloolarashi	147,050	1,031-1,380	143-107	16,610	12.0	8.85	6.0	28	6	Kis
Mbirikani	125,893	210-922	599-137	13,399	14.5	9.40	7.0	72	6	Kis
Selenkei/Emotoroki	74,794	150-440	499-170	17,241	39.2	4.34	6.0	95	6	Kis
Kitengela/Oloolortikoishi	18,292	229-214	80-85	3,880	18.1	4.71	5.0	??	1	Kap
Kisaju	4,945	44-115	112-43	4,360	37.9	1.13	6.0	71	2|	Kap
Saikeri	7,531	114-157	66-48	6,548	41.7	1.15	6.0	89	1	Kee
Olosho-Oibor	3,000	127-127	24-24	5,723	45.1	0.52	6.0	83	4	Kee
Olchoro-Onyori	3,687	144-174	26-21	14,658	84.2	0.25	6.0	??	1	Kee
Sub-total	244,437	6,496-9,485 +48% (38%)	113-77	207,303	21.9	3.53		1,385		
Kajiado District	1,521,917	12,148-17,270	125-88	450,693	26.1	3.38				

Source: @ Pasha 1986; author's derivation based on MoLD 1988; UNDP/FAO 1978:19

~ see table 7.1 for subdivision status key.

^ 1982 member and 1988 livestock figures MoLD Kajiado District adjusted for miscalculations. * partly subdivided. # never incorporated.

| in 1977 Kipeto (Keekonyokie Kisaju and Keekonyokie Oloyiangalani), Loodo Ariak and (Kaputiei) Kisaju comprised, on paper, three group ranches. At the time of incorporation the western part of (Kaputiei) Kisaju was added to Keekonyokie Oloyiangalani (to be called Endoyno Narok), while the eastern part was named Kipeto/Kisaju. Keekonyokie Kisaju was added to Loodo Ariak "group ranch". This kind of adjustment also happened in the Ildamat area ((Ildamat) Oloyiangalani, Olkiloriti, Esokota) and Dalalekutuk (Sajiloni, Enkorika, Oloomunyi and Oloontulugum).

Phase III, begun in 1979, was not part of the Kenya Livestock Development Project, as the World Bank and other donors had stopped financing it. Nevertheless, 20 more group ranches were formed in Matapato, Kisonko, Keekonyokie and Dalalekutuk sections. Even in parts of the northern Kaputiei area (Kitengela), where the group ranch concept had been refuted, group ranches were now incorporated.[15]

This brought the total number of Kajiado District group ranches to 51 covering some 15,200 km^2 or 75 per cent of the district.[16] Table 7.3 presents details of Kajiado District Phase III group ranches. It should be noted that, in the Keekonyokie section especially, some group ranches (Olosho-Oibor, Olchoro-Onyori and Saikeri) existed only on paper. Moreover, a process of dissolution of group ranches had begun by the beginning of the 1980s.

Some care should be taken with regard to the availability of livestock for the Maasai pastoralists for *each* of the group ranches mentioned. Firstly, figures for group ranch members are not identical to the group's total number of households, people or adult equivalents (see note 14). Moreover, ratios between these variables differ per group ranch. Secondly, the number of stock units is based on livestock present on the group ranch at the time of the 1988 census. In other words, livestock belonging to households which had only temporarily settled or animals stationed with relatives or friends were included in the host group ranch total. Thus, relating livestock numbers to group ranch membership results either in an over or an underestimation of livestock. For this reason in tables 7.1, 7.2 and 7.3 we included the number of households from which the livestock figures were obtained.

Finally, livestock numbers fluctuate over the years as is shown in table 2.15. A baseline survey conducted by Bille and Anderson among Elang'ata Wuas group ranch members in April 1978 (two years after a drought) estimated an average household size of 9.4 persons owning some 49.6 livestock units of 250 kilo. This is equivalent to 5.3 livestock units per person or 5.4 Livestock Equivalents/Active Adult Male Equivalents (LE/AAME) (see Bille & Anderson 1980:28).[17] By early 1990 our survey estimated an average of 10.5 persons

[15] For example, in July 1978 troubles arose in the Oloyiangalani/Kipeto scheme as a result of the demarcation of 11 individual ranches allocated in 1969 by the Olkejuado County Council (OCC). A group of 58 Maasai was evicted for chasing land adjudication surveyors. In the end 14,000-16,000 acres were set aside for the 11 individual ranchers. Also in Ewaso Kedong 34 influential people claimed 2,000 acres each (see NT 24/09/78).

[16] In addition two more group ranches, Oloyiangalani/Kipeto (5,895 ha/191 members in Keekonyokie area) and Embakasi (2,400 ha/62 members located north of Kitengela town, actually outside Kajiado in Machakos District also known as Kitengela farm), are sometimes mentioned as being registered as group ranches.

[17] Using their crude figures a recalculation to LE/AAME can be made to 39.7 LE for 7.3 AAME, which corresponds to 5.4 LE/AAME. Bille and Anderson's data excluded livestock away from the *boma*, which was estimated to be some 2 per cent of total livestock units.

per household possessing 11.1 LE/AAME in Elang'ata Wuas group ranch, suggesting a doubling of livestock wealth per person in the last 12 years![18]

In the following pages we will present some of the achievements and problems of the group ranch programme in Kajiado District. It should be kept in mind that it is difficult to distinguish time effects from group ranch effects. Developments outside the sphere of the project can have a larger impact than the efforts of the project itself. For example, a favourable raise in livestock prices will probably have much more effect than the improvement of a whole range of marketing facilities when a rise in prices does not occur.

7.3 Kajiado District Group Ranch Performance

7.3.1 Achievements of the Kajiado District Group Ranch Project

The primary effect of the introduction of group ranches was to (re)place the control over a vast area of Kajiado District in the hands of the Maasai pastoralists. The role of the Kajiado County Council as "trustee" of Maasai lands was restricted to the benefit of the local residents. As such group ranches have been instrumental in stopping a further carving out of large areas being brought into individual hands. As Pasha (1986:304) concludes, the 'fact that most of the land was adjudicated to groups who cannot sell the land has prevented wholesale alienation of land through the market'. During the 1970s and 1980s small, individual ranches were created and the immigration of non-Maasai into the district also continued although probably at a slower rate than otherwise would have been the case.

Secondly, the group ranches have served as mechanisms for the improvement of livestock management techniques, the provision of information and the investment of capital in co-operative facilities such as boreholes, dams, troughs, tanks, pipelines, cattle dips, crushes etc. Table 7.4 provides information about the facilities existing on the various group ranch territories and Kajiado District by 1988.

The majority of the facilities available are not the result of loans provided by the Kenya Livestock Development Project. According to Dietz et al. (1986:12), only 15 boreholes, 15 tanks, 15 troughs and 16 dips were constructed during KLDP Phase I. Phase II added 4 tanks, 5 troughs and 4 dips only. In addition, other donors provided funds for the construction of boreholes and other facilities in the group ranches. Some of these became the property of the group ranches themselves. In April 1988 there was a total of 45 boreholes in the

[18] The ILCA baseline surveys in Olkarkar and Merueshi group ranches conducted in 1980-81 among 76 households registered 8.85 and 10.08 AAME per household and 3,477 and 3,855 LE per group ranch, respectively. This is 9.83 and 10.62 LE/AAME for Olkarkar and Merueshi group ranches.

district as belonging to group ranches of which 23 were operational. Individual ranchers owned 155 boreholes (56 functioning). Institutions such as Livestock Training Centres (59bh/22 f), Ministry of Water Development (54bh/23f), other Departments (27bh/2f) and the Kajiado County Council (37bh/13f) owned the other boreholes. Ten boreholes, all out of operation, had unknown owners. Nevertheless, individually owned boreholes are sometimes available to group ranch in return for group ranch pasture or diesel oil, for example. Water from boreholes owned by one of the other groups mentioned is used for human consumption near towns, schools, health centres and also for livestock.

Table 7.4 Water and Veterinary Facilities in Kajiado District, 1988

	DIVISION											
	Central		Loitokitok		Ngong		Magadi		Total Group		Total Kajiado	
FACILITIES	F	NF	F	NF	F	NF	F	NF	F	NF	F	NF
Boreholes (MoLD)#	33	23	8	3	4	7	-	1	45	34	82	45
Boreholes (MoWD)	45	93	10	22	27	30	1	4	83	149	139	248
Water Pans	84	-	2	-	4	-	-	-	90	-	135	-
Water Dams	20	2	4	-	5	1	9	1	38	4	50	7
Wells#	10	-	8	-	-	-	-	-	18	-	29	-
Springs	13	1	17	-	3	3	-	-	33	4	44	4
Rock Catchments	4	-	2	-	-	-	1	2	7	2	7	2
Tanks	57	14	12	-	17	-	20	-	106	14	170	14
Km Water Pipeline	129	18	87	-	113	-	85	-	414	18	574	18
Troughs	113	7	13	-	13	-	19	-	158	7	217	9
Dips/Spray Races	37	24	15	12	31	6	1	7	84	49	146	63
Crushes	63	2	20	6	14	-	9	-	106	8	162	9

Source: MoLD 1988; Mwangi 1990

F=Functioning, NF=Not Functioning, GR=Group Ranch area, KD=Kajiado District;
# underestimate; Figures given refer to facilities found in the group ranch area of Kajiado District, excluding individual ranchers. Facilities belonging to these are included in the Kajiado District total. Borehole figures provided by the Ministry of Livestock Development (MoLD) apparently are far below those of the Ministry of Water Development (MoWD) survey (1989). Non-functioning boreholes are either non-operative (144), abandoned (21), dried up (12) or untraceable (71).

Thirdly, according to some authors (e.g. Pasha 1986, Timoi & Kuluo 1990), group ranch development has directly or (in)directly been responsible for the establishment of schools, shops and health centres. It should of course be taken into consideration that it is difficult to separate project effects from those due to population growth and increased Government and NGO efforts over the last 20 years.

Fourthly, group ranches have allowed wildlife to roam freely over large parts of Kajiado District. Enclosed individual ranches would certainly have created severe problems for wild animals. For example, Maasai in the Kitengela area who opposed the inclusion of their area as a group ranch were instructed not to fence and cultivate the area to allow free movement of game park animals

from the adjacent Nairobi National Park.[19]

7.3.2 Problems and Failures of the Kajiado District Group Ranch Project

The major aim of the Kenya Livestock Development Project for the range areas from a governmental point of view, was to change a traditional pastoral system into a commercially oriented production system. Key issues in this process of transformation were the reduction of the number of livestock through the allocation of stock quotas, boundary maintenance and steer fattening. As the 1979 review mission concluded this was an extremely ambitious objective (see World Bank 1979:3). On the other hand the Maasai pastoralists as well as having different objectives (e.g. securing their land as well as acquiring facilities such as dips and boreholes) had high expectations which for several reasons failed to be met (see Timoi & Kuluo 1990:85).

1. Delays and Problems in Implementation

According to Njoka (1979.49) the 'greatest delay in the incorporation stage stemmed from undue emphasis on egalitarian considerations geared toward avoiding the emergence of landless Masai'. However, other issues have been of more importance in contributing to delays in implementation.

Through subsequent legislation much of the supervision of the group ranches was given to the Registrar of Group Representatives. This one-man office was inadequate to deal with the task, so that group ranches actually received no help with organizational matters. Qualified managers for the group ranches were not provided. Ranch models were often unrealistic and overoptimistic. There was a serious lack of co-ordination between the several institutions involved. In total there were about 17 agencies whose operation affected the project in one way or another. A Project Co-ordinating Unit (PCU) was not able to streamline the operations of all these groups (see Langat 1983:54). Immature steers for ranch fattening were often not available. Also the AFC, having had no experience in dealing with traditional pastoralists, faced serious staffing problems resulting in the project falling behind schedule.

Phase I was extended by an extra year. Phase II needed 3 more years before it was finally completed by 1982. Another major factor which created delays and major obstacles were periods of drought which occurred most significantly in the beginning and mid 1970s and in 1984. The World Bank's 1976 review mission resulted in a number of revisions including the lowering of the official targets to 29 group, 46 commercial and 29 company and co-operative ranches. At the close of phase II 27 group ranches had been financed.

[19] The Maasai were able to stop the Nairobi National Park authorities acquiring 100,000 acres of the Kitengela area Their attempt to acquire this had begun in 1966 (see Sunday Post 29/07/73)

2. Investments and Loan Repayment

From the start of the livestock development project the rate and amount of lending to group ranches has been a disappointment to World Bank officials. By March 1975, only 5 group ranches had circulated more than 50 per cent of their development capital loans (see Grandin 1981:9). This is in part attributable to a 4 to 26 months period which was needed before loan approvals were provided. In other words, some group ranches received loan approvals only by the end of Phase I. Actual utilisation of funds was as a result very low. Only 50 per cent (US$ 0.9 million) of the total KLDP Phase I budget for Kajiado District had been distributed by 1974. In terms of investments per acre by the end of 1980 for KLDP Phase I ranches this amounted to Ksh. 9/52 for development capital and Ksh. 5/62 for working capital as opposed to appraisal figures of Ksh. 17/71 and Ksh. 4/80, respectively.

Development during Phase II had many problems to face especially after the drought of 1976. Engines and vital spare parts of boreholes had been stolen and "AFC steers" lost. For example, Kiboko and Olkarkar group ranches had been provided with a central AFC herd of 2,000 steers in 1973/4. Only 577 reached the KMC as the steers were abandoned or sold illegally when group ranch members migrated away during the 1975-6 drought period in order to save their own animals (see Livingstone 1986.271). Erankau group ranch members were obliged to repay a development loan for dry boreholes which had been drilled on a site without a water layer (see Peron 1982:61). Successful boreholes on other group ranches faced the difficulty of machines breaking down and expensive and time-consuming repairs. In addition, a number of group ranch committees misused funds for their own benefit (see below).

By December 1980, the 15 Phase I group ranches had a total of Ksh. 9,468,545/- AFC loan disbursed. Several group ranches had difficulties in repaying their loans for ranch development as well as steer fattening. A total of Ksh. 2,133,747/- was in arrears, which is 23 per cent of total disbursement. Average loan disbursement per Phase I member was Ksh. 5,429/- with Ksh. 1,223/- in arrears. Mbilini (Ksh. 4,183/member), Kiboko (Ksh. 3,976/m), Olkarkar (Ksh. 3,699/m) and Nkama (Ksh. 2,145/m) in particular had high levels of debts (see Grandin 1981:12). Difficulties in repayment occurred, especially in Nkama (90 per cent arrears), Mbilini (45) and Imaroro/Mashuru (38). The former had been able to pay off by 1986 while others were still having severe problems. The interest rates of 12 to 13 per cent charged by AFC further increased the financial burden of the group ranches. This was an extremely high rate for a loan that was intended to be promotional in nature. Though repayment included a so called "grace period" of 3 years, during which only interest had to be paid, it should be noted that the World Bank charged only 2-3 per cent for the on-lending credit.

As a result of the difficulties in loan repayment other group ranches that were ready for financing became reluctant to take loans. Others believed that AFC, a Kikuyu-dominated organization, purposely tried to inflict heavy burdens of debt upon the group ranches in order to be able to sell the land to outsiders. Consequently infrastructural development slowed down. Moreover, the costs of development had risen dramatically with items like tanks, troughs, firebreaks and pipelines doubling in price since the start of Phase II.[20]

Table 7.5 Loan Performance by Kajiado Group Ranches as at 1986

	KLDP I	KLDP II
Number of ranches	15	16
Approved loan	15	8*
Redeemed loan	2~	1^
Outstanding loan	13	7
-without arrears	2#	3@
-with arrears (> Ksh. 100,000/-)	5"	0

Source: MoALD 1986; Vermaat 1988:45

* Kilonito, Oldoinyo Nyokie, Elang'ata Wuas, Esokota, Torosei, Oloyiangalani, Olkeri, Olkiramatian; ~ Mbuko, Empuyiankat; ^ Torosei; # Nkama, Merueshi; @ Oldoinyo Nyokie, Esokota, Olkeri; " Olkarkar, Mbilini, Imaroro/Mashuru, Arroi, Ilmamen

Table 7.5 summarises the situation of loan approvals and arrears for Phase I and II Kajiado group ranches by 1986. Total outstanding loans for group ranches with AFC amounted to Ksh. 60 million, of which Ksh. 16 million was due for payment in 1986 (see Dietz et al. 1986:12).[21] Understandably members were not too willing to contribute to repayments of loans for structures that were mostly not working or from which they had no advantage. It should be noted that auctioning of group land was not feasible. Declaring a group ranch bankrupt and selling its land was politically impossible. A member's share in repayment was determined according to livestock ownership. Livestock inventories, however, were not carried out annually. This sometimes resulted in a situation whereby, as a result of the 1977 drought, impoverished members were forced to repay a large part of the loan while others who had been lucky enough to save or restore their herd paid hardly anything.

By the end of the 1970s each debtor group ranch member was persuaded by

[20] Nevertheless, because of exchange rates falling from Ksh. 7.40 to Ksh. 10.80 for 1 US$ resulting in less dollars being drawn from the original budget total project allocation was reduced from US$ 21.5 million to US$ 17.5 million by 1980.

[21] By the end of 1989 Nkama group ranch had an outstanding AFC loan of Ksh. 228,000/-. Other ranches (known) outstanding loans were Ksh. 791,244/- for Imaroro/Mashuru (some members also willing to sell part of the ranch to clear the loan, but discouraged by the MoLD); Erankau: Ksh. 35,365/-; Shompole: Ksh. 2,041,742/-; Oldoinyo Nyokie: Ksh. 1,500,000/- (see MoLD-RMD/AR 1989).

AFC officers to repay its part of the group's loan.[22] This was an expensive and time-consuming exercise. Another AFC method used to recover (part of) development capital loans was by channelling the profits created from steer fattening. The steers were given for fattening to the group ranch as an entity.[23] In general, AFC was reluctant to provide loans to group ranches and preferred to deal with individual ranchers having better facilities and whose land would be more easy to auction if required.

During the 1984 drought individual ranchers also suffered huge losses. Some of them were threatened by the auctioning of their land. A presidential directive of May 1st 1986 was needed to ban this proposition made by the AFC.[24] On April 14th 1989 president Moi directed the AFC, headed by his son, to write off loans given to dairy farmers (mainly individual ranchers) whose cattle had died during the 1984 drought (see DN 15/04/89).[25]

3. Boundary Maintenance, Stock Quotas and Range Conservation

A major and most criticized objective of the group ranch planners was the implementation of boundaries and the imposition of individual stock quotas. Both measures were intended as ways of seeking a balance between the carrying capacity of the ranches and the number of stock allowed to graze on

[22] In order to be able to repay its AFC loan, Olkiramatian group ranch sold 500 ha near Nguruman bridge to the Tana and Athi River Development Authority (TARDA: a governmental regional development organization covering 31 per cent of Kenya's surface area). The proceeds cleared the AFC loan of Ksh. 2,513,000/- (see MoLD/AR 1988:7). So far TARDA has taken no action. Initial plans to develop the area as an irrigation scheme had to be dropped because of the failure to find donors willing to finance this venture.

[23] Poka group ranch suffered from questionable AFC practices which, according to the latter, were due to "computer problems". Over the years money transactions had been booked on the group's current account instead being used to repay the interest affected development loan. This resulted in a considerable accumulation of arrears. To solve this problem money from the current account and a new development loan were used, without informing Poka members, for providing Poka members with 300 steers 50 of which died shortly afterwards due to ECF. Following the selling of the steers, AFC once again deposited the revenue, which cancelled the loan debt on the Poka group ranch current account instead of paying off the loan. The AFC informed the members that they had a positive balance on their current account which could be withdrawn. This immediately happened and in the end, the Poka group ranch ended up in arrears!

[24] Kajiado District farmers and ranchers owed a total of almost 133 million Kenyan shillings to the AFC by June 1986. The AFC agreed to reschedule only the needy cases. By early 1987, however, nothing had been done to assist the most badly affected debtors (see DN 15/06/86 and DN 23/01/87).

[25] According to key informants the final handling of this case excluded initially appointed debtors and vice versa sometimes ignoring the most needy ranchers. Sometimes, debts of over Ksh. 1 million were written off.

them.[26] The way the first group ranches were formed has already been discussed. We concluded that they were supposed to have been based on viable socio-ecological units containing wet and dry season areas. However, a UNDP/FAO range ecologist, who was member of the original survey team in Kaputiei, later stated that out of 14 Phase I group ranches only 6 ranches were considered viable (Poka, Kiboko, Nkama, Imaroro/Mashuru, Empuyiankat, Embolioi), 4 doubtful (Arroi, Olkarkar, Merueshi, Mbilini) and 4 not viable (Mbuko, Erankau, Ilmamen, Emarti) (see Halderman 1972c:20-24).

What is more, the viable prototype Poka ranch saw its members leaving the ranch in 1970 as the result of the failing of the short rains and the infestation of the area by army worms. Neighbouring Olkarkar, Kiboko and Mashuru were among the few ranches that did receive rain and so those ranches were invaded by other Maasai pastoralists. This happened again in late 1973 and early 1974 when Maasai from North Kaputiei even went as far as the outskirts of Nairobi while those from the southern and central areas mainly went to the Chyulu Hills. During late 1976 the situation became even worse and thousands of Maasai cattle from as far as Tanzania actually moved into Nairobi. The Maasai were charged and banned from the city whilst their cattle were dying by the hundred. An estimated 150,000 cattle died (see KDAR 1977:1). In 1984 large numbers of Maasai cattle moved in the opposite direction towards the Namanga region and as far as Tanzania in a vain attempt to escape the drought.

As well as these major droughts, over the years small localized failures of the rains or outbreaks of diseases like ECF or Malignant Catharr forced group ranch members to seek grazing pastures outside their group ranch territory. In most cases members of other group ranches in need of green pastures were allowed to enter the group ranch territory. Closing one's ranch to neighbouring groups would be unwise as all knew that, due to the erratic rainfall patterns, reciprocal relationships needed to be maintained. Nonetheless, boundary disputes have been going on for many years, particularly between Mbuko versus Mbilini and Kiboko versus Merueshi group ranches.

Another more problematic issue was the grazing of livestock belonging to neighbouring individual ranchers within the group ranch boundary during the wet season. By the time the dry period came these animals were returned to the individual ranch which had conserved enough grazing to cover until the next wet season. In some cases this practice was officially allowed by the group ranch committee in return for money or other assistance but it also sometimes happened illegally when animals were taken to family members

[26] Initially the Land Adjudication Officer suggested planting sisal hedge-rows between the group ranches This was rejected by S Meadows, head of the RMD, because of the high costs involved in their establishment and maintenance Moreover, it was expected that the boundaries would be grossly neglected anyway! (see MoLD/RMD 1966) Instead beacons and tractor lines for firebreaks were used as boundary markers

living in the group ranch. The 1988 Kajiado District livestock census clearly showed this habit of moving cattle to another area with or without the owners by group ranch members and individual ranchers alike. As Coldham (1982:7) states 'The establishment of group ranches has not put an end to the Masai custom of inviting friends and relations (particularly sons-in-laws) to come and settle'.

Branding cattle was tried in order to stop this practice. By October 1969 Poka group ranch members marked their cattle in order to be able to impound any cattle found within the group ranch boundary not bearing the Poka brand. It also allowed close controls to be kept on grazing quotas issued for each member and eventually led to forced destocking. The stock quota issue had not been stressed at the time of group ranch formation as it was expected that this measure would be opposed by most group ranches. Rich members wanted the quotas to be based on actual holdings at the time of incorporation. Poor members wanted equal allocations. A compromise was reached whereby, on top of a minimum quotum, extra allocations were given to wealthier members (see Helland 1980a:190). However, this object of the group ranch concept did not materialize in practice. Stock numbers belonging to individual members continued to be highly distorted on most group ranches. The lack of any effective power on the side of the group ranch committee to take action against trespassers and rich stockowners was responsible for this. Even if regulating instruments had been available it is highly doubtful if they would have been implemented as in a not insignificant number of cases the group ranch committee members themselves would have been affected.

Does this mean that the group ranch concept has failed to conserve the Maasai pastoral lands? Firstly, we should note that rotational grazing has not materialized because most of the group ranches did not have a suitable balance of wet and dry season grasses. Secondly, reseeding was not undertaken. By contrast, range ecologists feared that, if the group ranches were developed as proposed, they would suffer overgrazing resulting in the deterioration of the rangeland resources.

According to Njoka (1979:126) who compared permanent vegetation transects in Kaputiei ranches for 1967 and 1977, the range trend has been downward within this period. The total species frequencies for desirable plants decreased by 44 per cent, while undesirable plants increased by 77 per cent. The mean basal cover in southern Kaputiei grasslands decreased from 18 per cent in May 1969 to 2.4 per cent in May 1977. Climatic and range management factors have been responsible, with Njoka pointing to the latter as being the main cause. Livestock figures increased between 1967 and 1974 from an estimated 400,000 to almost 700,000 head of cattle, falling to less than 400,000 head of cattle by 1977 again (see table 3.3).

Njoka states that the range development inputs in the Kaputiei region are responsible for the rapid increase of livestock. For example, water facilities

more than doubled between 1968 and 1974 in the Kaputiei ranges (see Njoka 1979:181). In addition, dipping, vaccination and other disease treatments resulted in a decrease in mortality and an increase in calving rates. The steer fattening programme enlarged the import of cattle from northern areas. Moreover the AFC wanted the best grazing areas reserved for the young steers. The growth of the Kajiado wildlife population further increased pressure on the district's rangelands, which continued to shrink throughout the 1970s due to the influx of non-Maasai occupying the high-potential regions. Finally, we believe that the increasing obstacles to mobility and flexibility will have increased pressure on certain specific areas such as around watering points and human settlements.

From 1978 to 1980 ILCA conducted a follow-up survey which indicates that Njoka's statement that the Kaputiei range would probably not be able to recover turned out to be wrong (see Grandin 1981:40). ILCA data show that the 1975-76 drought had been followed by a good recovery and that no evidence exists for increasing degradation of the range lands. Rather, the group ranch programme has failed to prevent a calamitous loss of livestock population which itself enabled the post-drought recovery of the pastures.

4. Commercialization

The aspect of commercialization of the pastoralists livestock production was discussed briefly in chapter 4 and will be dealt with in more detail in chapters 8, 9 and 10. Now it is appropriate to report that several writers have said that it 'does not appear, then, that the Group Ranches are serving the function of radically transforming Maasai pastoralism, from subsistence to commercial herding' (Galaty 1978:11). White and Meadows concluded that the composition of Maasai herds by the early 1980s was still dominated by female cattle (65 per cent) geared at the production of milk and less towards meat production (see White & Meadows 1981:i).

Others like Livingstone (1986:257) have reported that this failure of the group ranch to change the livestock production system is partly the result of factors like a diminishing people-livestock ratio. Planners seem to have stressed factors like "overstocking" which has blurred the fact that the Maasai throughout the 1970s actually became short of livestock and land.[27]

[27] We have seen in section 6.2.6 that the FAO model requirement for land per Kaputiei family was more than twice as large as the final actual allotment In case of livestock, requirements were placed at some 30 SU per family of six AE. In June 1969 at the start of KLDP I the RMD noted some 50 SU/family and 6.2 ha/SU. Overall carrying capacity was estimated to be 5.2 ha/SU. In other words, even though the model requirement was not met, at the start of the group ranch project the Kaputiei Maasai on *average* had an adequate number of livestock for subsistence without the area being overstocked. However, according to Halderman (1972a:16), differences in human population densities and ecological viability between group ranches resulted in a very inequitable allotment of potential grazing resources (e.g. SU/AE varied from 6.0 to 19.1).

Also problems in the marketing structure such as the low prices offered, price controls, lack of (functioning) holding grounds and KMC capacity problems in times of stress have been named as among the most important reasons for the low level of commercialized livestock production in Kajiado District. A special consultation workshop sponsored by the World Bank and RMD held in 1983 recommended the development of an improved marketing transportation system and the organization of auctions in the two Maasai districts (see *MICCD 1983:38*)

5. Internal Administrative Problems

The creation and functioning of the group ranch committee is thought to be responsible for a number of the problems highlighted above. Instead of being an autonomous producer free to go within the section's area ruled by the council of elders on the basis of decision-making by consensus, the Maasai pastoralist was now confined by the authority of a democratically elected committee.

Initially, most committees are said to have been formed by influential and wealthy Maasai. Not surprisingly these people were not very willing to implement strict ranch boundary maintenance and reduction of stock. Most of them were illiterate and this hampered good ranch administration. Even those who were able to read Kiswahili could not deal with the Land (Group Representative) Act as it was written only in English. Later many of these committee members left and were replaced by young, educated and ambitious Maasai. As a result, in many group ranches a single age group monopolised power. However, they lacked natural authority which made the committees in some ranches rather weak institutions.[28] In most ranches the obligatory annual general meeting was not held for years in a row. When a meeting could be held the necessary 60 per cent quorum was often not met.

Corruption also undermined the functioning of the ranches. For example, in Poka group ranch 11 group ranch members, most of them committee members, used group ranch funds to buy 13 bulls for their own use. In Kiboko the chairman illegally sold some AFC loan steers. Those who criticised were removed from the committee. Not seldom were the committee members backed by politicians and civil servants, often themselves members of the group ranch committee. In some cases national leaders forced a committee to provide them with plots of group ranch land (e.g. Kitengela and Rombo group ranches, see

[28] Tobiko (1989a:98) reported for Mashuru group ranch that nobody wanted to take up a post in the group ranch committee because they did not know or understand its importance. Finally, all non-Maasai members (Kikuyu and Kamba) were unanimously proposed and elected because of their proficiency in the languages spoken by the "Big Men from Nairobi" and they could act as intermediaries. They held no power at all, however, over the group ranch members. Although this "solution" is an exception, it does illustrate the local Maasai' general attitude towards the institute of the group ranch committee.

Peron 1982:69). Politicians divided the group ranch members and formed small splinter groups according to age group or clan.

Nowadays, as a result of the membership issue, opposing factions split along the lines of wealth in cattle or in sons seem to have appeared (see below). In some cases (e.g. Olkiloriti and Lorngosua ranches) this has resulted in violent clashes. In fact an alien governing body had been introduced into Maasai society, burdened with a whole range of responsibilities, unsuited to fulfil its task and which, in the end, became increasingly politicized and corrupted.

7.4 The Process of Subdivision of the Kajiado District Group Ranches

7.4.1 Introduction

With the above mentioned problems and the resulting frustrations in mind it will be no surprise that a large number of group ranches wanted to subdivide. The main disadvantages of group ranching were: management problems (38 per cent), poor facilities (34 per cent), lack of individual title (21 per cent) and loan repayments (7 per cent) (see Munei 1987:120).[29]

Again, Poka group ranch took the lead. Already by 1972 it declared being in favour of dissolving the ranch into individually owned shares. In tables 7.1, 7.2 and 7.3 we included the subdivision status of the Kajiado District group ranches as at 1990. So far, seven group ranches have been subdivided and title deeds issued. At the other extreme five group ranches, all located in Magadi, the driest part of Kajiado District, have decided to continue their group ranch on a communal basis.[30] Table 7.6 summarises the particulars of the Kajiado District group ranches subdivision status in 1990. By 1990 already 40 owners of ranches totalling 7,933 km^2 had decided to subdivide, 4 amounting to 1,777 km^2 were opposed to this idea and 7 covering 5,458 km^2 had not yet decided.

In other words, by 1990 the whole of Ngong and Central Division group ranches covering some 52 per cent of the district's group ranch area and including 78 per cent of the ranches has either already ceased to exist or will do so in the years to come.

For 1988 these figures stood at only 35 per cent of the ranches and 17 per

[29] Among members of subdivided group ranches the most important disadvantage of group ranches was said to be the lack of an individual title deed (44.2 per cent), communal co-operation and corrupt committees (27.7 per cent) (ASAL Kajiado Programme pers. communication).

[30] Recent reports (August 1991) however, speak of Oldoinyo Nyokie and Olkeri group ranches of Magadi Division as also being willing to subdivide their group ranches. Huge outstanding AFC loans, of Ksh. 1.5 m and 0.8 m. respectively, are prohibiting this for the moment despite president Moi's directive. Oldoinyo Nyokie group ranch committee proposed its members sell 600 acres to clear the loan and pave the way for subdivision (see Kajiado Focus 1991a:4).

cent of the territory. Magadi division group ranches want to continue while those in Loitokitok Division are still discussing the pros and cons of subdivision. Figure 7.2 shows the Kajiado District group ranches and their subdivision status as at 1990. The resulting average plot size if the group ranch were to be subdivided is also mentioned.

Table 7.6 Kajiado District Group Ranches and Subdivision Status, 1990

DIVISION			SUBDIVISION STATUS (Nr/Km^2)					
Section	Nr	Km^2	1	2	3	4	5	6
CENTRAL	36	7,087						
Kaputiei	17	2,638	5/725	2/236	4/922	6/754		
Dalalekutuk	4	546		4/546				
Ildamat	3	202		2/160	1/41			
Purko	2	176		1/62	1/114			
Matapato	7	2,209			6/1,823			1/386
Loodokilani	3	1,316			2/1,059	1/257		
MAGADI								
Loodokilani	4	1,777					4/1,777	
LOITOKITOK								
Kisonko	6	5,072						6/5,072
NGONG								
Keekonyokie	5	1,234	4/1,204			1/30		
TOTAL	51	15,170	9/1,929	9/1,004	14/3,959	8/1,041	4/1,777	7/5,458

Source: tables 7.1, 7.2, 7.3

Note: Subdivision status key: 1 subdivided and titles issued; 2 consent given to subdivision by Registrar of Representatives and Land Control Board; 3 consent obtained from Registrar of Representatives; 4 no consent given; 5 not willing to subdivide; 6 no decision taken yet.

7.4.2 The Rationale for Group Ranch Subdivision

By the late 1970s, when increasing calls for subdivision were heard, the Central Government clearly opposed the idea arguing that the semi-arid regions were ecologically and economically unfit for small individual ranches. An average of 2,000 acres was considered to be a viable ranch for a household within medium to high-potential ranching areas. In Kajiado District, however, an average plot size of only 529 acres would be available in theory for a standard Maasai household of 10 persons by the early 1980s.[31] In terms of group ranch members an average of 132 and 101 ha per member were available for respectively 1982 and 1986.

[31] For 1968/69 Halderman (1972a:1) calculated an average availability of land per *adult male* of 191 ha, which he considered to be insufficient. By 1979, 9,356 Maasai households were counted in Kajiado District which could in potential share some 4,953,162 acres of ranching land, which means a potential average parcel size of 529 acres per household.

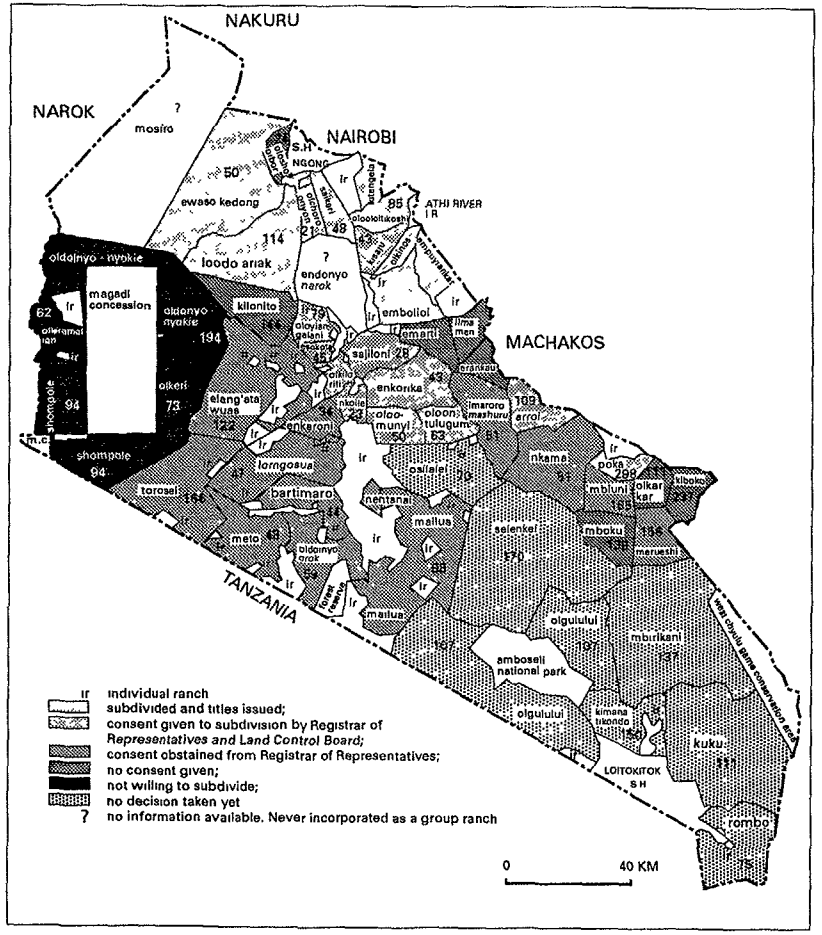

Figure 7.2 Kajiado District Group Ranches and 1990 Subdivision Status

Table 7.7 presents the distribution of potential mean sizes of individual parcels were the Kajiado District group ranches to be subdivided among their members by 1990. It shows that more than half the ranches would end up having plot sizes of less than 100 ha. Only Poka and Kiboko group ranches would have a mean plot size of more than 200 ha/member. However, it must be remembered that this is the result of the refusal of these ranches to register more members.

In reality the availability of land per person will probably be in the order of other Kaputiei group ranches. With reference to the economic viability of subdivided Kajiado group ranches, according to Halderman (1972b:1), most of them would be economic disasters.

Table 7.7 Potential Mean Plot Sizes for Subdivided Kajiado Group Ranches

Division	0-49 ha	50-99 ha	100-149 ha	150-199 ha	200+ ha	Total
Central	9	14	7	4	2	36
Loitokitok	0	1	3	2	0	6
Ngong	3	1	1	0	0	5
Magadi	0	3	0	1	0	4
Total	12	19	11	7	2	51
	23.5%	37.3%	21.6%	13.7%	3.9%	100%

Source: tables 7.1, 7.2 and 7.3

In 1981 Poka group ranch members officially requested the dissolution of their group ranch. This was reluctantly accepted at district level but refused by the Ministry of Livestock Development headquarters in Nairobi. Another group ranch, Kisaju/Kipeto, ignored this directive and went directly for a subdivision of their area. This group ranch had existed only on paper, without official registration, thus its "members" did not feel bound by official opposition. With pressure building up and knowing that, in fact, the 1968 group ranch act included an option for the dissolution of the group ranch, in May 1982 the Central Government proposed to set up a committee to examine the pros and cons of group ranch subdivision.

By March 1983 the Group Ranch Education Programme (GREP), on behalf of the Maasai Inter-Church Committee for Rural Development organized a Group Ranch Consultation Workshop at Buffalo Lodge, near Amboseli National Park.[32] This workshop, funded by the World Bank and attended by Government officials, group ranch members, researchers and representatives of the churches acted more as a sort of substitute for the proposed committee that, in fact, never materialized. In preparation for the conference several meetings had been organized, whereby government officials and Maasai Members of Parliament (Nampaso and Oloitipitip) were invited. Both MPs stated in these meetings that they opposed group ranch subdivision and that they had made

[32] GREP started in 1979 as a department of the Development Education Programme (DEP) of the Catholic Diocese of Ngong. Several workshops were organized by GREP during which Government officials were invited in order to come to a better understanding between both groups. GREP's main task so far has been the creation of awareness among the group ranch members in identifying their problems and looking for suitable solutions to them. As such they have become involved in the discussions concerning subdivision and the way it is executed. Since 1985 GREP has been sponsored by NOVIB, a Dutch funding organization. Nowadays, the Group Ranch Education Programme (GREP) is mainly operative in Loitokitok Division. A description and analysis of the Development Education Programme in Kenya is presented by Kronenburg (1986).

this view known to the President and the Minister of Livestock Production in the past. However, not all Maasai MPs opposed group ranch subdivision (e.g. ole Tipis), and those who said they did soon fell into disfavour with the President.[33]

It seems the churches had indeed made a miscalculation as, after the Consultation Workshop, the Government accepted the right of group ranches to subdivide. The main condition was that subdivision should not result in unviable holdings (see Timoi & Kuluo 1990:86). So, more group ranches passed resolutions for dissolution. In 1984 the government agreed to conduct a vote by all Kajiado District group ranches as to whether to do away with the groups or not. 28 ranches were in favour of this leaving 23 remaining.

The Government had nevertheless not yet made up its mind although this outcome seemed to have made it more reluctant, realizing the possible negative effects of an en masse individualization of semi-arid ranching. This position was at sometimes publicly stated in early 1985 by President Moi when he said that sub-division should not be undertaken in dry areas used only for livestock keeping (see DN 05/02/85). The Ministry of Livestock Development in particular feared that the final outcome of the subdivision of group ranches would be negative. The Kajiado District Range Officer warned the district's group ranches that subdivision would not be a solution to their problems (see DN 09/08/85). He was supported by several Kajiado District administrators who stated that subdivision of undeveloped group ranches was uneconomical, risked the creation of a class of landless Maasai and was a threat to the livestock industry in the district (see DN 15/08/86, DN 12/10/86).[34] The lack of a clear Central Governmental land and development policy was partly responsible for their worries. Developments in the district which demonstrated an increase in the selling of land will have contributed to the other part.

Reports, concerning the illegal sale of group ranch land were being written by the late 1970s and early 1980s especially from the Rombo and Kitengela group ranches (see e.g. Weekly Review 11/07/77, DN 29/12/84). In the high-potential areas of Ngong and Loitokitok dishonest speculators were selling land that simply did not exist or which still belonged to a group ranch. In the

[33] Attacks on Oloitipitip by rival politician John Keen started in January 1983 and involved issues like mismanagement of public funds and the corrupt allocation of land to himself and his political supporters. Oloitipitip, for instance, helped the Nairobi mayor Kahare obtain a title deed for a 100 acre farm he bought in Kisaju "group ranch". This fact made the GREP members realize that Oloitipitip would not be of much help. This became even more clear by October 1983 when Oloitipitip was dropped from the Cabinet. He was accused of being one of the leaders of the failed "coup d'état" of August 1982 and was striving to become Vice-President (see Weekly Review 30/03/84). A few years later, on January 22nd, 1985, he died.

[34] Already by August 1980 a nominated MP from Kajiado District, Mr. J. Napatao, appealed to the Maasai to halt the "indiscriminate sale of land". Other politicians such as Oloitipitip and Keen also castigated those Maasai for selling their land without approval of their families (see DN 18/08/80, 12/10/81, 03/11/81).

Ongata Rongai area over Ksh. 2.5 million was made by conmen selling non-existent 1/4 acre plots to 182 willing buyers for the price of Ksh. 15,000/- each (see Standard 04/10/77, Standard 29/09/88).

In other cases councillors, businessmen and administrative officials were accused of grabbing land set aside for the settlement of poor landless people at the Ngong Hills, in Ngong and Ongata Rongai townships, in Oloolua forest and in Rombo and Ewaso Kedong' group ranches (see e.g. Peron 1982:67/9, Standard 31/05/79, DN 17/09/81, DN 05/02/83, Standard 24/10/84, DN 15/11/84, DN 31/12/86). Accusations were also made about councillors allocating themselves plots, which had been earmarked for public use (e.g. schools, holding grounds, cemeteries) free or at favourable prices.[35] This practice occurred throughout all the echelons of power. At the top land was grabbed as far as the Kenyan coastal strip. Maasai ministers and a former Nairobi mayor were involved in the illegal acquisition of land (100 acre plots) in the Kisaju-Kitengela area, with forest land in Narok District and with beach plots near Malindi, a small town north of Mombasa. In addition, land in possession of individual ranchers was increasingly being sold to outsiders. Most of the buyers were rich and influential Government officials from Nairobi.

In spite of, or perhaps because of these developments, several group ranches had passed resolutions for subdividing by the mid-1980s. The wind of change towards subdivision was sweeping furiously through the district. The Central Government dropped its opposition towards subdivision and by September 1986 Olkinos group ranch members were issued individual title deeds. On January 22nd 1987 Kajiado leaders resolved that all group ranches in the district should be sub-divided equally on the basis of the family unit. Ranches that had not completed repaying their loans from the AFC or any other financial institution would not be subdivided (see DN 23/01/87).

More group ranches now speeded up their procedure for subdivision but saw their efforts frustrated due to outstanding loans, lack of surveyors and conflicts over membership (see below). By March 14th 1989 President Moi directed that subdivision of group ranches in Kajiado District should no longer be curtailed

[35] For example, all of the 15 elected members and one nominated councillor of the Kajiado County Council, with among them a number of rich individual ranchers, appeared on a list of landless people who acquired one of 417 plots on the slopes of Ngong Hills. The allocation had started after a directive by President Moi to settle landless squatters on Ngong Hills trustland. Over 3,000 people had applied to obtain one of the 2.5 acres plots valued at some Ksh. 100,000/- each. After press reports the Provincial Commissioner nullified the plot allocation (see DN 31/07/84, Weekly Review 09/11/84, Standard 24/10/84, DN 15/11/84).

In another case a group of 50 rich people, civil servants, councillors and businessmen, were accused of excising 2,500 acres from Ewaso Kedong group ranch without the consent of the group ranch members (see DN 31/12/86). To date the practice of providing urban plots, commercial or residential, to relatives or (political) friends still continues. Plots in one of the Ngong Division rural centres are particularly valuable. For example, in Ongata Rongai prices of up to Ksh. 120,000/- for 1/4 acre plots are advertised.

because of failure to repay loans and that title deeds should be issued as soon as possible. This waving of loans will speed up the process of group ranch subdivision in the years to come.

Beside the negative experiences with the group ranch concept it has also been argued that a rationale for subdivision can stem from a positive expectation concerning economic development and ecological conservation especially in the view of Central Government. Development in Kajiado District will speed up and better care will be taken of the rangelands if land is held under individual tenure. Ironically, arguments for ecological conservation and economic development were among the most important mentioned by the government during the time of the introduction of group ranches.

At least the overgrazing of land by neighbouring (individual) ranchers will no longer be possible when all land is kept in private hands, as stated by a Poka group ranch member (see DN 12/10/86 - Elang'ata Wuas also suffered from this practice). Whether destocking, rotational grazing, reseeding and other range conserving methods will be introduced by the new individual ranchers is more questionable. At least some of these measures are new to a large number of them.

Envy of group ranch members of the wealth of owners of established individual ranches has also been said to be responsible for their members' willingness to subdivide their ranches. However, the position of the individual ranchers is structurally different as their ranch areas vary from 350 to some 2,000 acres (140-800 ha). Frequently the head of the household also has a paid job. Many of them have sold portions of land and that has made them millionaires overnight. For example, since 1984 25 Kisaju individual ranchers neighbouring Olkinos group ranch sold at least 2,490 acres of land earning them Ksh. 12,245,500/-. This can be compared to the average earnings of a farmer of almost Ksh. 500,000/-. This should be valued in the light of an average annual income for unskilled labourers in Kenya of some Ksh. 15,000/- to 20,000/- by 1990.

On average Kisaju farmers originally owned some 350 acres. Almost 30 per cent of the original plot size has been sold by this group within a period of 6 years. The majority of the buyers were of non-Maasai origin and included land buying companies, women's groups, a teacher's union, rich politicians, civil servants and businessmen.[36] In some cases this has resulted in further subdivision in hundreds of parcels as small as half an acre.[37] Reselling, at much higher prices to make profits of over 300 per cent has also occurred.

[36] Kisaju and Kitengela are nowadays called the "Presidential area", a buying place for district and national politicians including the President and Vice-President. Impressive fences have been erected and these exclude the Maasai from these lands.

[37] For example, the Nairobi ex-mayor subdivided his 100 acre farm into 28 portions of 1 to 4 acres each. These are now ready for sale at prices of Ksh. 5,000/- to 10,000/- per acre.

Only two Kisaju Maasai charged a total of 190 acres for Ksh. 335,000/- to the Kenya Commercial Bank. It has been stated that the Maasai prefer to sell land because of high interest rates and relatively low amounts of loans offered by the financing institutions. For the small subdivided ranches it is feared that their owners will not be able to attract enough funds from lending institutions. The alternative of selling land will make them almost landless as their plot sizes will be in the range of 125 acres only.

Pasha (1986:307-9) has summarised the pros and cons of the subdivision of group ranches. Those supporting the subdivision of group ranches state that it would:

- help self advancement and raise the standard of living of the Maasai;
- help the Maasai procure loans since most banks accept freehold title deeds as security;
- minimize exploitation of poor households by richer households;
- encourage the Maasai to engage in other agricultural or industrial enterprises;
- facilitate better operation and maintenance of infrastructures that currently are being poorly maintained by inefficient committees.

People opposed to the subdivision offer four major reasons:

- alienation of land to non-Maasai. They fear an influx of outsiders taking up the better-watered parts;
- cultivation of large tracts of land will result in severe erosion as experienced for example in Machakos District;
- the influx of non-Maasai will result in the erosion and eventual loss of Maasai culture;
- subdivision will result in fencing of farms and even complete individual ranches to protect the crops from wildlife and livestock. The free movement of livestock will be further constrained.

In the remainder of this chapter and in chapters 8, 9 and 10 we will attempt to analyze the above-mentioned arguments using examples from several Kajiado District group ranches. Olkinos group ranch, the first group ranch subdivided, will be closely examined concerning the sale of land and economic and ecological developments. Let us start with a description of the group ranch subdivision procedure.

7.4.3 The Procedure of Group Ranch Subdivision

A clear and legal procedure for the necessary steps to dissolve a group ranch was lacking in the Land Adjudication and Land (Group Representatives) Act. Therefore in 1984 Land Adjudication and Range Department officials produced a provisional scheme which was approved by the Commissioner of Lands

awaiting official legislation The procedure for subdividing a group ranch into individual parcels is as follows (see Tobiko 1989a:130-33):

1. the decision to subdivide the group ranch has to be taken at a general meeting at which at least 60 per cent of the members agree to subdivide their ranch;

2. the group ranch must apply for consent to subdivide from the Divisional Land Control Board;

3. the group ranch must apply for consent to the Registrar of Group Representatives;

4. a "demarcation" committee composed of the group representatives and committee members plus a number of elected (mainly older) members is then formed to demarcate an individual parcel for each registered member. The maximum number is 25 members;

5. the Range Management Office has to be consulted to undertake a feasibility study of the group land. A sketch map is produced showing the individual plots. In addition public utility plots like water points, wells, schools, churches, shopping centres are set aside. In the specific case of Phase II and III group ranches where infrastructural improvements have been minimal, development plans have been produced assessing the potentialities and constraints of the area. In fact these plans are comparable to the UNDP/FAO development plans created by the late 1960s for the Kaputiei group ranches. They also include suggestions for destocking the area within a ten-year span of time, give much attention to the existing water and veterinary facilities and suggest possible improvements. Some new centres of approximately 50 acres each are proposed to be set aside at certain strategic points in order to enable every former member easy access to several facilities after subdivision;

6. after viability has been confirmed, group members apply for a surveyor to fix and adjust the boundaries of the sketch map in an attempt to equalize the plots and establish their exact size. He also plots roads of access to every parcel of land. After the map has been checked by the District Surveyor it is forwarded to the Director of Survey;

7. the group ranches now apply to the Divisional Land Control Board for consent to transfer the single group title into individual titles and to transfer the public utilities to the county council;

8. the survey map and the register containing names and plot numbers are forwarded to the Chief Land Registrar in Nairobi. Soon after this the District Land Registrar issues letters of consent to all persons registered as landowners and title deeds are issued;

9. finally, in a special general meeting, a resolution for the disbanding of the group ranch is passed.

It will be clear that the whole procedure from the decision to subdivide to the final actual ending of the group ranch's existence is a lengthy and time-consuming process.

7.4.4 The Problematic Process of Group Ranch Subdivision

In the introduction to section 7.4 we mentioned the fast growth of the number of group ranches willing to subdivide. By 1990 almost 80 per cent of the ranches had decided to do away with the group ranch structure and become individual landowners instead.

Below details of the process of subdivision as it has been conducted in the Olkinos and Embolioi group ranches (the first group ranches subdivided) will be described. In addition some information concerning the process and state of subdivision of Poka and the other group ranches which were covered in the survey will be summarised.

OLKINOS GROUP RANCH

The decision to subdivide the ranch was made in 1981. A demarcation committee was formed, which set aside individual plots. Except for 7 absentees every member was able to state his favoured location. The group of seven obtained their plot via balloting of the remaining plots. Public plots for a (proposed) school in the north eastern area, a dip, a borehole and another (proposed) dip were set aside. Roads were demarcated so that every individual ranch was accessible. In January 1984 the list of 138 members was screened and amended by removing double registrations (8), deceased without inheritors (4), an individual rancher (1), under 18 years of age when registered in 1979 (4) and members who were also registered in neighbouring ranches and preferred to go there (8). Registration of new members, most of them belonging to the Ilmeshuki age group, was opposed. During the process of subdivision the non-members put forward a claim for obtaining their own land only to be told to build their homes on the top of trees! Also, their attempts to bribe Kajiado District government officials were futile.

The resulting subdivision showed 116 parcels which ranged in size between 17 to 143 acres. When criticisms were made it was stated that this was the result of allocating larger parcels in unfavourable areas and to large families. Another complaint was made concerning the intended allocation to a non-

member of a parcel belonging to a widow Another protester had erected a fence for his *shamba* but saw the plot earmarked for someone else Others complained about the small sizes of their plot. They also wanted to know what would be done with three vacant plots. To settle this and other difficulties the annual general meeting of November 1985 was to solve these problems. The first of the vacant plots was given to another widow whose husband had died before registration. The second unallocated parcel was balloted to a new registree. The last vacant parcel (25 ha) was "given" to an individual rancher, having land in Ngong and Loitokitok as a reward for his payment of the outstanding AFC loan (Ksh. 97,000/-) and survey fees (Ksh. 240,000/-). Registration of the last three people made a total of 116 "group ranch" members. With the loan cleared and the surveyors' map produced by January 1986, the Land Control Board gave consent for the transfer of the individual parcels to the new individual ranchers in September 1986.

EMBOLIOI GROUP RANCH

Embolioi group ranch members asked permission from the Land Control Board to subdivide their ranch in October 1982. This was acceded and a demarcation committee installed. Disputes such as those in Olkinos arose over allegations of parcels being allocated to non-members, the eviction of a widow from a parcel on which she had buried her husband and the setting aside of large parcels for influential people at the cost of the powerless and absentee members. By February 1984 consent to proceed was given by the Department of Land Adjudication. However, by July 1984 the members had decided to install a new committee as the old one was accused of having allocated themselves and their relatives excessively large parcels. In September 1984 the Range Department gave consent to the appointing of a surveyor who finished his work by November that same year. Still, protests arose from people stating that, in spite of having contributed to the subdivision costs, they were not allocated a plot.

The total costs of the subdivision of Embolioi group ranch amounted to some Ksh. 600,000/-, and it was partly covered by royalties paid in advance by gypsum-miners. A Ksh. 900,000/- AFC loan was also repaid. In total 700 acres were set aside for public plots used for (proposed) trading centres, schools, boreholes and dips. All members agreed to use these facilities communally even after subdivision. By May 1986 the RMD noticed some remarkable differences between theirs and the surveyor's map in size, location and number of parcels. According to the group ranch committee, changes had to be made because seven registered members had not been included in the RMD map and because some RMD boundaries had been drawn without the area having been visited.

At a general meeting in July 1986 the Embolioi register was finalised. In total 30 new members, most of whom had already been included in the land subdivision, were officially now registered. Out of 18 deceased members 16

were replaced by their inheritors and double and multiple entries adjusted. Unknown members and the sons of individual ranchers were removed from the list. This resulted in a final allocation of 299 parcels ranging in size from 40.5 to 71.2 ha. The Land Control Board gave its consent for the transfer of the titles to the Embolioi members by November 1986. After individual payments of Ksh. 200/- to the Board and another Ksh. 200/- to the District Land Register Office the titles were handed over in December 1986.[38]

The reports above suggest that in most group ranches members easily met the 60 per cent minimum quota needed to commence the dissolution of the ranch. This was confirmed by a survey based on a sample of 100 members (out of 571) carried out in Sajiloni Group Ranch in 1989, where only 8 per cent were stated to be against subdivision (see Malleon 1989:1).

Opposition towards subdivision seemed to come mostly from non-registered members and from members with many unregistered sons. It should be noted that these groups of opponents, the former having no legal say, do not necessarily reject the idea of subdivision itself but reject the way it is or has been done. According to Tobiko (1989b:15-16), who conducted a survey in Imaroro/Mashuru group ranch, elderly women in particular fear that subdivision will destroy harmonious communal life, create landlessness, limit resource utilisation, lead to land being sold or auctioned and thus threaten successful pastoralism as the mainstay of their society. Middle-aged and young women, in contrast support the subdivision of land wholeheartedly arguing that land parcelling is necessary for speedy development and the creation of a more comfortable life.

The "second generation issue" of non-registered age groups has particularly divided group members and even families. We have seen how Poka and Kiboko members opposed registration stating that the resulting plot sizes would be too small to be viable. In other group ranches the younger generation has been registered, though sometimes only after physical threats from young people as happened, for example, in Oldoinyo Orok and Mailua group ranches in 1987. In other cases, the non-registered have sought legal assistance by bringing their case to court as the Kiboko young people did.[39]

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[38] One owner saw that, in return for a water connection, his parcel was reduced by 5 acres for the installation by the Ministry of Water Development of 4 boreholes for supplying water to Kajiado Town and (in future) to neighbouring Isinya Town

[39] Disputes under the Land (Group) Representatives Act are usually between the members of the particular group or between the group and other persons. The latter is the case when dealing with the membership issue Aggrieved persons who have been refused to be given membership status within a group ranch can file their case in the District's Magistrates Court and if needed appeal to the High Court Once the court declares that certain individuals qualify to be members, then the group representatives will have no option but to register them as such (see Wanjala 1990:57) However, in several cases the Court decided stated that it did not want to deal with the membership problem and directed the applications back to the group ranch committee

Box 7.1 POKA GROUP RANCH

By early 1981 the 30 Poka group ranch members decided to deny the request of 92 Poka non-members for registration. Moreover, a majority (76 per cent) of the members decided to strive for individual ranches. They argued that the registration of new members would result in the ranch being subdivided into too small parcels. In fact the average 297.5 ha per member was already considered to be unviable. The refused members, most of them of the Ilmirisho age. group, married having children and even having been promoted to the status of junior elder, supported by a group of 43 women (wives and mothers) requested the Land Registrar and the late Mr. S. Oloitipitip, by then Minister for Local Government to help them. The women feared that, after misappropriation of loans the land would be auctioned. Their plea was futile and so were the letters that followed to the Ministry of Lands and Settlement referring to the registration of their sons' peers in neighbouring group ranches.

By May 1983 a request for subdivision was approved by the Department of Land Adjudication. Registered supporters of the Ilmirisho age group were removed from the group ranch committee. Other members supporting the unregistered Poka residents were those having large families. Some of them had an effective weapon for delaying the subdivision as they refused to contribute into the repayment of the AFC debt for the acquisition of bulls. Though financed with group money, these were used solely by the committee members. Preparations, however, continued and by February 1985, Poka group ranch signed a contract with a private surveyor to finalise the boundary lines and exact plot sizes as laid down by the Range Department and Demarcation committee. Instead of a two month period the surveyor needed over two years to draw the final Plan. It was only then that the Kajiado officials noticed that plot sizes varied between 189 ha to 533 ha, completely different from the original Range Department map. Survey work, costing Ksh. 75,000/- had to be repeated and a new map produced before April 1987. Again promises were not kept and Poka group ranch threatened to cancel the agreement. Finally, by November 1987 a map was produced, which became available only by July 1989. It shows a total of 30 ranches from 299 to 319 ha and plots set aside for a school, trading centre, community centre and water point. In August 1989 the Land Control Board gave their consent to Poka group ranch for the transfer of individual titles.

KIBOKO GROUP RANCH

Like Poka, Kiboko group ranch members were opposed to the registration of new members. However, 32 non-registered members were more successful in seeking assistance from Mr. Oloitipitip in their struggle to be accepted by the group ranch as new members. In a letter dated February 11th 1983, Oloitipitip's Ministry requested the Minister of Lands (Kariuki) to register the 32 people listed. By May 1983 the Nairobi register was updated.

By October 1983 the official decision to subdivide Kiboko group ranch was made by the 67 members. In awaiting the actual allocation of plots members tried to claim certain parts of the group ranch by setting aside private *ol-okeri* for their calves and sick animals. By January 1984 30 non-registered members of the Ilmirisho age-group complained to the Kajiado District Commissioner about the unofficial subdivision of the ranch. In November 1984, after a heated debate, it was decided that the practice of creating individual *ol-okeri* should stop as it undermined the grazing patterns within the group ranch. At the same time, with the 1984 drought coming at its height, members of other group ranches were required to leave the Kiboko area.

By October 1985 rumours arose that, in the Nairobi register Kiboko group ranch totalled 99 members, whereas the Kajiado and Kiboko registers still showed only 67 members. At a general meeting in November this was confirmed. Following a heated debate, in which old and "new" members had to be separated, only one member out of the group of 32 new registrations was accepted as replacing his deceased father. The remaining 31 were "deregistered" in February 1986. In January the 67 members wanted to settle on the parcels allocated by the demarcation committee awaiting official subdivision. Tensions arose between the two groups. Kiboko group ranch tried to repay its loan as soon as possible by acquiring a new lot of AFC steers. The animals were kept in a central herd. By May 1988 they were able to clear the loan. The group of 31 still pressed for registration. Although more members seemed to have turned more sympathetic to this request, a majority of 74 per cent still opposed registration. A plea from the assistant chief of the area was also fruitless. In October 1988 the annual general meeting dealt with the subject extensively. The Land Registrar was present explaining the process of subdivision and the procedures for registration. The group seeking registration admitted that they had sought help from Oloitipitip. The Land Registrar proposed to screen every member of this group and orphans, for instance, whose parents were not registered would not simply be able to inherit their father's plot. A statement by one of the members that they should be given a piece of their uncle's land was waived as it had no legal backing. Finally, 21 people were said to be fatherless and in four cases the father was a registered member, while two others were said to have been living on the Merueshi group ranch. Still, the registered members (especially the Iseuri age group) refused to register a single new member. In the August 1989 annual general meeting the group ranch committee reported that it was now ready to dissolve the group ranch. In October 1989 the group of 31 obtained help from a lawyer, who summoned Kiboko group ranch to register the applicants or else be sued in court. By February 1990 a majority of 70 per cent (47 members) still rejected the registration. The case is still pending.

Box 7.2 ELANG'ATA WUAS GROUP RANCH

In 1985 Elang'ata Wuas group ranch had decided to close their register totalling 658 members At the time of incorporation 415 members had been registered. A demarcation committee divided the whole group ranch into individual parcels. After payment of Ksh. 600/-, members had to sign a paper that they agreed to the size, quality and location of the allocated parcel. It should be noted that Elang'ata Wuas has a huge variety in the quality of the ranch. Allocation was rather biased favouring a few influential members. For example, the Chief of the area, a member of the ranch and the Purka Land Control Board, managed to designate himself some 700 hectares or almost 12 per cent of the total group ranch area. He simply claimed all the land in between his newly built modern house and some young trees planted by him near a dam. Anybody opposing was threatened with being given a small plot north of Singiraine, an unfavourable location. In February 1990 the Land Adjudication Officer Nairobi protested over this issue.

Since 1986 the Ilkishili age group of 218 persons has been trying to acquire the status of registered member for all of their agemates. Ate one time the group presented a bottle of whisky, some tobacco, and a bow and arrow to the committee. This was returned by the elders who told them to bring a heifer, a crate of beer and a blanket in order to avoid being cursed. The non-registered members obtained some support from an opposing political faction within the group ranch. This enabled them to contract a lawyer for their case. The group made it a court case in November 1989, but nothing has happened since. By December 1989 Elang'ata Wuas group ranch had removed double and multiple registered members, reducing the total membership to 487 members. On average this would mean an allocation of 114 ha per member. Also in Elang'ata Wuas group ranch those who came from elsewhere, even as far as Samburu, and those orphans whose fathers never registered will be ignored. Only two widows whose husbands died after 1982 have obtained membership. By contrast, three sons of an influential family within the group ranch are said to have been registered illegally.

METO GROUP RANCH

In early 1972 only 12 Maasai in the southern Matapato area decided to accept the possibility of obtaining their own individual farm. A majority of the people strongly opposed this idea and either became members of the Meto or Oldoinyo Orok group ranches. By 1985, only a few years since Meto group ranch had started, it was decided to dissolve the ranch and form individual plots. The matter had been left to rest for a while until September 1989 when, at an Annual General Meeting, the Meto members officially decided to subdivide their group ranch. Only some older members, having many unregistered sons opposed the subdivision. Over the years the Meto group ranch has registered new members raising their total of 408 in 1982 to 607 in 1990. Unregistered members are those of the youngest age-group; Ilkimunyak.

The process of subdivision in this group ranch is still in the early stages. By January 1990, official permission from the Land Adjudication Office had been obtained. A feasibility study had been conducted, but no single plots demarcated so far. This will be one of the most difficult group ranches to be subdivided. Among the problems are the fact that out of some 600 members, only about half of the members actually live there. A large group consists of Matapato and Kisonko Maasai living in Tanzania. Others stay in neighbouring towns, once in a while coming to beg for a heifer or steer, which is sold immediately for drinking money. The Tanzanian Maasai will be particularly willing to obtain a plot and Kenyan citizenship alike. The group ranch committee has been thinking of allocating the Tanzanian Maasai small plots along the borderline with Tanzania. It is possible that a family send a wife to settle there. Denying them this parcel is a dangerous act. The Meto Maasai depend on watering points (wells) some 10 km inside Tanzania. Before the arrival of the Europeans this was Matapato area. It is also the border line between Tanzanian Kisonko and the Matapato. If the Tanzania Matapato were denied their Meto individual plot they could, in response, deny the Meto Maasai access to the wells. On the other hand if all the Tanzania Matapato decided to settle on (relatively large) individual parcels in Kenya, there is the risk of the Kisonko Maasai moving into the 10 km zone of Matapato area resulting in the loss of the wells as well. This has already happened at the Meto/Torosei border because of Torosei group ranch (Loodokilani section) recently denying Meto Maasai access to the natural pans situated on Torosei group ranch which had previously been shared with the Meto Maasai' cattle. It has been stated that the aim of this move was to force Meto members to move away from their part of Meto group ranch which was to be left for Torosei ranchers. Another problem is the large variance of range quality. Towards Torosei the grazing capacity diminishes. Some parts also are rather hilly, which most members dislike. After group ranch subdivision Meto members will possess, on average, slightly over 47 ha.

LORNGOSUA GROUP RANCH

By December 1980, three members who jointly paid for the siting and drilling of a new borehole requested the setting aside of 30 acres for individual use. This was turned down. Yet by October 1989 all members agreed to subdivide their ranch. They cleared their register of double and multiple entries, accepted, after a heated debate, the registration of 182 new applicants bringing the total membership at 815. This will after subdivision result in an average ranch size of 47 ha per member.

This has been done, for instance, in Imaroro/Mashuru and Olkiloriti group ranches. In the latter group ranch the issue of subdivision has ruined the social harmony of the community. The "left hand" of the Ilkiseyia age group (Irangirang) were not allowed to be registered, in contrast to the older "right hand" section. During a meeting dealing with the registration issue the latter did not support their younger left hand warrior group. The Irangirang went to court in December 1989 and won their case.

However, Olkiloriti group ranch appealed against this verdict and the case is still pending. During the time of this legal fight the Ildamat section was in the process of their *oln'gesher* ceremony. It was seriously delayed as a result of the problems between the right and left hand group, who were supposed to be united in one single age group of young elders after the completion of the ceremony (see chapter 4). However, in fear of a bloody clash between the two groups, instead of building one single big *emanyata* two small *imanyat* were built, one for every single hand of the warrior age-group.

Once the decision to subdivide has been taken it still takes a long period before the actual handing out of individual title deeds is completed due to technical problems (see the above presented examples of Poka and Kiboko). The lack of good surveyors particularly hampers the group ranch subdivision process. As early as December 1984 Kajiado politicians urged the government to release more government surveyors as private surveyors were considered to be too expensive. Others pose that private surveyors work faster as government surveyors get more allowances if they take more time to finish their job. Loan repayment has been another hampering problem but has now been solved.

The whole process of group ranch creation and subdivision has taken place over a period of some 20 years or even less in the case of Phase III ranches. During this timespan developments within other land use activities like cultivation, wildlife conservation, forestry and mining also continued. In section 7.2.1 we already pictured some of the evolutions in the Ngong and Loitokitok area until the late 1960s. In the next section we will briefly present an outline of processes that took place from that time until the late 1980s.

7.5 Land Pressures Building Up in Kajiado District: 1970-1990

7.5.1 Infiltration and Cultivation by non-Maasai Groups

In the foregoing chapters (i.e. sections 5.5.4 and 6.3.2) we described agricultural developments within Kajiado District since 1945 including the infiltration by Kikuyu, Kamba, Chagga and other peoples in search of arable land. As early as the late 1950s registration of land had been proposed for the Ngong area to rule out the possibility of people from outside the area coming and claiming land (see section 5.5.4). In section 7 1.2 of this chapter we made

clear that the threat of a possible mass influx by non-Maasai cultivators contributed to the Maasai willingness to accept the group ranch concept.

Possible locations for the non-Maasai to settle were the traditional locations of small rural centres like Ngong Town, Kajiado, Loitokitok, Namanga, Sultan Hamud engaging in all kinds of trade activities. Others found employment with the Magadi Soda Company or other mining corporations in the district. In addition, the possibility of obtaining a small plot either under one's private ownership or as a tenant had increased tremendously since the creation of individual ranches and the beginning of the registration of land in Ngong (1961) and Loitokitok (1966). Wealthy non-Maasai now had the opportunity to buy a piece of land in Kajiado District. Less well-off people came to work for the Maasai or their fellow kinsmen as agricultural labourers.

When, by 1968, Kajiado District had lost its status of being a closed district and every Kenyan citizen could, in principle freely enter without the need of a legal document it became even easier to get employment in cultivating a piece of land.[40] As a result, through the 1960s and 1970s agriculture extended to the south-west of Nairobi at an accelerating rate. By 1970 it had moved southward along the whole eastern base of the Ngong Hills as far south as the Kiserian river in later years followed by a spread along the southern boundary of Nairobi National Park (see Ecosystems 1982:67).[41]

Expansion in Loitokitok Division seems to have occurred from halfway during the 1960s. Campbell's figures obtained from a sample population of cultivators in the Loitokitok area, show that the break point for the migration of non-Maasai to this area seems to have been the second half of the 1960s (see table 7.8).

Table 7.8 Settlement of Farmers in the Loitokitok Area

Date	Total n=110	Maasai n=20	Kikuyu n=62	Kamba n=28
- 62	1 0	5 0	0 0	0 0
63 - 65	2 7	5 0	1 6	3 6
66 - 70	37 3	25 0	43 5	32 1
71 - 76	59 0	65 0	54 8	64 2

Source Campbell 1981b 53

[40] Before this date, one needed a pass to enter Kajiado District which had to be renewed every 6-12 months The pass was only provided to those non-Maasai who had been placed on a special list after invitation by two Maasai (the "Trespass Ordinance" regulations) Of course, after the creation of the group ranches in the Kaputiei area this region was provided with a new weapon (i.e group ranch membership) to stop non-Maasai illegal infiltration Unless approved by the group ranch, cultivation was not allowed

[41] In 1974 it was decided by the Ministry of Lands to station two surveyors permanently in the Ngong area due to the increase in land transactions in the area (see KDAR 1974 48) Out of a district total of 191 land transfers 117 requests had been made in this area while the total for Loitokitok stood at 48

Information from district annual reports (1969, 1973) underlines the growth of land under cultivation since the late 1960s. For example, in 1969, acreage under maize and beans, the most important crops of those days, was 3,090 ha in Ngong and 1,880 ha in Loitokitok. By 1973 the area planted with maize and beans had increased to 3,500 ha in Ngong and 6,600 ha in Loitokitok (short rainy season acreage alone). Other important crops grown at the time were potatoes, coffee, peas, bananas, pyrethrum (Ngong only), cotton (Loitokitok only). To boost coffee production a coffee factory was opened in July 1965 in Loitokitok.

Organizations (partly) involved in demonstrating agricultural production were started in Kajiado District throughout the 1960s. An important number of them were initiated by non-governmental organizations (e.g. Oxfam, World Vision) and missionaries as a follow up to famine relief efforts or in trying to broaden existing development efforts, e.g. Isinya-Maasai Rural Training Centre (CPK-Anglican Church-1961); Rombo-model farm project (Catholic Church-1962); Ngong Farmers' Training Centre (British Council of Churches-Christian Council of Kenya/Oxfam-1965) and the Olooseos-Maasai Action for Self-Improvement Project (Presbyterian Church of East Africa-1969).

A strong momentum for the increase of cultivation in Kajiado District resulted from the 1973-76 drought period. Kaputiei Maasai herdsmen had driven their animals as far as the outskirts of Nairobi and the Chyulu hills, while those from Loitokitok moved to the Dalalekutuk area as well as Kimana and Rombo. Still, an estimated 60,000 cattle died in the June-December period of 1976 alone (see DN 13/01/77). Famine relief was provided by way of maize meal and beans for some 60,000 people or over 40 per cent of the district population (see KDDP 1980:9).

The non-Maasai farmers -especially those situated on the lower slopes of Mt. Kilimanjaro- faced a hard time. Only those on the higher slopes and those practising irrigated cultivation on the plains had been able to produce a reasonable crop during the years of drought (see Campbell 1978:34). This acted as an incentive for others to move to these better-watered, thus less drought-ridden lands. Maasai group ranch members did not oppose this move strongly as most of them were in deplorable circumstances and willing to attempt cultivation themselves or, more usually, hire labour to do so. With the lower slopes of Mt. Kilimanjaro almost completely overtaken by cultivation the cultivators now started to buy or rent plots along the margins of the swampy areas on the plains like Kimana and Rombo. Moreover, in 1975 the Kajiado District Council decided to stimulate the local initiative in irrigated agriculture by providing a grant of Ksh. 53,000/- for the Kimana-Tikondo irrigation scheme. The scheme had started in the mid-1950s and needed to be resurveyed and expanded (see KDAR 1976:11, Kimani 1988:9). Other areas which had started by the 1950s such as Rombo, Isinet and Inkisanchani also increased their production. In addition, new areas were opened in Loitokitok Division for

irrigation by the middle of the 1970s; Impiron, Namelok, Elangata-Nkima and Olorika (see section 4.4.2).

As a result the area under cultivation increased rapidly. Moreover, with irrigation it became possible to increase the planted acreage for certain crops as one could cultivate almost continuously throughout the year. The production of horticultural crops gained in importance. The growing of onions became very popular as this cash crop had a very high gross margin. This occurred mainly at the cost of cotton growing. Agriculture lost its stigma of being only for the poor. Profitability triggered the opening of more parts of the Loitokitok's better-watered areas (Illasit, Osoit) or the extension of existing schemes like Namelok and Impiron for irrigated cultivation. In Ngong Division (Kiserian), Central Division (Namanga) and Magadi Division (Nguruman, Pakase, Shompole) irrigation also increased (tomatoes, melons). In the Ngong area it is mainly non-Maasai farmers using borehole water to supplement the growing of rainfed food crops, although tomatoes are also of importance. Irrigation practices in Namanga are negligible as they concern a few non-Maasai farmers using tap water only. In Ngong and Central Division it is expected that irrigated agriculture will rise in Ewaso Kedong and Kitengela areas, respectively.

Of more importance is the irrigated activity taking place in Magadi Division (e.g. melons, mangos and other fruits). In fact, this division probably contains the oldest irrigation scheme of the district.[42] By the 1960s, the area under irrigated cultivation in Nguruman was estimated to be some 60 ha. According to Ecosystems (1982:48) this increased to 400 ha by 1970 and 1,000 ha by 1980. This seems to be an overestimate. The Ministry of Agriculture mentioned a total area of almost 300 ha of which half was cultivated by some 200 farmers in 1987 (see MoA/AR 1987:22). The 1988 farm census estimated the Nguruman irrigated area to amount to some 825 ha of which 410 ha were cultivated by 237 farmers, some 55 per cent being non-Maasai (Kamba mainly). In Pakase 15 farmers irrigated 17 ha (80 per cent non-Maasai). In Shompole there were 21 farmers farming 17 ha and with the exception of one

[42] Rev. Wakefield, a missionary stationed in Mombasa who gathered descriptions of the interior during 1866-1870 by interviewing Arab Swahili caravan leaders, reports of small scale irrigation practices for the Nguruman and Pakase area (see Jacobs 1967:3: Jacobs 1975:17). Trade caravans used to stop and barter for agricultural produce before continuing their journey through Maasailand. By that time maize, beans, millet and sweet potatoes are said to have been grown by a group of some 1,000-1,500 people composed of intermarrying "agricultural" Maasai, impoverished Maasai and neighbouring Sonjo. By early 1900 the number of people seems to have dropped to only 400, while by 1918 the settlements were virtually abandoned. Thus, the Nguruman settlements seem to have been abandoned, resettled and abandoned again, depending on the fortunes of the pastoralists who occupied the plains (see Berntsen 1979:116).

Kamba all were Maasai.[43]

Disregarding individual irrigating farmers in Ngong and Central Division the total irrigated area in Kajiado District has been estimated to be 2,294 ha by late 1988 (see section 4.4.2).[44] In the same Farm Census of 1988, the area under rainfed cultivation was 11,529 ha making a total cultivated area of 13,823 ha. It is difficult to relate this figure to estimates made by other authors. Agricultural officers have stated that the figures used by the MoA are not reliable and should be considered guestimates at best. For example, the Kajiado District Development Plan 79-83 estimated a total of 60,000 ha under cultivation for 1978 (see KDDP 1980:3). The Ministry of Agriculture gives a figure of 10,363 ha under crops for the 1982 long rains (see KDDP 1984:31). A recent figure by the Ministry speaks of 176,600 ha for Kajiado District for 1988 (see MoA/AR 1988:3). Although the area under cultivation has certainly increased this could never have happened by a multiplier of 17 times.[45]

Table 7.9 shows the annual cultivated acreage, thus in most cases including two growing seasons, for some of the most important crops in Kajiado District for the 1976-1987 period. We also included the 1988 Farm Census estimate for 1987, which reached a total of 20,456 ha planted crops. Official figures, however, were much higher. It is thought that the real value will be somewhere in between, rather towards the low side.[46] Leaving aside these difficulties table 7.9 clearly shows the increase in the cultivated area in Kajiado District. This is thought to be due to a combination of the increasing number of farmers

[43] This area is threatened nowadays because of plans by the Euaso Ngi'ro South Development Authority and the Kenya Power and Lightning Company to built dams in the Euaso Ngi'ro river. A Ksh. 120 million pre-feasibility study made by a British consultancy firm, a candidate for the implementation of the project, did not take into account the environmental effects satisfactorily. It has been prophesied by others that the Shompole swamp will dry up and that the riverine area used by livestock mainly during periods of drought will diminish.

[44] It should be noted that the 1988 Farm Census did not cover the Elangata-Enkima/Olorika scheme estimated to be some 65 ha in size.

[45] In 1982 the author stayed for a period of three weeks in a little village named Kikelelwa along the Tanzania-Kenya border at the slopes of Mt. Kilimanjaro. At that time several scattered plots planted with maize, beans and bananas existed. Down on the plains towards Nkama and Illasit Maasai herders could be seen with their livestock. On return in November 1988 the pastures had all been taken over by non-Maasai cultivators. Bearing in mind the Ministry's potential arable area estimate of 156,800-168,000 ha, the estimate of 176,600 ha seems to be unrealistic. On the other hand, Ecosystems (1982:9) estimated that some 33 per cent of the district (i.e. some 700,000 ha) was not suffering from prohibitive obstacles for (rain-fed) cultivation.

[46] Interplanting of crops was dealt with in the 1988 Farm Census by linking a portion of the total acreage to each of these crops (especially maize and beans). Official figures do not seem to adjust the cultivated acreage for each of these crops and thus results in an exaggerated acreage. The Farm Census figure, however, probably underestimates the real planted acreage due to the exclusion of some of the farmers and because of some respondents who could not remember the acreage planted for each crop.

and the resulting extension of the cultivated area and to the growing importance of irrigated agriculture particularly since 1982.

Table 7.9 Kajiado District Annual Planted Acreage 1976-87 (ha)

	1976	1977	1978	1980	1981	1982	1983	1984	1985	1986	1987a	1987b
Maize	6,367	5,436	6,839	8,200	8,542	12,535	13,653	14,192	17,848	22,134	21,660	9,281
Beans	4,106	4,399	5,600	8,445	9,800	12,772	15,599	15,640	18,005	25,792	26,273	9,335
Wheat				-	-	-	-	-	-	12	4	0
Millet				-	-					8	3	7
Sorghum				-	-				17	3		9
Peas				-	-	19	-	36	82	515	300	187
Other veget												
Onions	60	100	100	1,802?	455	415	447	490	367	488	545	198
Tomatoes				105	622	374	199	200	180	433	333	185
Potatoes	915	770	590	720	482	1,180	1,246	949	758	1,176	1,490	417
Carrots				-	87	10	-	-	-	1		8
Melons				100	-	-	10	-	-		21	24
Bananas				65	309	105	101	-	-	-	-	211
Other fruits												
Cotton	150	500	550	94	58	20	22	11	18	37	225	14
Coffee	21	41	41	57	65	68	67	69	58	70	65	28
Pyrethrum				?	7	7	7	-	-	-	-	-
Sunflowers				-	-	-			-	4	-	0.2
Total					21,329	27,585						20,456

Source. MoA/ARs 1980-87; TARDA 1984:30 for 1976-78 data; Farm Census 1988 files
Note: 1987a = MoA/AR; 1987b = 1988 Farm Census.

The shift by the early 1980s towards cash crop production is also clearly shown. As noted in chapter 4, by this time Loitokitok Division has become the major supplier of onions and tomatoes for the Mombasa market. The decrease in the 1985 onion acreage was attributed to a drop in prices.

Though some Maasai will have engaged in cultivation albeit only temporarily in response to the disastrous 1960/1, 1973/76, 1980 and 1984 drought periods or have entered crop farming through the acquisition of Kikuyu, Kamba or Chagga wives, the most common arrangement still is to let the plots out to tenants or sharecroppers. In chapter 4 information was provided concerning the ethnicity and tenurial status of Kajiado District farmers. It was concluded that Maasai farmers make up slightly above one quarter (27.2 per cent) of the farming households. Here we will have a closer look at the involvement in cultivation of Maasai and non-Maasai at divisional level.

In the Ngong Division the presence of Kikuyu farmers, the single largest group of cultivators, is paramount (see table 7.10). Other important non-Maasai farmers are Kamba (especially in Central Division) and Chagga (in Loitokitok mainly). Table 7.10 also shows that 60.5 per cent of the cultivators owned their plot, leaving some 36.7 per cent for tenants, 0.8 per cent for sharecropping arrangements and the remaining 2.0 per cent of the cultivators were engaged in various combinations of these tenurial relations.

Table 7.10 Number, Ethnicity and Tenurial Situation of Kajiado District Farming Households

Ethnicity farmers	n	Maasai	Kikuyu	Kamba	Other
Central	954	49.7	12.8	35.5	2.0
Ngong	2,314	16.4	79.8	2.2	1.6
Loitokitok RF	2,751	20.3	42.5	9.1	28.1
Loitokitok IR	1,554	39.9	36.5	9.8	13.8
Magadi IR	273	48.3	19.0	29.7	3.0
Kajiado District	7,846	27.2	48.5	10.8	13.5
Land tenure	**n**	**Owner**	**Tenant**	**Sharecropper**	**Else**
Central	954	74.3	24.7	0.8	0.2
Ngong	2,314	90.8	8.9	0.1	0.2
Loitokitok RF	2,751	37.4	57.3	0.9	4.4
Loitokitok IR	1,554	49.2	47.5	1.8	1.5
Magadi IR	273	57.5	42.5	0.0	0.0
Kajiado District	7,846	60.5	36.7	0.8	2.0

Source: 1988 Farm Census files
Note: RF = Rainfed Agriculture; IR = Irrigated Agriculture.

The right to cultivate stems from group ranch membership, individual land ownership or the leasing of land either from the group ranch, an individual member or individual rancher.

In contrast with other areas, most farmers in Loitokitok division are either legal or illegal tenants. "Illegal" means in this sense that these agreements have never been sanctioned by the Land Control Board as required by law (see KDDP 1984:14). Instead annual leases are agreed upon between the parties involved and renewal is therefore always uncertain. This insecurity handicaps them in acquiring loans. Moreover, there is always the risk of mass evictions by Maasai owners. For example, Kikuyu tenants were chased away from Impiron by early 1980 after having developed the irrigation scheme there since the 1970s (see Masharen 1989:10). Kuku group ranch members decided to chase away tenants (mainly Kamba) from Elangata-Nkima/Olorika schemes in 1987. On Rombo group ranch the Kenyan tenants have been replaced by Chagga agriculturalists from neighbouring Tanzania (see Kimani 1988:appendix IIIc). The latter are said to be preferred because they pay higher rents and are easier to handle due to their illegal status in Kenya. Moreover, Chagga are respected irrigators, who on the Tanzanian side of Mt. Kilimanjaro have been very successful coffee farmers.

In Central Division tensions exist mainly in the Arroi group ranch near Kalembwani on the Kajiado-Machakos border. Kamba invaders, some of whom have been living there since the mid-1960s, and Maasai ranchers have clashed several times over the years (e.g. in 1973, 1979, 1983, 1986), including the stealing of livestock, burning of houses, destruction of *shambas* and the killing of people. Most recently, November and December 1989, a total of seven

people, including a nine months old baby, were killed in two clashes between the Arroi Maasai and Kamba at Kalembwani (see NT 13/01/83, DN 22/02/86, DN 14/12/89).

Reasons for evicting migrants stem from several causes. Irrigated agriculture competes with livestock for the availability of water. The swamps are reserve dry season grazing areas. Their capacity is said to have been reduced, especially since 1982, due to the expansion of irrigation. Some are now gradually disappearing thus reducing the holding capacity of range land near such an area (e.g. Namelok, Rombo, Kimana-Tikondo, Inkisanchani). This will become far worse when the proposed water pipeline comes to transport most of the Noolturesh water to Machakos and Kajiado Town (see section 4.5.2).

Furthermore, as a result of the use of chemicals and fertilizers for combatting crop diseases, the drinking water for the Maasai herds downstream has become polluted. This is a threat to both animals and humans. Also, livestock that damaged crops is sometimes killed by the cultivators. Those Maasai confronted with these setbacks want the immigrants to be evicted, while group ranch members having made huge profits from leasing plots, use theme to buy livestock and would like to see agricultural activities continue.

By combining the information presented in table 7.10 it is possible to give an overview of the tenurial situation in relation to the farmer's ethnicity for each of the Kajiado District divisions. Table 7.11 shows that, as far as plot ownership for each ethnic group is concerned, the Maasai still take the top position in all divisions, although in Ngong this situation has almost been overtaken by non-Maasai. The relatively high number of Maasai tenants in Loitokitok seems to be the result of hiring plots by members of adjacent group ranches. For example, almost half of those Mbirikani members living in its northern area had plots near Amboseli (see KDAR 1976:50).

Cultivators are faced with problems such as the salinization of irrigated fields and damage to crops by livestock or wildlife. According to the 1988 Farm Census, farmers in Magadi and Central division mentioned wildlife damage as the most important constraint, while for Loitokitok and Ngong rain fed cultivators this was the reliability of the rainfall. Loitokitok irrigated farmers mentioned water shortage as one of the major problems. Like the Maasai pastoralists, those irrigators in schemes depending on water from Noolturesh river (e.g. Inkisanchani) are afraid that piping water from the Noolturesh spring towards Machakos District, a process initiated in September 1987, will undermine their livelihood (see Masharen 1989:11). Otherwise the influx of agriculturalists is a threat in itself to the medium and long term viability of Kajiado District's ecosystem. Among the negative consequences are the use of farming methods suited for the humid regions but probably devastating to the vulnerable semi-arid soils (see Odundo 1992:20). The cutting of trees on the slopes of Mt. Kilimanjaro for building huts and for firewood increases the risks of landslides due to a diminished water conserving capacity.

Table 7.11 Land Ownership and Ethnicity by Division, 1988

DIVISION	Ethnicity	Owner	Tenant	Sharecropper	Else
CENTRAL	Maasai	92.0	6.3	1.6	0.1
	Kikuyu	66 3	32.7	1.0	0.0
	Kamba	58 8	41.2	0 0	0.0
	Other	56.2	43.8	0.0	0.0
NGONG	Maasai	96.0	3.2	0.3	0.5
	Kikuyu	90.4	9.4	0 1	0.1
	Kamba	75.5	24.5	0.0	0.0
	Other	94.3	5.7	0.0	0.0
LOITOKITOK RAINFED	Maasai	69.5	25.7	3.5	1.3
	Kikuyu	47.1	43.7	0.3	8.9
	Kamba	25.5	71.3	1.2	2.0
	Other	4.5	94.6	0.1	0.8
LOITOKITOK IRRIGATED	Maasai	88.2	10.2	0 2	1.4
	Kikuyu	35 5	61.8	0.6	2.1
	Kamba	13 7	82.2	4.1	0.0
	Other	6.4	86.2	5.9	1.5
MAGADI IRRIGATED	Maasai	75.4	24.6	0.0	0.0
	Kikuyu	33.3	66.7	0.0	0.0
	Kamba	41.3	58.7	0 0	0.0
	Other	75.0	25.0	0.0	0.0
KAJIADO DISTRICT	Maasai	84.3	13.4	1.4	0.9
	Kikuyu	67 5	29.1	0.2	3.2
	Kamba	39.1	59.1	1.2	0.6
	Other	9.3	88.5	1.3	0.9

Source: Farm Census 1988 files

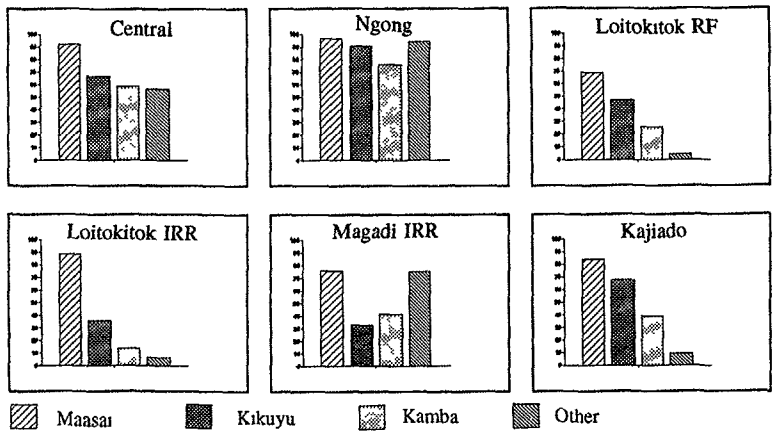

Figure 7.3 Landownership and Ethnicity of Kajiado District Farmers

As early as 1975 reports existed claiming that the eastern portion of the County Council Loitokitok forest was being destroyed by settlers felling fresh trees either for posts or for selling firewood and charcoal. This resulted in the reduction of the availability of water from the springs in the Kuku plains (see DN 10/12/75). Cutting trees for charcoal was banned. By April 1976, in order to replace the destroyed trees, people were allowed to settle in the forest to cultivate under the "plant by cultivation" scheme.[47]

In August 1983, squatters are nevertheless said to have uprooted seedlings in order to frustrate the afforestation programme at Loitokitok - allegedly encouraged by politicians who promised them plots in this area (see DN 21/08/83). A few months before a new directive banning the illegal burning of charcoal and the cutting of firewood in the District had been issued. Lorries loaded with charcoal and firewood had been seen being driven towards Nairobi. Only dead trees were allowed to be used and then only after having obtained an official permit from the administration (see KT 22/04/83). By late 1984 the squatters, mainly from Tanzania, were given an order to quit. Chyulu Hills forest is also suffering from cultivation and charcoal burning (see DN 01/07/88).

In the Ngong area early worries were voiced by local Maasai residents that the farming of the Kerarapon area at the foot of Ngong Hills, overgrazing and tree cutting in the higher zones in combination with the damming and pumping of water for irrigation purposes in the Kiserian area downstream and poor land management in the Bulbul area had all resulted in the drying up of Embakasi, Kiserian and Kantis tributaries of the Athi River (see J. ole Orumoi DN 11/10/76 and M. ole Shompa DN 17/02/81). In spite of these early warnings, it was only by the beginning of 1985 that Ngong Hills forest was officially gazetted at a total of 30.77 km^2. In 1967 the trees covered an area of some 4 km^2, while by 1980 this had been reduced to a mere 1.5 km^2 of tree clumps (see DN 30/08/84). A grazing ban for the Ngong Hills was proclaimed in 1982. Since that time the Ngong Hills have been undergoing increasing afforestation, though large parts are still open. Another gazetted area is the indigenous Namanga Forest covering some 118 km^2 of which approximately half is covered (see Ecosystems 1982:59, KDDP 1988:144).

Nowadays, attempts are increasingly being made to counterbalance the negative side effects of cultivation by soil conserving activities such as digging cut-off drains, constructing terraces, planting of trees/grass, fencing off and prohibiting planting too close to watercourses and advising farmers on the

[47] The land was set aside for some 200 landless people from Loitokitok and Taita-Taveta, each having been tricked by a "landbroker". To help these people it was decided to provide them with small plots in the ruined County Council forest While staying in this area in 1982, I was told that the farmers were allowed to intercrop maize and beans with the young trees provided they took care of them and would leave the area the moment this new planting reached a certain height (see Standard 03/04/76).

advantages of crop rotation, legumes interplanting and the like.[48]

7.5.2 Wildlife Conservation and the Creation of Amboseli National Park

In sections 5.5.4 and 6.3.2 the handing over of the Amboseli area to the Kajiado County Council in 1961 was discussed. Tourism grew rapidly following Kenya's Independence in 1963 and by 1968 revenues from Amboseli amounted to some 75 per cent of the Kajiado County Council's annual income (see Western 1982a:304). The Council obtained this money mainly from hunting and booking fees, from the sale of confiscated skins, the renting out to tourists of self-service bandas at Ol Tukai and from a 78 km^2 lease to the East African Wildlife Lodges Ltd.[49] This area in which "Amboseli Lodge" was situated was reserved for game only.

In fact, the company wanted to extend the stock-free area to some 520 km^2, while the local Maasai wanted the whole of the area set aside for grazing by their herds and flocks. A third party, the international wildlife lobby, demanded full protection of the Amboseli area for the preservation of the animals in their natural habitat. Growing human and livestock numbers were said to have resulted in diminishing numbers of wildlife. As early as 1965 American wildlife enthusiasts agreed to provide money for making waterholes for Maasai cattle provided the Maasai herders no longer entered the Amboseli swamps on which the wildlife and livestock heavily depended during the dry season period (see DN 21/02/65). Calculations foresaw a 40-50 per cent decline for the livestock population if the Maasai were deprived of the basin's water and swamps (see Western 1982a:304).

The local Kisonko Maasai did not see why they should lose their traditional dry season grazing grounds for the benefit of the Kajiado County Council, the Kenyan Government and the tourists, while the costs were placed on their

[48] Earlier efforts by the late 1960s had often been frustrated due to absentee farmers (see KDAR 1969:21). Odundo (1992:23) believes individual land tenure to be favourable for tree planting but recognizes that in the North-Kaputiei region the area is bare with very little tree cover because of poor protection offered to the trees in their infancy from damage by livestock. In my view, wildlife and livestock damage can hardly be controlled. Moreover, livestock-keepers favour grassland pastures. Only small fenced plots used for residence or cultivation could possibly increase the tree cover.

[49] Hunting in Kajiado District was administered through the Game Department under a Controlled Area (Hunting Blocks) system that was operated throughout the country. When the land had trust status before adjudication and registration of group ranches, the Government had operated hunting, returning Controlled Area fees and booking fees to the Kajiado County Council. In 1972, for instance, a total of Ksh. 396,080/- had accrued from hunting rising to Ksh. 532,841/- by 1974. The money was distributed over the whole of the district towards development projects such as cattle dips, dispensaries, water projects and construction of schools (see KDAR 1974:11). Following adjudication there was a verbal agreement with the Kajiado Maasai that the Government should continue to be responsible but that the income should be directed toward the landowners and not the Council (see UNDP/FAO 1978:25).

shoulders.[50] Instead they argued firmly that they be given exclusive land rights for the whole of the Amboseli region. Promises made by British Governors and Kenyan Ministers throughout the 1950s and early 1960s had not caused them to lose their fears of loosing access to the Amboseli swamps.

Indeed, by 1968 a plan had been launched before the Kajiado County Council to carve out slightly over 500 km^2, comprising of the Amboseli dry season basin, from the 3,260 km^2 Maasai Amboseli Game Reserve, for the exclusive use of wildlife. The Maasai protested using every political force they had and begging the Government to think twice before allowing the creation of an Amboseli National Park.[51] Beside the loss of dry season grazing the creation of a National Park would mean vesting legal ownership in the hands of the Central Government including the revenues. This would make the Kajiado County Council bankrupt in one fell swoop.

Finally, in 1970 a presidential directive had to be issued to resolve the impasse. In 1972 the boundaries of the new wildlife sanctuary were demarcated and the area gazetted as Government land. To go some way along with the Maasai the area was reduced from 518 km^2 to 388 km^2, leaving 160 ha of land surrounding the Ol Tukai tourist lodge owned by the Council and guaranteeing them an extra income besides a portion of gate receipts. Recurrent and developmental costs were to be for the Central Government. The latter will have been very much willing to do this as, for example, in 1976 it was estimated that the Kenyan Government and the Kajiado County Council jointly received revenues of approximately Ksh. 69 million in 1976 from hunting, game photography and motorized game viewing in the district (i.e. Amboseli and Nairobi National Parks). The costs were estimated at only Ksh. 4 million.[52]

Though the Central and Local Government had protected their own interests, the local Maasai had not. It should be noted that during the wet season game animals do not stay within the Parks' boundaries but spread out into the neighbouring "dispersal areas" or "spill-overs". For Amboseli and Nairobi

[50] The increasing number of tourists willing to visit Amboseli placed severe stress on the absorption capacity of the area and threatened to damage its ecological habitat irreversibly as a result of heavy off-road traffic within a fragile terrain.

[51] Moreover, it has been stated that the Maasai, in an attempt to preempt the loss of their dry season grazing area deliberately killed game, especially rhinoceros. From 1966 to 1982 the number of rhinos declined from 70 to 14 (see Western 1982a:308).

[52] It was calculated that the net foreign exchange earnings for the Kajiado District from wildlife were some Ksh. 29 million, while an extra sum of Ksh. 40 million was thought to be earned from money spent outside Kajiado District by a certain number of those tourists who came to Kenya foremost because of Kenya's wildlife heritage. Direct revenues from wildlife viewing and hunting was estimated to be some 16 5 million. An estimated Ksh. 400,000/- from viewing and Ksh. 950,000/- from hunting (i.e. 8 per cent of total direct revenues) went to the Kajiado County Council whilst the Central Government earned 92 per cent (see UNDP/FAO 1978:xvii/12).

National Parks dispersal areas of some 5,000 km^2 and 2,000 km^2, respectively were calculated while both parks together amount only to some 500 km^2.[53] As a result wildlife outside the parks had to be accepted as a part of land use in order to fulfil conservation goals.[54] In fact, the only gain for the local Maasai came from outside donor funds provided by the New York Zoological Society who, in March 1973, signed a contract with the Kenyan Government through which US$ 140,000 was donated for the building of five new watering areas outside Amboseli National Park (see DN 10/01/73).

In October 1974 Amboseli National Park was officially gazetted. The local Maasai were still allowed to trespass into the Park until 1977 due to the severe drought period of that time (see Campbell 1981a:231). Alternative water sources for the Maasai cattle, two boreholes outside the park supplied from a pipeline, were only completed by 1977, although they proved to be defective in design and deficient in cost-effectiveness frequently forcing the Maasai to re-enter the park for water (see Western 1982a:308). Erection of *bomas* inside the Park, however, was not allowed.[55]

In order to win support from the local Maasai an UNDP/FAO study team, contributors to the "Kenya Wildlife Management Project 71-11: (KWMP), proposed to install a "Wildlife Utilization Fund" (WUF) in 1975 through which money could be paid to people living in the vicinity of the Park.[56] The amount donated should be in proportion to the amount of wildlife sustained on their land. Information for each area had to be collected from the seasonal distribution of migratory wildlife species (wildebeests and zebras mainly) calculated from data collected during "Systematic Reconnaissance Flights". The group ranch committee was chosen to be the direct receiver of these payments.

Besides this grazing compensation fee revenues were to be attracted through organized hunting parties, camp sites and game cropping. The annual WUF compensation fee for the Amboseli group ranches was Ksh. 250,000/-, while

[53] By 1973 tensions had also arisen in the Kitengela area when, due to the drought, the Maasai moved their animals into Nairobi National Park where 15 bulls were killed by the park's wardens. It was stated that this act was part of an attempt to take over the Kitengela area as an extension of Nairobi National Park. Negotiations about this had been going on since 1966 (see Sunday Post 29/07/73).

[54] Western (1982a:304) stated that permanent restriction of large herbivores to Amboseli Park would lead to a reduction of some 40-50 per cent of these populations. UNDP/FAO estimates speak of even less than 10 per cent for the Nairobi National Park wildlife migrating population (see UNDP/FAO 1978:xxii).

[55] During the 1984 drought the Wildlife Department was not able to pump water to the Maasai outside Amboseli Park due to budget restrictions. First, the Maasai were allowed to enter the Park for water and later when the drought began they were also to graze their herds (see Moss 1989:230).

[56] Loss of the dispersal areas was thought to be equivalent to a reduction of potential revenues from wildlife of some Ksh. 3.3 million (see Western 1982a:306).

revenues from entrance fees alone in 1976 amounted to Ksh. 2.0 million for Amboseli National Park and were expected to rise to almost Ksh. 14.0 million by the year 2000 (see UNDP/FAO 1978:11/87/99).

Finally, the KWMP proposed to establish a "Wildlife Extension Project" (WEP) permanently as it had experienced difficulties in involving the Maasai and gaining their understanding and support in communicating with other departments. Institutional and legal support was provided due to a reformulation of Kenya's national wildlife policy in 1975 and the Wildlife Conservation and Management Act of 1976. The newly established Wildlife Conservation and Management Department (WCMD) became responsible for the co-ordination of all the proposed plans for action.

Although some improvements have been made inside the park such as the relocation of much of the parks's infrastructure and a less destructive road system, the most essential improvements made in order to gain local support quickly failed. Hunting fees were paid only until 1977 when a nation-wide ban on hunting was issued. Wildlife cropping was never seriously conducted. Only a few tented camps were established initially and without much success (e.g. in Olgulului and Kimana). Grazing fee compensation has been responsible for the building of some dispensaries, schools, dips, curioshops and boreholes but payments were stopped after 1979.[57]

One adult educator was employed to manage the Wildlife Extension Project in Kajiado District as well as in Narok! Assisted by some NGO's and through finances obtained from other donors workshops were conducted, wildlife committees established, tree nurseries started and some educational material produced. In August 1984 WEP made a new start funded by the African Fund of Endangered Wildlife (AFEW) and the United Nations Education, Cultural and Scientific Organization (UNESCO). The new style of the WEP assisted some group ranches in pressing the Government to pay hunting fees which were still owed to the ranchers since 1976. The project increasingly tried to educate ranch members concerning natural resources and wildlife conservation via the recruitment and training of "Conservation Action Leaders" (CAL). In addition, it helped to negotiate between Park officials and Maasai ranchers over access to water and grazing during periods of shortage. Unfortunately, WEP lacked official backing while at the same time was still considered to be a "top-down" managed project (see Berger 1987:9).

Most disappointing, however, has been the failure to satisfactorily fulfil the promises made to the local Maasai of the provision of an adequate number of new watering points and dry season areas outside Amboseli Park. Until the late

[57] In 1979 the Kajiado County Council expected to earn a revenue totalling Ksh. 5,490,000/- its greatest source being the annual payment of Ksh. 4,600,000/- by the Ministry of Tourism & Wildlife as a royalty for Amboseli National Park (see Standard 07/01/79). By 1984 the Council was crippled financially. In 1986 it leased the Ol Tukai lodge to a private hotelier in an attempt to raise more revenue for the Council (see Standard 09/12/86).

1980s no funds were made available to finally resolve this issue. By May 1987 the Director of the WCMD, Dr. Olindo, told the local Maasai that some US$ 200,000 had been raised in America for Amboseli but that more was still needed (see Berger 1987:13). The Kajiado District Development Plan 1989-93 mentioned a number of projects the district intended to realize over this period. Among the most important targets were the construction of a 57 km pipeline, two boreholes and a dam costing an estimated total of Ksh. 2,734,000/-. Furthermore three model campsites, three Maasai cultural centres, an education centre, a rhino survey and the construction of game-proof electric fences in Ngong-Kiserian and near Namelok were listed (see KDDP 1988:151-156). Requests for fences near Amboseli had been made as early as 1980 (see DN 21/11/80). On the Ngong Hills some game-proof fences existed prior to the mid-1970s (see KDAR 1974:10).

Complaints about wildlife from farmers and pastoralists alike have continued over the years. Until recently it has been possible to obtain a compensation fee if crops, livestock or human beings were mauled by wildlife.[58] Expansion of agriculture and a growing human population is thought responsible for the persisting conflict as wild animal numbers are on the decline. Drought took its toll in 1973-76 and 1984, (particularly of zebra's).

In addition, and rather more significantly, some species (e.g. elephants and rhino) were endangered due to poaching. Rhinos in Kenya declined from 20,000 in 1971 to some 600 by 1986. For Africa a total of 4,000 is mentioned (see DN 01/11/88). Though the Amboseli rhino population increased slightly after years of decline by 1977, there are now only a few remaining. Amboseli elephant numbers have been fairly stable over this period numbering some 750. Elephant numbers in Kenya, however, have decreased from 70,000 to only 18,000 between 1980-90 (see DN 27/02/90). In the whole of Africa their numbers have dwindled from 1.5 million to 500,000-700,000 over this same period (see DN 20/01/90).[59]

By the end of the 1980s poaching had increased considerably in Kenya. To combat the poachers the Kenyan Government increased the anti-poaching budget to Ksh. 120 m. for 1988/89 and intensified the search for the poachers (see DN 27/10/88). This time not so much Maasai *ilmurran* but ex-civil war soldiers from Somalia and Ethiopia were said to be responsible for the killing

[58] According to the 1989 Wildlife (Conservation and Management) Amendment Bill compensation for damaged crops and livestock was stopped, excluding cases of deaths or severe injury of human beings (see DN 30/11/89).

[59] Elephant populations in Africa have either been completely destroyed or reduced to small isolated patches due to the trade in ivory. By the beginning of this century wild reserves were established by the colonial authorities. Nowadays the main concentrations of elephants (> 1/km^2) can be found in central and southern Tanzania, northern Zimbabwe, north-eastern Zambia, northern Botswana and isolated patches in Kenya (e.g. Amboseli) (see UNEP/GEMS/GRID 1987).

of the animals. Their target was the rhino's horn and the elephants tusks.[60] The poachers are more than ever well-armed, use automatic guns and persist in reaching their goals. In Kenya, Tsavo elephants especially have been killed.

Amboseli animals are still fairly safe, certainly as long as they stay inside the park, a habit they seem to have developed these days. This, however, also has its repercussions on the park's carrying capacity. The swamps' water is becoming increasingly polluted as a result of their urine and droppings. In addition they have become perfect foragers for the left-overs from tourists and from the lodges and they also harass cars stuffed with foodstuffs. Moreover, approximately 90 per cent of the Park's full grown *Acacia xanthophloea* trees had died by the early 1980s. Initially it was thought that (male) elephants were responsible for this by stripping the trees of their bark. It turned out, however, that these old trees were dying because of a rise of the water table and in increased salinity due to unrestricted tree felling on the slopes of Mt. Kilimanjaro for agricultural purposes. The elephants are now busy destroying the young *Acacia* trees (see Moss 1989:262).

It is not only because of the attempt to conserve fauna and flora that solutions have to be found to the rising pressure on Kenya's National Parks and Game Reserves. By 1988 tourism overtook coffee as the main net foreign exchange earner (see chapter 4). To safeguard these interests the management of Kenya's wildlife heritage was transferred to the newly established independent Kenya Wildlife Service (KWS). It seems that the KWMP ideas of the mid-1970s are being revived as approximately 25 per cent of KWS funds have to go to the rural communities in terms of schools, clinics, water supplies and veterinary services and cropping of game by the Kajiado ranchers is propagated.

However, nowadays Kajiado group ranches are in the process of dissolution and this threats the access of wildlife to the dispersal areas. KWS' major concern is the group ranches surrounding Amboseli National Park. The

[60] By the end of the 1960s the price of ivory increased sharply, rising to over six times by the end of the 1970s. Japan is the largest importer of ivory (some 60 per cent), followed by Hong Kong (20 per cent). It is mainly used to manufacture small seals, preferred by the Japanese instead of a signature, sculptures and ornaments. An estimated number of 70,000-80,000 elephants are killed worldwide to provide 825 tonnes of ivory every year. This is equivalent to a 5-10 per cent annual reduction. In other words, within ten years the African elephant can be completely exterminated. Younger elephants (with lower tusk weights) are increasingly being killed meaning that yet more animals need to be massacred in order to fulfil the demand for ivory. In 1986 the international lobby resulted in the introduction of an ivory quota (see Moss 1989:250-2). In June 1989 the United States banned the ivory trade completely to save African elephants. By January 1990 an international ban went into force. This move was supported by Kenya and Tanzania. Unfortunately, other countries (e.g. Zimbabwe, South-Africa, Malawi, Zambia and Botswana) oppose the ban.

Rhino horn is also mainly exported to Asia. It is used for medical purposes and also as an aphrodisiac. Poachers have gone as far as to kill the five rare white rhinoceros who stood under a 24-hours protection by special trained guards in the Meru National Park (see DN 01/11/88).

"spectre of fencing" -which has to interrupt the animals' cycles of migration and which leads to overcrowding and finally to decimation- has speeded up and renewed the Governments' willingness to allocate funds to the surrounding group ranches. The interesting outcome of this has been that game department officials are threatening to exclude Loitokitok group ranches from their share in an annual fee of Ksh. 4,000,000/- from Amboseli gate earnings if they decide to subdivide. KWS has come up with a plan to persuade land owners not to fence their fragmented pieces of land but to charge tourists coming to view the animals (see Kajiado Focus 1991a:11).[61]

7.6 Summary and Conclusion

This chapter has explored developments in land use and land policy concerning the livestock, wildlife and cultivation sectors of post-colonial Kajiado District. Special attention has been paid to the creation, performance and subdivision of group ranches. The birth of the group ranch concept should be placed somewhere between the 1955 report of the East African Royal Commission favouring individual land tenure for the whole of Kenya and the Lawrance Mission of 1965-66 which preferred the establishment of large ranches where ownership was vested in the name of a group in Kenya's semi-arid regions.

In short, the idea of a group ranch meant the setting aside of a certain piece of land, communally owned by a group of people recorded and registered as the legal owners through membership of the particular ranch. In contrast with the past, livestock movements would be restricted within the group ranch boundaries and non-members would be forbidden to bring and graze their animals. Through the provision of loans for infrastructural development and steer fattening an attempt was made to radically transform the nomadic subsistence-oriented production of the Maasai pastoralists into a sedentary, more commercial system. This market-oriented production was to bring about a destocking of the Maasai pastures while at the same time providing meat for the (inter)national market. It was thought that this approach would provide an answer to the 1960/61 collapse of the Maasai livestock sector.

From the side of the Maasai a certain willingness to accept this proposal did exist. However, besides welcoming the idea of improvements in the provision of water, veterinary care, livestock quality and the like, a major rationale for accepting the group ranch proposal was the increase in the number of Maasai-held individual ranches and the encroachment of non-Maasai into the District.

[61] A controversy already exists on how to distribute this amount of money among the Mbirikani, Selenkei, Kimana-Tikondo and Olgulului group ranches The latter claims a total of Ksh 2 4 million, while Ksh 1 6 million has been offered To make matters more complicated the Kajiado County Council and the District Development Committee have also put a claim to this new opportunity for raising revenues, arguing that all the Kajiado District inhabitants should profit from the district's wildlife

The fear that more land would be lost to Game Reserves or National Parks was also of some significance.

In the early 1960s discussions concerning the status of Maasailand reached a height. The Maasai feared losing their land after Independence which until that time had been safeguarded by the Colonial Maasai Treaties which gave exclusive rights of occupancy to the Maasai within Kajiado and Narok Districts. Among the Kaputiei Maasai this debate was of particular importance. Several proposals such as the registration of the whole of the section under one title deed, or the creation of a fringe of individual ranches near the northern boundary to stop illegal infiltration were discussed. The Colonial Authorities disapproved the one title deed option. The finally accepted variant of individual ranches had been suggested by some of the young formally educated Maasai, but was objected to by the elderly. The Kajiado County Council, however, backed the idea of individual ranches, whereby apparent personal gain also played a role. The haphazard approach of the Government towards the Maasai land issue and the illegal approval of the creation of individual ranches by the Council was criticized by the Lawrance Mission. Finally, all of the Maasai sections accepted the group ranch concept, though in some regions of northern Kaputiei and the better watered parts of the Ngong area opposition persisted. Even where ranches were officially installed they never functioned as such among this group of Maasai.

Implications of the introduction of the group ranch lay in the organizational, juridical and economical sphere. Actual establishment of the group ranches followed a phased programme. After the declaration of an "Adjudication Area", split into Adjudications Sections, any person claiming to have an interest in a particular section had to bring his claim before the Adjudication Committee composed of not less than ten people. Most of these were recruited from the group of educated Maasai, politicians and Government officials. After sixty days the section was further subdivided into individual and group ranches. Members then elected a total of 3 to 10 representatives and a group ranch committee for day-to-day management. A certificate of incorporation was finally issued by the Land Registrar of Kajiado District and the group officially registered under a specific name.

In 1964 the pilot Poka group ranch had already been started in the south Kaputiei location. By 1969 phase one of the Kenya Livestock Development Project (KLDP I) was officially started. By 1970, 14 group ranches, covering over 10 per cent of the district's area were recorded in the Kaputiei area. Phase II was started by late 1974. A total of 16 ranches comprising another 25 per cent of the Kajiado District area were ultimately added. Finally by the early 1980s, although no longer under the KLDP, 20 more ranches were incorporated. This brought the total of group ranches to 51 covering some 15,200 km^2 or some 75 per cent of the area.

Analyzing the performance of Kajiado District group ranches revealed that group ranches had indeed been an effective instrument in stopping the further

massive excavation of individual ranches at the cost of the majority of the Maasai people. Secondly the group ranches served as mechanisms for the improvement of livestock management techniques and the construction of facilities such as boreholes, dams, troughs, tanks, pipelines and cattle dips. Most facilities were constructed by funds from sources other than the KLDP. Nonetheless, the existence of a framework such as the group ranch is considered to be partly responsible for being able to attract these funds. Thirdly, group ranches are thought to have stimulated the erecting of schools, shops and health centres. A final achievement of group ranch development is said to have been to allow wildlife to continue roaming freely over large parts of Kajiado District.

Alongside these achievements a number of problems and failures have to be mentioned. The targets of pasture destocking and commercialization of livestock production were not realised. Major problems were encountered while trying to achieve these extremely ambitious objectives e.g.: delays and problems in implementation; disappointing rates of investment and difficulties in loan repayment by those who actually did receive some funds for development; continuing trespass of group ranch boundaries; no transformation into or substantial increase of market-oriented livestock production and corruption among several group ranch committees.

The final outcome of these problems and resulting frustrations among many group ranch members was that by the late 1970s the wish for subdivision of the group ranch into individually owned shares could increasingly be heard. As at the time of Independence the Government did not take a clear position in this issue. Within the Ministry of Livestock Development in Kajiado District it was feared that the final outcome of group ranch subdivision would be very negative. Other government echelons and departments held less clear views.

In general those opposing subdivision stated that it would lead to the alienation of land to non-Maasai; create severe erosion in areas where cultivation should be started; erode Maasai culture and restrict the free movement of wildlife and livestock to the detriment of the meat-producing and tourist-attracting functions of the district. Those in favour of subdivision said that subdivision would: help self advancement and raise the standard of living for the Maasai; raise the ability to procure a loan from the bank using the freehold title deed as collateral; minimize exploitation of the poor by the rich; promote Maasai engagement in agricultural and industrial enterprises and facilitate better maintenance of the existing infrastructure.

The procedure of group ranch subdivision is a complex one requiring several stages. Most important is that agreement is needed from at least 60 per cent of the members. If this is obtained a demarcation committee will be installed and the RMD will perform a feasibility study. Finally the boundaries of the newly created individual holdings need to be surveyed. By 1990, 40 ranches had already decided to dissolve their ranches. Only 4 were opposed to this idea and another 7 had not yet decided. In other words, at that time the whole of Ngong and Central Division which incorporated 78 per cent of the ranches had either ceased to exist or were in the process of dissolution.

Examples from Olkinos and Embolioi as well as many other group ranches were provided to illustrate this complex and time-consuming process. Disputes over ranch boundaries, corruption in plot allocation, conflicts between registered and non-registered group members are among the problems that accompany the process of group ranch subdivision in Kajiado District.

Reviewing the creation, performance and subdivision of Kajiado District group ranches it can be concluded that in many respects, the group ranch concept proposed by outsiders turned out to be an artificial creation, lacking a firm traditional sociological as well as an ecological basis and which was overambitiously geared at destocking and commercialization of production while taking no account of pastoralists strategies and household needs. Funds provided by international donors such as soft loans were ultimately channelled towards the group ranches at high interest rates. Once they ran into trouble in repaying these loans, either because of corrupt group ranch committees or natural causes like droughts and diseases killing the steers bought for fattening purposes, many members no longer felt obliged to contribute to the well being of the ranch In addition, the use of the group's pastures by herds belonging to neighbouring individual ranchers and the fast increasing numbers of young Maasai willing to become registered contributed in many cases to a growing negative feeling towards existence of the group ranch and the ultimate call for subdivision. The initial opposition of Central Government seems to have changed towards a standpoint of modestly support of this process.

In the following chapter we will attempt to analyze the outcome of the subdivision process so far. In particular the state of affairs for the subdivided group ranches of Olkinos and Embolioi will be considered.

Box 8.1 OLKINOS GROUP RANCH PROFILE

Olkinos (Phase I) group ranch (6,020 ha), located some 15 km north-east of kajiado Town borders the Athi River-Namanga road to the west, the Isinya River and Embolioi group ranch to the east, Kisaju River and Kitengela group ranch to the north and Isinya Town to the south. It is part of the Isenya sublocation of the North-Kaputiei location of Central Division. Approximately 750 people kive on this subdivided group ranch.

In Isinya T.C. ther is a primary school, a secondary school, a health centre, the Maasai Rural Training Centre and some shops. Other Olkinos shops are located near the cattle dip (Oldokunyi) and at the Empatipat area in the north. Recently immigrants have also started small shops. In the north is Korompoi primary school. Finally a borehole (1974) is available near the east-central part of the ranch. Olkinos residents also make use of Embolioi primary school and the borehole at Olturoto.

Situated on the Athi-Kapiti Plains, Olkinos group ranch covers a flat area. The altitude is about 1,585 to 1645 m. Rainfall is about 500-600 mm. The soils are generally imperfectly drained, cracking clay, Vertisols (L11) in the south, with patches of moderate to well-drained firm clay Planosols (*L9*) in the central part. In the north soils are firm gravel clay (V2 with typical brownish stones giving the area its name: Empatipat. The Olkinos vegetation is classified as open grassland. *Pennisetum mezianum* and *stramineum, Themeda triandra, Sporobolus frimbriatus, Digitaria milanjiani* are the dominant grass species. Some scattered shrubs, mainly alongside the rivers, include *Balanites eagyptica* and *Acacia spp.*. Near the cattle dip a resting camp for mine workers is located (mainly Kamba). Olkinos women's group runs a tannery and cultivates some small plots near the borehole. Grants and Thomson's gazelles are found in the ranch throughout the year. Wildebeest dominate during the rainy season.

EMBOLIOI GROUP RANCH PROFILE

Embolioi (Phase I) group ranch (24,000 ha) is located to the north of the Konza-Magadi railway branchline, its south-western tip being only some 5 km from Kajiado T.C. Administratively the ranch belongs to the Isenya sublocation of the North-Kaputiei location of Central Division. Olturoto and Engirigiri centres serve the area. Here there are shops, churches and primary schools. For medical assistance people have to go to Isinya T.C. Embolioi group ranch has two boreholes, one being out of order. Otherwise use is made of water collected in the holes made by the gypsum mining activity which is prevalent in the area, particularly in the Engirigiri area.

Embolioi group ranch is a relatively flat area and, like Olkinos, is part of the Athi-Kapiti plains. The vegetation is an open grassland with scattered trees. Dominant grass species are *Pennisetum mezianum, Themeda triandra* and *Sporobolus spp.. Acacia species* are the dominant bush species. The soils are mainly the well-known cracking clay saline imperfectly drained Vertisols (L11). In addition patches and complexes of moderate to well drained Planosols are found. The are id in agro-climatic zone V. Mean annual temperatures vary between 18-20°C and rainfall amounts to some 500 mm annually. Embolioi is frequently invaded by wildlife, wildebeest in particular.

One women's group operates and specializes in the production and selling of traditional ornaments.

CHAPTER 8

THE IMPACT OF SUBDIVISION OF OLKINOS AND EMBOLIOI GROUP RANCHES

8.1 Introduction

In the next two chapters the effects of the process of group ranch subdivision as in early 1990 will be presented. Statements made by opponents and supporters of the dissolution of group ranches as summarised in section 7.4.2, have been the leading starting points for our analysis of this process; destocking of ranches, investments in infrastructure, picking up other activities, fencing of parcels and selling of land, among other issues, were studied in order to estimate the impact of group ranch subdivision so far.

Besides population characteristics this chapter will pay particular attention to the direct outcome of the subdivision process in Olkinos and Embolioi group ranches, the allocated plot sizes and their economic and ecological viability and the resulting changes in residence patterns. Furthermore, other changes that occurred in the *use* of land such as herd movements, fencing and the establishment of *shambas* and *ol-okeri* will be discussed. Survey results obtained among the Maasai of Kiboko, Elang'ata Wuas, Lorngosua and Meto group ranches -none of these ranches at the time yet subdivided- and from established individual ranchers of northern Kaputiei, Loodokilani and Matapato and from a group of land buyers in the Olkinos territory will also be presented. In chapter eight the effects of the *commoditization* of land will be dealt with, including investments made by the plot owners to improve their individually owned parcels.

8.1.1 The Characteristics of the Sample Population

A total of 543 households were interviewed during the survey period. Out of this group 183 had recently acquired a former group ranch parcel (i.e. Olkinos and Embolioi group ranch members), 317 households still lived on a group ranch (i.e. Kiboko, Elang'ata Wuas, Lorngosua and Meto), 34 respondents owned an established, individual ranch and 9 individuals had recently obtained land on the former Olkinos group ranch. Figure 8.1 shows the survey locations.

The exact sample fraction for each group ranch or group of individual ranchers is hard to know because the latest Kajiado District population figures are from 1979 and are available only for the sub-locational level. To overcome this problem, the total number of registered members within our sample households was related to the 1990 official number of registries for each of the group ranches. The specific ratio found for each group ranch was used to estimate the probable total number of households living on this group ranch. Table 8.1 shows the resulting sample fraction estimates. Also included is

information concerning the registration status of the head of household.

Table 8.1 Sample Size of Survey Population

LOCATION	SECTION	No. of h/holds	Sample Size	%	Heads reg	Heads not reg
Olkinos	Kaputiei	116	108	93	108	0
Embolioi	Kaputiei	299	75	25	75	0
Kiboko	Kaputiei	99	38	38	21	17
Elang'ata Wuas	Loodokilani	487	75	15	59	16
Lorngosua	Matapato	578	100	17	96	4
Meto	Matapato	451	104	23	102	2
Ind. Ranchers		248	34	14		
- Kaputiei	Kaputiei	?	14	?	n.a.	n.a.
- Loodokilani	Loodokilani	?	9	?	n.a.	n.a.
- Matapato	Matapato	?	11	?	n.a.	n.a.
Buyers Olkinos		63	9	14		
- Maasai	n.a	4	3	75	n.a.	n.a.
- non-Maasai	n.a	59	6	10	n.a.	n.a.

Source: author's survey

Note: the estimated total number of households presented is speculative. For Olkinos and Embolioi we used the number of parcels. For the other group ranches we calculated a conversion factor based on the total number of registered household members of our sample population.

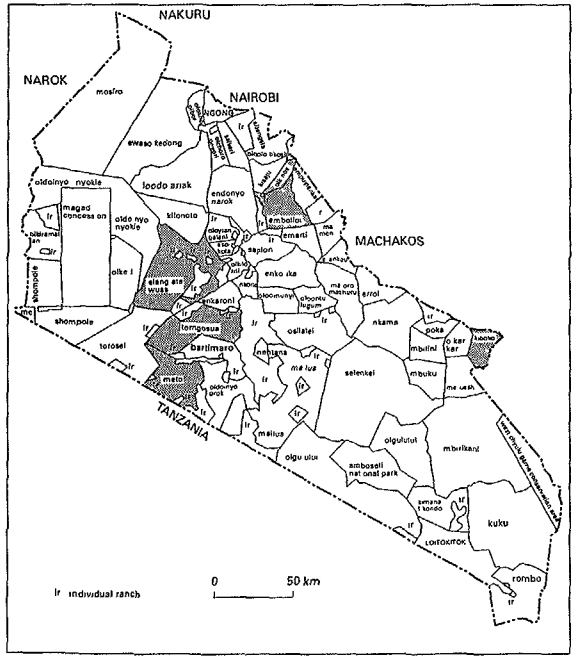

Figure 8.1 Location of Survey Area in Kajiado District

It should be noted that, in spite of our intention, we did not succeed in interviewing all of the former 116 Olkinos members due to what could be called "absentee ownership". A total of eight plot owners were either living elsewhere permanently or roamed around in or even outside the district. Information obtained showed that the absentees either had another occupation (e.g. cattle trekker), owned a second farm elsewhere, stayed on their father-in-law's individual ranch or, as in one case, were in prison.

In addition, a number of the owners interviewed had not yet settled in their new location, but were staying with relatives or friends in another *boma* either nearby or far away (e.g. Mashuru, Embolioi, Kitengela, Kisaju, Kiambu). For example, in Embolioi 52 individual parcels (17 per cent) were found that had not yet been settled. The majority of these belonged to young members or to widows who were staying in other households as dependents.

A similar problem existed with reference to the group of buyers. In fact, absenteeism among the buyers is even more significant. Out of a group of some 63 buyers in Olkinos group ranch only 10 had settled by February 1990. As a result our buyers sample will be biased due to the fact that non-settled outsiders, who could possibly have bought for speculative reasons only, could not be interviewed.

Finally, it should be stressed that great care has to be taken in accounting for the differences between the subdivided and not yet subdivided ranches solely to the fact of individual ownership. Each of the group ranches has its own specific history and level of development and differences also existed before the start of group ranch subdivision in late 1986. Longitudinal changes within the same area should be studied to assess this impact. Whenever possible historical data will be cited for the sample group ranches. Bearing the above remarks in mind general reference will also be made to other base-line studies such as those of Metson (1974), Njoka (1979), ILCA (1981) and White and Meadows (1981).

Table 8.2 shows the human population characteristics of our sample Maasai population. The mean household size (including dependents - see below) for our sample of group ranches which include Olkinos and Embolioi was estimated to be 8.6 persons. Individual rancher average household size stood at 14.4 persons. A clear north-south increase in mean household size can be found for the study area (e.g. Olkinos 6.0 to Meto 10.6). It is generally held that the Maasai sections, residing in the southern parts of the district, are "more traditional".

Data for Embolioi and Kiboko for early 1968 gave average household sizes of 5.7 and 5.6 people, respectively. Average household size figures provided by Metson (1974) and ILCA (1981) stood at 8.1 and 9.6. Metson's survey was conducted among 174 households all over Kajiado District. ILCA's base-line figures were obtained from a group of 202 households in the south-eastern region of the district.

The number of children (excluding dependents) in the 0-15 years of age cohort among the 500 group ranch households was estimated to be 1,933, or 50.3 per cent. For Embolioi and Kiboko figures of 45.7 and 47.4 per cent for 1968 were found (including children of above 15 years of age). The 1990 youth figures for these ranches were 64.4 and 64.0 per cent. Metson (1974) and ILCA (1981) enumerated overall percentages of 56.1 and 68.1 for the under 16's, respectively.

The number of dependents (i.e. adults and children not originally belonging to the household, such as grandparents, unmarried sisters or disabled brothers for instance) stood at 458 persons (10.6 per cent) of the group ranch sample and 65 persons (13.2 per cent) for the individual ranchers. Embolioi and Kiboko dependency ratios for 1968 were 9.9 and 9.5 per cent as compared to 1.9 and 5.8 per cent for 1990, respectively. In 1981 ILCA found 22.8 per cent of the household members to be dependent.

The husband:wife ratio was found to stand at 1:1.63 for group and 1:2.28 for individual ranchers. The Embolioi and Kiboko ratio changed between 1968 and 1990 from 0.94 to 1.26 and from 1.40 to 1.74 wives per husband. Metson found a Kajiado District average of 1.76 wives in 1974. ILCA reached 1:2.07 for their Olkarkar, Merueshi and Mbirikani sample. Huge differences, however, existed between ILCA's sub sample locations; Olkarkar 1.63, Merueshi 2.11, and Mbirikani 2.74. This difference, apparently illustrative of the north-south factor, can also be found within our sample also (Olkinos 1.19 to Meto 2.09). Again no hard conclusions can be drawn from the above deliberations concerning possible trends as specific place and time characteristics will have influenced the outcomes of each of the surveys mentioned.

Table 8.3 presents the livestock ownership characteristics of our survey population. The average per capita cattle ownership for all our sample households, excluding non-Maasai buyers, is estimated to be 9.1 head of cattle per person. This seems to be a break with the trend of declining cattle/capita ratios in Kajiado District as was presented in figure 0.3.[1] In addition a mean small stock number of 12.9 per person was found. ILCA counted for the early 1980s for their Olkarkar, Merueshi and Mbirikani sample 10.6 cattle and 7.7 shoats per person.

The Embolioi and Kiboko samples underline these higher livestock ownership figures. In 1968 Embolioi households owned on average 4.2 cattle and 3.3 shoats per person. In 1990 this had changed to 7.2 cattle and 18.1 head of small stock. Kiboko livestock ownership increased from a mean of 8.1 cattle and 1.9 shoats to 11.3 cattle and 11.2 shoats per person.

[1] It should be noted, however, that our sample has a slight over representation of individual ranchers. For the 'group ranch pastoralists' the figure stands at 8.1 cattle/person. Extrapolation of ILCA's pastoral people growth trend in relation to the MoLD 1988 results, applying an annual 10 per cent increase for cattle, would place the cattle/people ratio at approximately 5.5 cattle/person for the whole of the district. Cattle ownership in Central Division will be above this mean as 43 and 34 per cent of the cattle and human population, respectively, are found in Central Division.

Table 8.2 Population Characteristics of Survey Population

Location	no of hh	head of hh		wives	children								dependents				total persons		total sample pop.	av. hh size	total sample AAME*
		m	f		0 - 5		6-10		11-15		>15		adult		child						
					m	f	m	f	m	f	m	f	m	f	m	f	m	f			
Olkinos	108	97	11	115	54	33	51	57	51	32	58	39	17	27	3	4	331	318	649	6.0	472.83
Embolioi	75	69	6	87	32	36	45	40	43	34	64	15	5	4	0	0	258	222	480	6.4	352.37
Kiboko	38	38	0	66	33	23	36	30	33	21	36	7	7	12	1	0	184	159	343	9.0	254.66
Elang'ata Wuas	75	75	0	116	67	78	82	64	62	42	67	19	38	39	20	19	411	377	788	10.5	596.59
Lomgosua	100	96	4	178	95	91	75	77	56	59	69	14	38	65	15	6	444	494	938	9.4	694.78
Meto	104	103	1	215	107	103	124	100	59	49	94	14	59	51	17	10	563	543	1,106	10.6	834.32
Ind. Ranchers	34	32	2	73	27	21	40	37	47	30	80	37	37	26	1	1	264	227	491	14.4	404.30
- Kaputiei	14	14	1	21	8	5	8	4	13	6	29	23	11	15	1	1	84	75	159	11.4	129.57
- Loodokilani	9	8	0	16	4	5	7	12	11	9	18	9	15	3	0	0	63	55	118	13.1	98.23
- Matapato	11	10	0	36	15	11	25	21	23	15	33	5	11	8	0	0	117	97	214	19.5	176.50
Buyers Olkinos	9	9	0	9	1	3	1	3	4	0	12	12	1	1	0	0	28	28	56	6.2	42.50
- Maasai	3	3	0	3	0	2	1	2	2	0	4	5	0	0	0	0	10	12	22	7.3	19.39
- non-Maasai	6	6	0	6	1	1	0	1	2	0	8	7	1	1	0	0	18	16	34	5 7	23.11
Total	543	519	24	859	416	388	454	408	355	267	480	157	192	225	57	40	2,473	2,368	4,851	8.93	3,652.35

Source: author's survey

* AAME = Active Adult Male Equivalents. The AAME represents the average daily food energy requirements of an active African adult male, or 2,530 Kcal, based on the nutrient and energy intake recommended for populations in Africa by the Food and Agricultural Organization (FAO). Thus, the food energy requirements for an adult male are taken as 1 AAME, and the requirements of members of other population classes are expressed as proportions of this as follows: child 0-5 years 0.52 AAME; child 6-10 years 0.85 AAME; child 11-15 years 0.96 AAME and adult female 0.86 AAME (see ILCA 1981:50).

Table 8.3 Livestock Ownership Characteristics of Survey Population

Location	Cattle					Small stock					Donkeys	Camels			Poultry	Beehives	Total LE*
	Calves		Matures			Sheep		Goats									
	M	F	M	F	Total	M	F	M	F	Total		M	F	Total			
Olkinos	501	481	1,361	2,715	5,058	1,748	5,063	1,122	2,703	10,646	16	0	0	0	924	0	5,401
Embolioi	643	420	1,092	1,278	3,433	2,631	3,572	1,044	1,434	8,681	25	0	0	0	365	1	3,913
Kiboko	407	405	1,174	1,873	3,859	488	1,636	361	1,343	3,828	69	0	0	0	51	4	3,391
Elang'ata Wuas	1,038	1,204	1,093	3,591	6,926	601	2,343	1,390	5,498	9,832	228	1	2	3	377	3	6,589
Lorngosua	1,313	1,256	2,042	3,734	8,345	1,280	1,765	1,669	3,460	8,174	519	2	2	4	65	0	7,392
Meto	1,297	1,149	1,195	3,682	7,323	1,293	2,966	1,848	5,569	11,676	583	1	1	2	0	0	7,184
Ind. Ranchers	1,235	1,138	2,051	4,118	8,542	1,672	3,072	1,519	2,562	8,825	168	0	2	2	328	0	7,565
- Kaputiei	331	256	741	1,445	2,773	1,008	1,869	518	888	4,283	20	0	0	0	216	0	2,697
- Loodokilani	481	575	591	1,421	3,068	225	491	404	802	1,922	32	0	0	0	82	0	2,505
- Matapato	423	307	719	1,252	2,701	439	712	597	872	2,620	116	0	2	2	30	0	2,363
Buyers Olkinos	32	50	68	134	284	83	300	40	261	684	0	0	0	0	2,251	0	318
- Maasai	32	50	68	134	284	83	300	40	261	684	0	0	0	0	51	0	318
- non-Maasai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,200	0	0
Total	6,466	6,103	10,076	21,125	43,770	9,806	20,717	8,993	22,830	62,346	1,608	4	7	11	4,361	8	41,753

Source: author's survey

* LE = Livestock Equivalents. The calculation of livestock equivalents is based on metabolic weights (liveweight $^{0.75}$), which are closely related to food energy requirements. ILCA (1981:49) estimated an aggregate coefficient of 0.71 for cattle and 0.17 for small stock). These coefficients are multiplied by the number of animals of the household herd to determine the number of livestock equivalents (LE).

These data also show a change in the cattle:small stock ratio in favour of the latter. For Embolioi the cattle:small stock ratio changed from 1:0.79 for 1968 to 1:2.53 by 1990. The Kiboko ratio changed from 1:0.33 to 1:0.99. For 1977 the overall ratio for our ranches (excluding Meto and Lorngosua) was 1:0.77 (see ILCA 1979:10). Our overall sample cattle:small stock ratio stood at 1:1.42 for early 1990. In other words, the importance of small stock within the Maasai herds seems to have increased structurally with a factor of 2 to 3 over the last decades.

Finally, the trend in the percentage of mature female cattle has been studied. The Embolioi and Kiboko base-line studies of 1968 revealed a total of 69 and 70 per cent for cows and heifers. In 1990 we calculated a reduction to 54 per cent for Embolioi and to 61 per cent for Kiboko. The overall percentage for our group ranches was 68 per cent, while for individual ranchers this, surprisingly, stood at 67 per cent. A structural switch to a market and meat-oriented economy for cattle, except maybe for Embolioi does not seem to have occurred. The number of donkeys, camels, chickens and beehives owned are also presented. In the last column the cattle and small stock numbers owned by our sample population have been recalculated in terms of Livestock Equivalents (LE) (see below).

Table 8.4 highlights the estimated mean landownership in ha per person and in ha per Active Adult Male Equivalents (see below). The estimated population density for both 1986 and 1990 is also given. Most striking is the large difference in mean 1990 landownership between the individual ranchers (36.74 ha/person) and the (former) group ranch herders (9.29 ha/person). The table shows a decrease in average landownership as the result of the growth of the population. In addition, the net result of the transfer of land by Olkinos, Embolioi and Kaputiei individual ranchers further decreased landownership.

We would like to discuss the estimation of wealth classes of the sample population. In order to be able to compare the absolute data and estimate the wealth stratification of our survey population we recalculated the human and livestock populations in terms of Active Adult Male Equivalents (AAME) and Livestock Equivalents (LE) respectively (see ILCA 1981:20).[2]

[2] For their East African Range Livestock Systems Study ILCA developed these measures to rank wealth classes as it was felt that this greatly influenced the strategy of production. Several parameters were discussed -the number of cattle, the ratio of volume of milk available to a household to that required for subsistence- but all were withdrawn. Finally, a ratio of livestock units to people units was accepted as the best available wealth parameter. A livestock equivalent (LE) based on metabolic weight was developed as it gives a more precise indication of the feed requirements of the herds. Its ratio to a human metabolic equivalent (AAME) was used as the stratifying parameter (LE/AAME). Cut off points were established at 5 and 13 LE/AAME to produce three strata. Adopting the ILCA wealth parameter enables us to compare our results with theirs. This and the practice that wealth obtained through other sources of income is mostly invested in livestock offset our initial idea of developing a new measure for stratifying the Maasai population according to wealth.

Table 8.4 Landownership Characteristics of Survey Population

Location	hh	popu-lation 1986	popu-lation 1990	total acreage of study area (ha)#	(estimated) acreage sample population*		(est.) mean landownership (ha/person)		(est.) mean landownership (ha/aame)@		estimated density (persons/km^2)	
					1986	1990	1986	1990	1986	1990	1986	1990
Olkinos	108	610	649	6,020	5,143	4,585	8.43	7.06	11.57	9.70	11.96	14 15
Embolioi	75	451	480	24,000	7,003	6,861	15.53	14.29	21.14	19.47	6.44	7 00
Kiboko	38	322	343	15,870	6,092	6,092	18.92	17.76	25.45	23.92	5.29	5.63
Elang'ata Wuas	75	741	788	59,497	9,163	9,163	12.37	11.63	16.34	15.36	8.08	8.60
Lorngosua	100	882	938	38,282	6,623	6,623	7.51	7.06	10.14	9.53	13.31	14 16
Meto	104	1,041	1,106	28,928	6,671	6,671	6.41	6.03	8.51	8.00	15.58	16 58
Ind. Ranchers	32	433	461	?	17,124	16,938	39.54	36.74	45.04	41.89	2.56	2.75
- Kaputiei	14	150	159	?	5,957	5,639	39.71	35.47	48.74	43.52	2.52	2 82
- Loodokilani	8	87	93	?	4,986	5,118	57.31	55.03	68.35	65.95	1.74	1 82
- Matapato	10	196	209	?	6,181	6,181	31.54	29.58	38.06	35.78	3.17	3.38
Buyers Olkinos	9	n.a.	56	504	n.a.	99	n.a.	1.77	n.a.	2.33	n.a.	56.57
- Maasai	3	n.a.	22	136	n.a.	59	n.a.	2.70	n.a.	3.06	n.a.	37.00
- non-Maasai	6	n.a.	34	368	n.a.	40	n.a.	1.17	n.a.	1.73	n.a.	85 00

Source: author's survey

the hectares given include areas set aside for public use like roads, schools, dips, market centres and the like.
* 1986-90 decrease of acreage for Olkinos and Embolioi includes illegal sales of land and gifts.
@ AAME = Active Adult Male Equivalents (see table 8.2).

Table 8.5 Wealth Strata of Sample Population Based on LE/AAME, 1990

LOCATION	Stratum I (0-4.99)	Stratum II (5-12.99)	Stratum III (≥ 13.00)	Total
Olkinos	37 (34.3%)	29 (26.9%)	42 (38.9%)	108 (100%)
Embolioi	25 (33.3%)	24 (32.0%)	26 (34.7%)	75 (100%)
Kiboko	9 (23.7%)	11 (28.9%)	18 (47.4%)	38 (100%)
Elang'ata Wuas	24 (32.0%)	30 (40.0%)	21 (28.0%)	75 (100%)
Lorngosua	33 (33.0%)	36 (36.0%)	31 (31.0%)	100 (100%)
Meto	43 (41.3%)	39 (37.5%)	22 (21.2%)	104 (100%)
Ind. Ranchers	6 (17.6%)	11 (32.4%)	17 (50.0%)	34 (100%)
- Kaputiei	4 (28.6%)	3 (21.4%)	7 (50.0%)	14 (100%)
- Loodokilani	1 (11.1%)	4 (44.4%)	4 (44.4%)	9 (100%)
- Matapato	1 (9.1%)	4 (36.4%)	6 (54.5%)	11 (100%)
Buyers Olkinos	7 (77.8%)	0 (0.0%)	2 (22.2%)	9 (100%)
- Maasai	1 (33.3%)	0 (0.0%)	2 (66.7%)	3 (100%)
- non-Maasai	6 (100%)	0 (0.0%)	0 (0.0%)	6 (100%)
Total	184 (33.9%)	180 (33.1%)	179 (33.0%)	543 (100%)

Source: author's survey

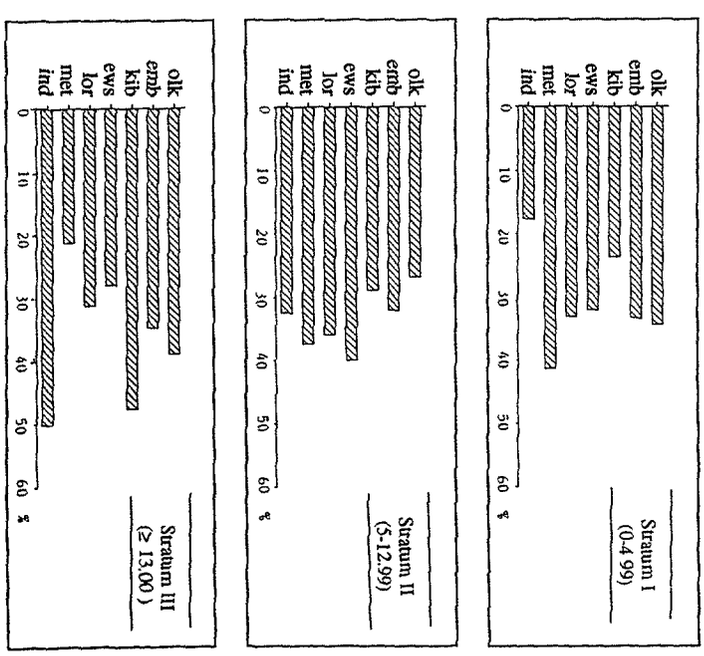

Figure 8.2 Distribution of Wealth Strata

The distribution of our sample population along the three wealth strata is shown in table 8.5 and figure 8.2. Compared to ILCA's 1980 data for Olkarkar, Merueshi and Mbirikani group ranches located in the eastern part of Kajiado District, it seems that, on average, our sample group ranch households are more evenly distributed along the three wealth classes, 34, 34, 32 per cent for stratum I, II and III, respectively, while the ILCA strata stood at 27, 49 and 35 per cent. Strong conclusions cannot be drawn as we are dealing with different populations in time and space. ILCA conducted their survey in a 3-4 years post-drought period, while our research was undertaken in a 5-6 years post-drought period. Compared to the overall wealth distribution found, Olkinos and Embolioi households show a similar percentage for stratum I, while stratum III is slightly over-represented (Olkinos in particular). Let us now turn to an in depth analysis of the subdivision process in Olkinos and Embolioi group ranches.

8.2 Olkinos and Embolioi: the Earliest Subdivided Group Ranches

8.2.1 The Outcome of the Group Ranch Subdivision Process

Olkinos and Embolioi members mentioned four main reasons for the subdivision of their ranches: preference for individual land ownership; construction of permanent houses; acquisition of individual loans; improvement of livestock and pasture management (see GRF Olkinos (1985:1) and GRF Embolioi (1986:1)).

An examination of group ranch documents learned that the members' opinion on the principle of subdivision was primarily positive. Some protests were made, though these mainly concerned the way subdivision into individual parcels was conducted rather than the process as such. Non-registered and mainly young Maasai, fearing to become squatters or being left to the mercy of their parents, did object. Table 8.6 summarises the Olkinos and Embolioi members opinion concerning the process of subdivision and allocated plot.

Table 8.6 Opinion on Subdivision Proposal and Allocated Plot

	Olkinos (n=108)			Embolioi (n=75)		
Opinion on subdivision	Positive	Intermediate	Negative	Positive	Intermediate	Negative
	91.0	7.0	2.0	95.7	2.9	1.4
Opinion allocated plot	Quantity	Quality	Location	Quantity	Quality	Location
Very positive	43.1	88.2	85.3	38.4	54.8	54.8
Positive	25.5	9.8	8.8	41.1	37.0	38.4
Intermediate	7.8	2.0	2.9	16.4	8.2	6.8
Negative	10.8	0.0	2.0	4.1	0.0	0.0
Very negative	0.0	0.0	1.0	0.0	0.0	0.0

Source: author's survey

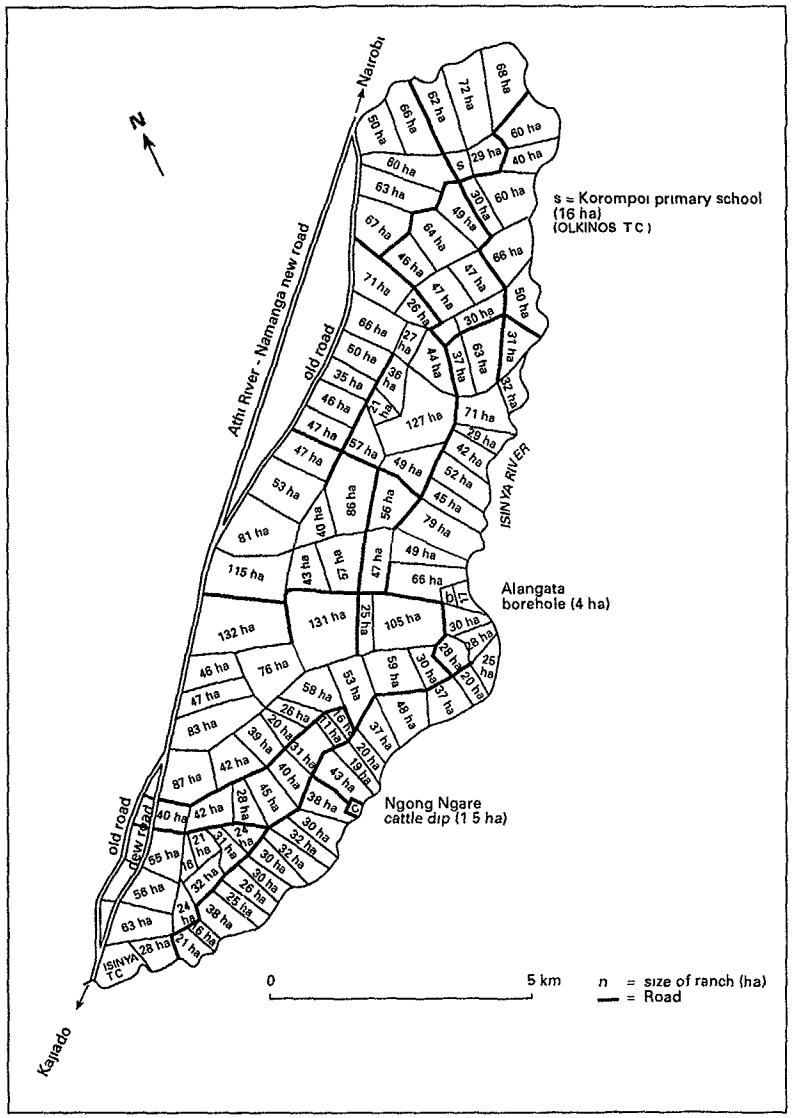

Figure 8.3 Olkinos Subdivided Group Ranch

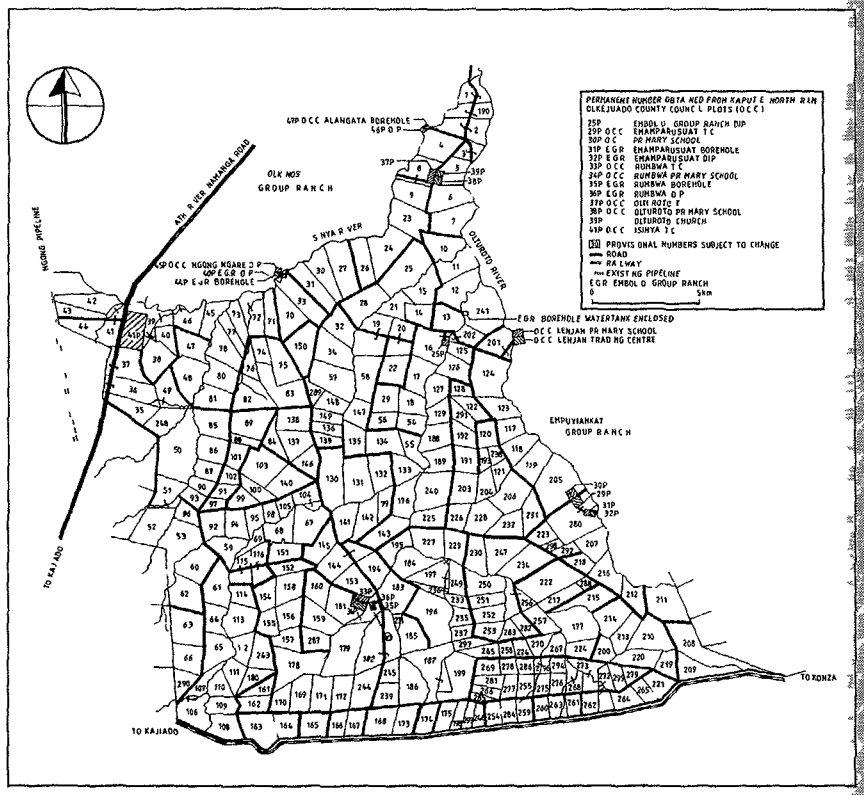

Figure 8.4 Embolioi Subdivided Group Ranch

The data of table 8.6 confirms an overall, positive attitude towards the principle of subdivision. Some intermediate and negative feelings are held mainly with respect to the quantity of the allocated area, although some 80 per cent still stated that they had a positive or very positive opinion about the size of the allocated parcel.

After the exclusion of public plots and roads a ranch mean of 46.71 ha resulted for the 116 Olkinos members. Some people complained that some members of the group ranch committee and their relatives and friends, had allocated themselves large parcels in the most favourable places. Indeed eight out of ten committee-members fall into the category of the 25 per cent largest plot holders. The chairman and vice-chairman obtained the two largest parcels of 132 ha and 131 ha, respectively. Figures 8.3 and 8.4 show the subdivided Olkinos and Embolioi group ranch area. Before the time of subdivision,

ownership of the ranch lay in the hands of all group members and their families. As a result every single person had a theoretical uniform shared ownership of land and free use of the total group ranch area. As shown by table 8.4 the average "landownership" for Olkinos would be only 7.06 ha per person for 1990 while in 1986 it was 8.43 ha per person. Subdivision of the group ranch has resulted in plots varying in size.

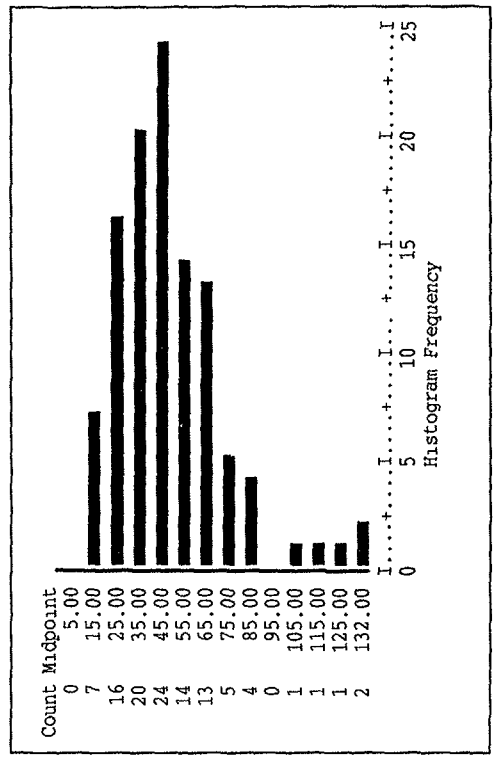

Figure 8.5 Olkinos Plot Sizes (ha)
Source author's survey

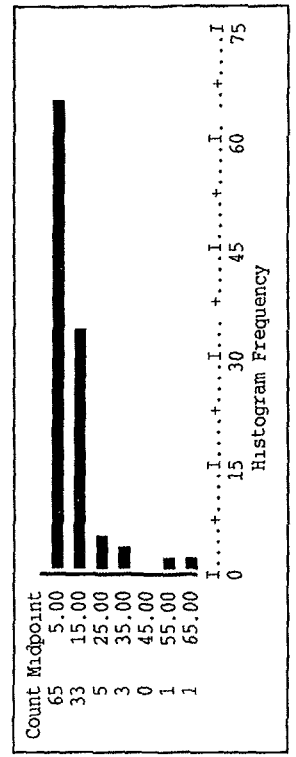

Figure 8.6 Land per household member (hhmb)

Figure 8.5 gives the range of parcel size for 108 households on the Olkinos group ranch at the time of subdivision in 1986. Plot sizes averaged 47.62 ha through a range from 11.00 to 132.00 ha per parcel. The gini-coefficient found for this distribution was 0.26.

The inclusion of household sizes to assess the distribution of the relative land availability per household member (i.e. parcel size/family size) for the 108

households is shown in figure 8.6. The 1986 population was set at 0.94 of its 1990 size. It was concluded that for the households within our Olkinos sample an average of 11.05 ha per household member (hhmb) was available ranging from households having only 2.43 ha/hhmb to a maximum of households owning 65.96 ha/hhmb at the time of subdivision. In majority most household members have access to a potential area of less than 10 ha.

Plot sizes obtained by ten Olkinos committee-members averaged 81.80 ha as compared to a mean plot size of 42.53 ha for non-members. The parcels belonging to former members of the now dissolved Olkinos and Embolioi group ranch committees are marked showing their favourable allocation (see figures 8.3 and 8.4). Because the committee-members have relatively large families the difference in mean landownership per household member between them and non-committee members is somewhat reduced: 14.04 ha/hhmb for committee-member households and 10.75 ha/hhmb for non-committee member households.

For the Embolioi sample of 75 households the group ranch subdivision resulted in an average plot size of 93.37 ha per household over a range of 30.0 to 225.0 ha per parcel. The mean land availability for the Embolioi households was 19.83 ha per person, varying between households having only 3.44 ha/person and those in possession of 135.60 ha/person for 1986. Plot sizes appointed to 11 former Embolioi committee-members averaged 130.74 ha while those for non committee members were 86.84 ha. Taking into account household sizes the mean land ownership was 28.49 ha/hhmb and 17.85 ha/hhmb for committee and non-committee member households, respectively.

From these figures it can be concluded that the subdivision process in Olkinos and Embolioi ranches has been very favourable for the former committee-members. Nonetheless, they are still far from the mean ranch size of 14 established individual ranchers interviewed in the northern Kaputiei area of 425.46 ha/household or 39.71 ha/person in 1986.

8.2.2 Changing Residence Patterns and Social Consequences

The subdivision process implies that a group of households who stayed together in a single *boma* will split up and each will move to its own parcel. This process of individualization, however, is not of recent origin but has been going on for the last thirty years. It has been stated that the introduction of group ranches and the individualization of production has led to a considerable decrease in *boma* size and the emergence of single-household *bomas* (see Bekure et al. 1987:204). As a result *boma* sizes in the Kaputiei area started to decrease sooner than in the Phase III group ranches of Meto and Lorngosua.

Table 8.7 underlines this situation with Kaputiei *bomas* having approximately half the average number of households compared to the Matapato region. For the small Ildamat area in Central Division we were able to reconstruct this process of *boma* size reduction. Soon after the 1960/1

drought there were 7 big *bomas* of some 12 households each in the area. It was densely bushed and populated by many wild animals. After the division of the area into some ten individual ranches and 3 group ranches (Olkiloriti, Esokota and Ildamat-Oloyiangalani) the number of *bomas* increased although they became much smaller. According to our informant this process was partly the result of the reduction of trees and wild animals which had increased safety in the area and the rise in the number of livestock, which both allowed and forced people to spread out over the area.

Table 8.7 Mean Number of Households per Boma and Size of Boma, 1990

	Olk	Emb	Ind	Buy	Kib	Ews	Lor	Met
n	96	74	34	9	36	74	100	104
mean hh/*boma*	1 87	1.81	2.36	1.67	2.08	4.84	3.68	3.01
% of hh by *boma* size								
1	54.2	43.2	47.0	66.7	22.2	4.1	5.0	15.4
2-3	38.5	50.0	38.2	22.2	72.2	41.9	51.0	45.2
4-5	4.1	6 8	14.7	11.1	5.6	33.8	35.0	36.5
6-7	1.0	0.0	0.0	0 0	0.0	10.9	4.0	2.9
8-9	1.0	0.0	0.0	0.0	0.0	1.4	2 0	0.0
10+	1.0	0.0	0 0	0.0	0 0	8.3	3.0	0.0

Source: author's survey

For all of the other regions in Kajiado it is suggested that there is a clear downward trend in the number of households living together in a single *boma*. Unfortunately, we lack historical data for our survey area in this respect. Still, information provided by other researchers indicates a total of 4 to 8 households (30-50 persons) for a typical Maasai *boma* in the late 1950s period (see Jacobs 1963:42). For the 1950s, Njoka (1979:222) found an average *boma* size for the Kaputiei area of 6.22 households, dropping to 5.13 households per *boma* for the 1960s and 2.70 for the 1970s. Grandin found a figure of 1.6 and 1.8 households in 1983 for Olkarkar and Merueshi Kaputiei group ranches (see Bekure et al. 1987:175). Thus reduced *boma* sizes are not the result of subdivision alone but stem from a variety of reasons such as the individualization of production, reduced wildlife numbers and the demand of livestock for food and water. As stated in section 8.1.1, subdivision will probably have hastened this process though a number of plots have still not yet been occupied by their lawful owners who preferred or were forced to stay with their relatives.

The splitting of *bomas* has also increased the relative number of single Maasai households. Table 8.8 clearly shows the large number of Olkinos and Embolioi sample households living alone nowadays (54 and 43 per cent, respectively). By contrast, the other group ranch households of Kiboko, Elang'ata Wuas,

Lorngosua and Meto mainly live with at least one other household in a single *boma* (only 10 per cent of group ranch households resides alone). No clear picture emerges about residence patterns in relation to the wealth strata. Olkinos ranchers follow a pattern that can be found among the established ranchers whereby it is the rich households who stay alone. Wealthy Embolioi ranchers, however, seem to follow the group ranch standard. Perhaps the relatively large size of the Embolioi parcels and their remote location hinders the splitting up of rich households having high labour needs.

Information was gathered on the household's labour efforts since the time of subdivision. According to 45.3 per cent of Olkinos former group ranch members leisure time since individualization has decreased, while the remaining members have not experienced any change. For Embolioi these figures are 30.6 per cent (decrease), 2.0 per cent (increase) and 67.3 per cent (no change). It has been argued by opponents of group ranch subdivision that this will lead to a loss of co-operation between Maasai households and possibly even a loss of culture; the changed residence pattern puts a strain on short time assistance; the dissolution of the group ranch committee means that there is no longer a forum for mobilizing efforts towards communal action. These developments are strengthened by the influx of non-Maasai as, due to their different economic activities, they sometimes even run into conflict (e.g. over fencing of *shambas*). Although the non-Maasai still only own a small percentage of the land their numbers are increasing and will soon outnumber the Maasai which will probably erode away Maasai cultural habits and rites.

Table 8.8 Residence Pattern of Sample Households by Wealth Strata (nr)

		Olk	Emb	Ind	Buy	Kib	Ews	Lor	Met
Stratum 1	Alone	13	16	2	4	2	2	0	10
	With others	19	9	4	3	7	22	33	33
Stratum 2	Alone	12	9	3	0	1	0	2	5
	With others	15	15	8	0	9	30	34	34
Stratum 3	Alone	27	7	11	2	5	1	3	1
	With others	10	18	6	0	12	19	28	21
Total	Alone	52	32	16	6	8	3	5	16
	With others	44	42	18	3	28	71	95	88

Source: author's survey

Ranchers in the subdivided areas were asked about their opinion on the level of co-operation between former group ranch members since subdivision. According to 72.7 per cent of the Olkinos members there had been no change in this respect. According to 20.5 per cent collaboration had actually decreased while only 6.8 per cent stated that it had increased. For Embolioi the opinion was reversed as only 3.4 per cent mentioned a decrease in co-operation while 25.4 reported an increase. The remaining 71.2 per cent of the Embolioi residents had experienced no change in this respect. From the group of established individual ranchers 10.0 per cent talked of an increase, 13.3 per cent a decrease and 76.7 per cent claimed no change in the degree of co-operation since the time they had obtained their individual ranch. Kaputiei individual ranchers reported an increase while Loodokilani and Matapato ranchers were more pessimistic about co-operation.

Within the single Maasai household tensions arise nowadays as a result of individual landownership if the head of the household decides to sell part of his land without the knowledge or approval of the other family members.[3] This sometimes leads to such excesses as in a case near Illasit where sons took their father to court to prevent him from selling the remaining 17 hectares of land that remained from an initial landownership of some 80 hectares.

The question of inheritance also arises. According to Kipury (1992:37) many single, divorced or separated Maasai women have become disinherited due to land subdivision which forced them to move to the peri-urban slums ending up in unfavourable activities like prostitution. In my opinion, this is a too strong statement. For instance, the Olkinos members believed that the plots should be inherited by all the sons (51.4 per cent), the sons without land (7.5 per cent), all the sons and unmarried daughters (13.1 per cent), (unmarried) daughters only (0.9 per cent), while 27.1 per cent had no opinion yet. In Embolioi 93.3 per cent of the families stated that all the sons would inherit their parents' land. Sons without land (2.7 per cent), the eldest son only (1.3 per cent), all sons and unmarried daughters (1.3 per cent) were also mentioned. Only 1.3 per cent were stated to have no opinion. Thus the small group of unmarried daughters seems not to be totally forgotten in respect of land inheritance.

8.3 The Economic Viability of Allocated Plots

8.3.1 Introduction

The small sizes of the Olkinos parcels in particular raises questions about economic and ecological viability, stocking densities, fencing and access to other parts of the former group ranch territory. In this and the following sections we will attempt to provide some answers to these questions. We will start our analysis assuming that all household members actually live on the ranch, all animals are kept on the ranch and the quality of the individual plots

[3] Officially the family has to be consulted and to approve the proposed sale of land. Indeed the Land Control Boards who decide to approval of sale or mortgage of land often sent applicants back to consult their families. However, in most cases wives who object will lose this battle under the threat of physical harm. It has also been reported that some Maasai applicants claimed to be unmarried while in reality they were married and had children (see *Kajiado Focus 1991a* 13).

is uniform. The first question then is if the allocated plot sizes are able to provide the Maasai households a reasonable standard of living under a system of *pure* pastoralism. Of course, between seasons fluctuations will occur, sometimes even resulting in periods of severe drought. This should be kept in mind when reading the following paragraphs.

8.3.2 Selfsufficiency Threshold Levels

According to Nestel, who surveyed the nutritional status of the Maasai, a household of 6 persons will need at least 6 x 9.7 = 58.2 head of cattle to be able to subsist completely on a diet of milk and meat (see Bekure et al. 1987:81/127).[4] Recalculating this in terms of adults places the minimum level for complete nourishment at 12.1 head of cattle per AAME. It should be noted that ILCA did not include small stock as a possible source of food in their exercise. Inclusion of sheep and goats places the minimum selfsuffiency requirement at 8.6 LE/AAME. Utilizing this set of different keys we are able, whilst showing the influence of the parameters applied, to determine the percentage of Maasai households having a surplus or deficient number of livestock with reference to the "selfsufficiency" scenario i.e. the ability to be completely selfsufficient in food from one's own herd alone. Percentages for selfsufficiency will depend on the base of reference used.

For instance, for the cattle/person selfsufficiency scenario 47,200 head of cattle would be needed for our total sample population while the total cattle ownership stands at only 43,769 head of cattle. In terms of LE/AAME a total of 31,410 LE would be required with overall sample ownership standing favourably at 41,753 LE or 11.4 LE/AAME in 1990. Distribution of livestock over the sample households, however, is not uniform and thus results in households positioned above or below the threshold level on the scale of self-nourishment from their own herd. The LE/AAME threshold would place all of the stratum I households and a large part of those in stratum II under the level by which they would be able to practise pure pastoralism.

[4] Nestel's figure is based on a reference adult requirement of 2,300 Kcal; a daily output of milk per *lactating* cow valued at 700 Kcal, and a fraction of cows in milk of about 20 per cent of the total herd. In addition, each head of cattle is assumed to provide 50 Kcal/day in the form of meat. This amounts to some 7 TLU per person needed. In chapter 2 we used a rough figure of 4 TLU per person as the *bottom* line for subsistence. It should be noted that this figure allowed inclusion of other species besides cattle and used rather low conversion rates for the 250 Kg standard Tropical Livestock Unit; 0.72 for cattle and 0.072 for small stock. In the Maasai setting the TLU conversion factors used by Nestel are higher; 0.1 for small stock and for cattle location dependent figures ranging between 0.70 and 0.83. The Ministry of Livestock Department Kajiado District used an overall conversion co-efficient of 0.6 for cattle, 0.125 for shoats in estimating total Stock Units (SU) (see chapter 7). Based on total livestock numbers of the Kajiado District livestock 1988 census the following conversion rates between the group of livestock units can be presented: 1 LE = 1.06 TLU (ILCA-Kajiado) = 1.17 TLU (Kenya) = 1.23 SU (MoLD 1988-Kajiado).

Table 8.9 shows that, roughly speaking, half to two thirds of the Maasai households are no longer able to depend solely on their animals for their food needs. At one extreme, the cattle/person key estimates that between 52.6 (Kiboko) to 81.7 per cent (Meto) lack enough cattle for self-nourishment. Some 44.1 per cent of the individual ranchers' households are in this same position. In terms of LE/AAME the situation is less dramatic; 39.5 (Kiboko) to 65.4 per cent (Meto) for group ranches and 32.4 per cent for individual ranchers.

Table 8.9 Percentage of Sample Households Living Below the Minimum Levels of *Pure* Pastoralism in 1990.

	Cattle/person		Cattle/AAME		TLU/AAME*		LE/AAME#	
	(<9.7)	Mean	(<12.1)	Mean	(<8.7)	Mean	(<8.6)	Mean
Olkinos	67.6	8.0	62.0	12.1	57.1	10.7	48.1	13.4
Embolioi	72.0	7.5	64.0	10.6	61.3	9.5	50.7	11.9
Kiboko	52.6	11.3	50.0	15.7	42.1	12.6	39.5	14.3
Elang'ata Wuas	69.3	8.2	65.3	11.3	60.0	9.4	54.7	11.1
Lorngosua	69.0	8.7	66.0	12.8	57.0	10.4	51.0	11.9
Meto	81.7	6.4	79.8	8.8	72.1	7.5	65.4	9.0
Individual Ranchers	44.1	16.4	44.1	19.9	41.2	16.1	32.4	18.2
- Kaputiei	42.9	15.7	42.9	19.4	42.9	16.2	28.6	19.1
- Loodokilani	44.4	21.1	44.4	24.6	44.4	18.9	33.3	20.4
- Matapato	45.5	13.6	45.5	16.7	36.4	13.5	36.4	15.3
Buyers Olkinos	77.8	5.0	77.8	7.6	77.8	6.6	77.8	8.0
- Maasai	33.3	15.0	33.3	22.8	33.3	19.7	33.3	24.0
- Non-Maasai	100.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0

Source: author's survey

* TLU: 0.72 for cattle and 0.072 for small stock. # LE: 0.71 for cattle and 0.17 for small stock.

The subdivided group ranches, Olkinos and Embolioi, are between the range for group ranches and far from the established individual ranchers' score. Our group of settled buyers seems to be split into well-to-do Maasai pastoralists on the one side and poor non-Maasai on the other, at least in terms of livestock wealth.

8.3.3 Selfsufficiency Versus Size of Allocated Plots

Herd sizes needed for the food supply of the human population in turn imply certain requirements from the rangelands. In chapter 1 we discussed these requirements of forage, water and protection for herbivores. Forage availability expressed in terms of quantity (dry matter) and quality (protein and minerals) is first of all related to the type and composition of forage, type of soil, precipitation and evaporation. Management practices like rotational grazing, understocking or overstocking also influence the actual grazing capacity of a unit of land in the short and long term.

Forage requirements of livestock are usually expressed in terms of daily

intake per kg liveweight and an average of 2.5 per cent bodyweight is normally accepted. However, as the quantity and quality of the rangelands is also determined by the use made of them an extra margin on the supply side has to be taken into account. To offset losses from wastage and trampling ILCA calculated a threshold of 10 kg/TLU/day for Kajiado District. To safeguard the rangeland resources for the middle to long term, implying a maximum consumption of forage growth that may be grazed each year without inducing a downward trend in forage production, they doubled this figure to 20 kg/TLU/day (see Bekure et al. 1987:161). In terms of minimum land requirements this would mean from at the low 10 kg/TLU/day allowance and a year of good rainfall 1.5 ha/TLU to 4.2 ha/TLU at the 20 kg/TLU/day threshold in combination with a poor long rainy season. Thus for the former Olkinos and Embolioi group ranches this would mean that the permissible stocking levels could vary from 1,433 to 4,013 TLU and from 5,714 to 16,000 TLU, respectively.[5]

The minimal herd size requirement for food subsistence can be expressed in a minimal land necessity for each specific household. A threshold of 9.7 cattle or 7.0 TLU/person would mean a land requirement ranging between 10.5 and 29.4 ha per person depending on the short or long term grazing capacity. In other words within this selfsufficiency scenario the average Olkinos Maasai household of 6.0 persons would need between 63 and 176 ha of land to be able to keep some 42 TLU in an ecologically viable way. Utilising the livestock equivalent and the active male equivalent would result in a requirement of 8.6 LE per AAME, indicating a land need of 13.7 to 38.3 ha per AAME depending on the season.[6]

For an analysis of the subdivided Olkinos and Embolioi group ranches we would like to start with an estimation of the potential availability of land per person for our sample population in 1986, the time of subdivision. In addition, the early 1990 situation will be discussed in order to discover a trend in the land availability with reference to the minimum needs for every single household within the sample. This estimation will be conducted using the TLU (ILCA) per person as well as LE per AAME keys.

[5] According to the ILCA team, Potter showed for the Athi plains (to which Olkinos and Embolioi belong) that grasslands did not lose long-term productivity even when grasslands were continuously grazed at a stocking level of 2 ha/TLU (see Bekure et al. 1987:169). Potter himself recently suggested a 4 ha/TLU stocking level for a 100 ha farm. He found that using 15 different combinations of height and frequency of cutting grass to estimate herbage growth resulted in '15 quite different assessments of potential herbage availability for a grazing animal, with no clear indication as to which was the "right" value' (Potter 1989:13).

[6] 1 LE is equivalent to 1.06 TLU (ILCA). Thus 1.5 ha/TLU = 1.59/LE and 4.2 ha/TLU = 4.45 ha/LE. As a result land needs in terms of 8.6 LE/AAME is 13.7 ha for a good season to 38.7 ha for a poor rainy season.

At this moment it is interesting to recall the statements made by several commissions and researchers concerning the availability or minimal requirement of land in Maasailand. We have seen how, in the early 1930s, the Carter Land Commission did not so much estimate the Maasai need for land as rather castigate the availability of some 85 ha per person (3 persons per square mile). In 1965, the Lawrance Commission considered a potential acreage of 80 ha per adult Maasai male as unviable for a single person let alone a family. For the Kaputiei area, Halderman calculated a potential average ranch size of almost 190 ha by the late 1960s. This was far below the UNDP/FAO model figure of 467 ha per family or some 45 ha per person. Finally, according to the Ministry of Livestock Development (Kajiado District) plot sizes below 200 ha cannot support a family even on a subsistence level (see MoLD 1988:57).

For the situation in the late 1980s table 8.10 summarises the availability of land for our sample households. The data underlines the difficulty for the Maasai producers of today in being able to follow the selfsufficiency scenario as far as the availability of land is concerned.

Table 8.10 Percentage of Sample Households Having an Inadequate Amount of Land Within a Selfsufficiency Scenario, 1986 and 1990.

	1986			1990		
*ha/person/hh**	*mean*	*< 10.5*	*< 29.4*	*mean*	*< 10.5*	*< 29.4*
Olkinos	11.05	64.8%	95.4%	9.11	73.1%	97.2%
Embolioi	19.83	25.3%	90.7%	18.23	30.7%	92.0%
Ind. Ranchers	44.02	12.5%	43.8%	40.86	15.6%	46.9%
- Kaputiei IR	41.87	14.3%	35.7%	37.20	21.4%	42.9%
- Loodokilani IR	62.55	25.0%	25.0%	60.52	25.0%	25.0%
- Matapato IR	32.30	0.0%	70.0%	30.26	0.0%	70.0%
Buyers	2.01	100.0%	100.0%	1.88	100.0%	100.0%
- Maasai	3.32	100.0%	100.0%	3.12	100.0%	100.0%
- non-Maasai	1.35	100.0%	100.0%	1.26	100.0%	100.0%
ha/aame/hh#	*mean*	*< 13.7*	*< 38.3*	*mean*	*< 13.7*	*< 38.3*
Olkinos	16.26	56.5%	95.4%	13.57	67.6%	96.3%
Embolioi	28.82	22.7%	89.3%	26.41	28.0%	89.3%
Ind. Ranchers	55.30	15.6%	43.8%	51.33	15.6%	50.0%
- Kaputiei IR	52.69	21.4%	35.7%	46.87	21.4%	42.9%
- Loodokilani IR	81.36	25.0%	25.0%	78.55	25.0%	25.0%
- Matapato IR	38.09	0.0%	70.0%	35.81	0.0%	80.0%
Buyers	2.86	100.0%	100.0%	2.69	100.0%	100.0%
- Maasai	4.93	100.0%	100.0%	4.64	100.0%	100.0%
- non-Maasai	1.82	100.0%	100.0%	1.71	100.0%	100.0%

Source: author's survey

* ha/person-hh = the amount of land available per person per household;

ha/aame-hh = the amount of land available per AAME per household;

the mean availability of land has been calculated by totalling the potential individual land availability for each person (or AAME) for each household divided by all persons (or AAME). This differs from the mean resulting from a division of all land by all persons (AAME)!

In times of stress, when the carrying capacity of the ranch drops considerably, only a mere 10 per cent or less of the Olkinos and Embolioi households would be able to keep their animals on the individual ranch without suffering a shortage in grass and/or severely overstocking it. Moreover, a comparison between 1986 and 1990 data reveals that, over a three year period, this capacity has been lost by another one to two per cent of the sample households. Upto half of the established individual ranchers' households are faced with a theoretical shortage of land in periods of low rainfall. Due to the population increase this shortage of land will become more pronounced unless emigration away from the livestock sector or even physically from Kajiado District will increase.

A household having less than the minimum plot size could still be purely selfsufficient if it possesses a large enough herd, although this would imply that the ranch is overstocked. Of course the opposite, having a small herd and a large parcel resulting in understocking, is also possible. We should have a look at the distribution of the households in terms of selfsufficiency in both categories of landownership; deficit and surplus. Table 8.11 shows the results of the LE/AAME versus landownership crosstabulation for the 1990 situation.

Table 8.11 Percentage of Selfsufficient Households Within Four Categories of Landownership, 1990.

	A	Ha/AAME	< 13.7	C	Ha/AAME	< 38.3
Location	n	not selfsufficient	selfsufficient	n	not selfsufficient	selfsufficient
Olkinos	72	59.7%	40.3%	104	49.0%	51.0%
Embolioi	21	71.4%	28.6%	67	56.7%	43.3%
Ind. Ranchers	5	80.0%	20.0%	16	50.0%	50.0%
- Kaputiei	3	66.7%	33.3%	6	50.0%	50.0%
- Loodokilani	2	100.0%	0.0%	2	100.0%	0.0%
- Matapato	0	n.a.	n.a.	8	37.5%	62.5%
Buyers	9	77.8%	22.2%	9	77.8%	22.2%
	B	Ha/AAME	≥ 13.7	D	Ha/AAME	≥ 38.3
	n	not selfsufficient	selfsufficient	n	not selfsufficient	selfsufficient
Olkinos	36	25.0%	75.0%	4	25.0%	75.0%
Embolioi	54	42.6%	57.4%	8	0.0%	100.0%
Ind. Ranchers	27	25.9%	74.1%	16	18.8%	82.4%
- Kaputiei	11	18.2%	81.8%	8	12.5%	87.5%
- Loodokilani	6	16.7%	83.3%	6	16.7%	83.3%
- Matapato	10	40.0%	60.0%	2	50.0%	50.0%
Buyers	0	n.a.	n.a.	0	n.a.	n.a.

Source: author's survey

It can be concluded that some households, in spite of having a shortage of land, still possess an adequate amount of livestock for complete food

selfsufficieny. For instance, within the group of Olkinos ranchers who lack enough land even under the least restrictive stocking densities (quadrant A) still 40.3 per cent do possess the number of animals required for complete selfsufficiency. This is equivalent to 26.9 per cent of all Olkinos households. In contrast, 25.0 per cent of Olkinos households in quadrant B (having a land availability of 13.7 ha/AAME or more) face a shortage of livestock. This is 8.3 per cent of all Olkinos households. In Embolioi the reverse situation exists. In quadrant A, at the below 13.7 ha/AAME level, 28.6 per cent (or 8.0 per cent of all Embolioi ranchers) are selfsufficient in food while having a land deficit. In quadrant B, above 13.7 ha/AAME, 42.6 per cent (or 30.7 per cent of all Embolioi ranchers) have an inadequate food supply from their herd although they own enough land. This indicates that large numbers of Embolioi households hold a reasonable amount of land but lack the animals to make use of it. This outcome underlines the information of table 7.1 based on the 1988 livestock census results, suggesting rather low ratios of stock units per member for Embolioi group ranch, though more pronounced than in this survey (see table 8.9).[7]

Olkinos and Embolioi Maasai, Kajiado individual ranchers and Olkinos buyers were asked to estimate the economic viability of their present plot if it were the *only* source of income. Table 8.12 presents their opinions.

Table 8.12 Opinion on Economic Viability of the Individual Ranch

	Olkinos (n=101)	Embolioi (n=73)	Individual ranchers (n=34)	Olkinos buyers (n=7)	Maasai buyers (n=3)	non-Maasai buyers (n=4)
Highly viable	7.9	41.1	11.8	28.6	0.0	50.0
Viable	35.6	43.8	55.9	14.3	33.3	0.0
Intermediate	48.5	15.1	26.5	57.1	66.7	50.0
Unviable	6.9	0.0	5.9	0.0	0.0	0.0
Highly unviable	1.0	0.0	0.0	0.0	0.0	0.0

Source: author's survey

The opinions of Maasai owners seem to underline our analysis of the *potential* viability of the subdivided group ranches. The low average parcel size (42.63 ha) in the Olkinos area is reflected in the opinion of its inhabitants concerning the viability of their plots today. In contrast, 73 Embolioi members

[7] Applying the cattle/person instead of LE/AAME versus landownership will somewhat change the above estimation of land and livestock deficiency. The cattle/person ratio will enlarge the group of owners having a shortage of land as well as livestock. The TLU/AAME ratio is more or less equivalent to the LE/AAME ratio as far as land is concerned but, due to its lower conversion rate for small stock (0.1 or 0.072 for TLU as compared to 0.17 for LE) the group of households categorized as having an insufficient number of animals for pure pastoralism will be larger. As a consequence percentages for each of the four quadrants arising out of the land-livestock crosstabulation will change.

interviewed, showed more or less the same livestock per person ratios although they possessed an average plot size of 91.93 ha in 1990. The majority were still convinced of the economic viability of their ranch.

Respondents from the group of established individual ranchers had an average ranch size of 529.36 ha, ranging from 42.0 to 2,337.0 ha by 1990. In spite of this favourable position they were less convinced of the economic viability of their ranch than the Embolioi members. Their relatively large household sizes, their current standard of living which also comes from other sources and the threatening loss of access to former group ranch areas were held responsible for this attitude.

Finally, half of the immigrant buyers who actually settled in the area, seemed to be aware of the marginality of the area for cultivation purposes and they held an intermediate position concerning the viability of their ranch. The other half, however, thought very positively in regard to the economic viability of their newly acquired plots. It should be remembered that the majority of them practised cultivation which, in the 1986-1990 period, experienced relatively good weather conditions. This, in combination with the relatively large plot sizes, especially in comparison with those in their home area, is thought to be responsible for their moderate optimism.

8.4 Ecological Viability of the Allocated Plots

8.4.1 Introduction

Besides economic viability we attempted to gain insight into the ecological viability of the allocated individual ranches. An argument often used in favour of individual landownership is that it is supposed to enhance the (continued) ecological viability of the ranch. Destocking one's ranch to recommended stocking levels, practising rotational grazing or grass reseeding are among the improvements expected to go along with the subdivision of group ranches. For example, it is stated by the Ministry of Livestock Development in Kajiado District that 'the subdivision of Group Ranches into individual Ranches has compelled some of the Ranchers affected to dispose of livestock by sale to levels Ranches can hold' (MoLD 1988:56).

Those opposing subdivision fear that the farms will be fenced, free movement of stock and wildlife will be restricted and cultivation intensified, all of these threats to the natural habitat of the Maasai. These threats are also recognized by the Ministry which stated 'This does not mean however, that Group Ranch subdivision is the solution to maintenance of proper balance between livestock and range resources on offer, far from it, the subdivision of group ranches is in itself a problem that needs attention and urgently given the small sizes of the resultant subdivisions which are not viable for livestock upkeep, the enterprise most suited due to the prevalent ecological situation' (MoLD 1988:56).

In chapter 3 we concluded that over 90 per cent of Kajiado District falls within zones V and VI. For our study area table 8.13 summarises information presented by the Livestock Department Kajiado District concerning the recommended stocking rate, range trend and actual stocking density. The presented information underlines the difficulty in defining the right stocking *rate* and grazing capacity of a certain piece of land. Kiboko group ranch, for instance, though having a stocking *rate* recommendation of 7.0 ha/SU only and being among the most overstocked locations in respect to its potential (2.4 times), was characterized as being in good condition by the Ministry of Livestock Development in 1988.[8]

Table 8.13 Ecological Characteristics of the Study Areas

Location	Eco-zone	Rainfall mean (mm)	r/Eo (%)	Recom stocking *rate* (ha/su)	Actual stocking *density* (ha/su)	Recom/ actual stocking 1988	Range condition 1988	Range trend 1988
Olkinos	V-4	575	27	5.0	1.74	2.9	fair	down
Embolioi	V-4	476	25	6.0	12.20	0.5	fair	down
Kiboko	V-2	495	26	7.0	2.86	2.4	good	down
Elang'ata Wuas	V-3	465	25	5.0	3.00	1.7	fair	down
Lorngosua	V-3	497	26	6.0	3.40	1.8	fair	down
Meto	IV/V	520	27	5.0	2.20	2.3	fair	down
Ind. Ranchers								
- Kaputiei	V-4			-	-	-	fair	down
- Loodokilani	V-3			-	-	-	?	?
- Matapato	V-3			-	-	-	fair	stable

Source: MoLD 1988; MoLD/RPU 1989a, 1989b, 1989c[9]

Embolioi area, stated to be understocked, was labelled as having only a fair ranch condition. Olkinos subdivided group ranch was categorized as being the most overstocked group ranch though its ranch condition was similar to that of Embolioi. The one-time census observation of the actual stocking *density* related to a yearround recommended *rate* of stocking could possibly be the main factor held responsible for these discrepancies. In other words, massive livestock movements towards an area in good condition will have blurred the

[8] At the start of KLDP I, the UNDP/FAO range ecologist had placed both Kiboko and Embolioi among the viable ranches. Norton-Griffiths (1977:11), however, produced a composite greenness map of Kajiado District based on a Landsat images time series analysis, placing Kiboko group ranch in category 2 (modest consistently dry) while Embolioi in categories 3 (intermediate) and 4 (modest consistently green).

[9] The Ministry's applied thresholds of 6.0 ha/su for Embolioi and 5.0 ha/su for Olkinos are equivalent to 7.38 ha/LE and 6.15 ha/LE, respectively. This is above ILCA's land need estimate.

picture of high stocking densities going together with depleted areas and vice versa.

8.4.2 Water and Forage Availability in the Areas of Survey

The availability of water varies as to seasons as well as to place. For our sample households we investigated the sources of water, the mean distance to these sources and the frequency of watering the cattle and small stock animals in the dry and wet seasons (see table 8.14).

Table 8.14 Availability and Condition of Water Sources, 1988

	Boreh.		Pan		Dam		Well		Spring		Rockcat.		Tank		Trough	
	f	nf	f	nf	f	nf	f	nf	f	nf	f	nf	f	nf	f	nf
Olkinos	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0
Embolioi	2	1	5	0	0	0	0	0	0	0	0	0	1	1	2	0
Kiboko	1	1	1	0	0	0	1	0	1	0	0	0	2	1	2	2
Elang'ata Wuas	1	3	2	0	1	0	0	0	0	0	0	0	2	0	4	0
Lorngosua	0	2	4	0	2	0	0	0	0	0	0	0	3	0	2	0
Meto	0	0	0	0	0	0	1	0	1	0	0	0	13	0	9	0
- Kaputiei IR	8	5	6	0	10	0	2	0	2	0	0	0	19	0	16	2
- Loodokilani IR	8	0	26	0	0	0	0	0	0	0	0	0	0	0	7	0
- Matapato IR	12	2	11	0	11	0	1	0	1	0	0	0	0	0	21	0

Source: MoLD 1988

Note: f = functioning; nf = not functioning

It should be noted that changes have occurred in the area and that the availability of water sources in other areas outside the group ranch area should also be taken into account (e.g. Meto moving to Tanzania and Torosei group ranch).

Table 8.15 presents an overview of the study area water sources used in the dry and wet season for both cattle and small stock. Borehole watering is mainly practised by established individual ranchers in the Matapato and Loodokilani area during the dry season. During the wet season pans (natural and man-made) are used. The Meto, Lorngosua and Elang'ata Wuas group ranch members follow a similar pattern except in the dry period when wells are used. Most of these are deep and dug in rocky hills by labour hired from Tanzania. This job can take several years. The water is collected in buckets which are thrown upwards passing through several hands before being emptied in large troughs where the animals concentrate for drinking.

By contrast livestock watering in the northern part of our study area (Olkinos and Embolioi) depends on the nearby rivers (e.g. Kisaju, Olturoto and Isinya rivers) during the wet season.

Table 8.15 Water Sources Used (%)

	CATTLE								SMALL STOCK							
	WET					DRY				WET				DRY		
	dm	pa	rv	wl	bh	ot	dm	pa	rv	wl	bh	ot	dm	pa	rv	wl	bh	ot
Olk	1	30	65	0	4	0	4	7	46	11	32	0	1	29	67	0	2	0	5	7	44	11	33	0
Emb	1	1	97	0	0	0	30	14	7	17	29	3	1	1	97	0	0	0	29	16	7	17	30	1
Kib	100	0	0	0	0	0	0	3	74	3	21	0	100	0	0	0	0	0	0	6	76	3	15	0
Ews	19	73	0	5	0	3	0	0	0	67	28	5	19	75	0	3	0	3	0	3	66	0	27	4
Lor	24	70	1	5	0	0	0	0	25	64	11	0	38	53	2	7	0	0	0	0	25	63	13	0
Met	11	79	0	10	0	0	0	0	5	77	18	0	0	82	0	18	0	0	0	0	5	77	18	0
Ind	13	56	28	0	3	0	13	3	6	31	47	0	16	45	36	0	4	0	12	3	6	33	46	0
-Kap	8	23	64	0	0	0	31	8	15	31	15	0	8	23	69	0	0	0	31	8	15	31	15	0
-Loo	25	75	0	0	0	0	0	0	0	25	75	0	29	71	0	0	0	0	0	0	0	33	67	0
-Mat	9	82	0	0	9	0	0	0	0	36	64	0	20	60	0	0	20	0	0	0	0	36	64	0
Buy	0	33	67	0	0	0	0	0	67	0	33	0	0	33	67	0	0	0	0	0	0	67	33	0

Source: author's survey

Note: dm = dam; pa = pan; rv = river; wl = well; bh = borehole; ot = other.

In the dry season Olkinos members turn to waterholes in the dry river bed and boreholes. Embolioi members mainly use dams and boreholes. Finally, all Kiboko members mentioned the use of dams in the wet season. For the dry season use was made of the Kiboko river and boreholes.

Table 8.16 Mean Distances to Watersources in Wet and Dry Season (Km) and Frequency of Watering Livestock

	Cattle				Small stock			
	Distance (km)		Frequency (1x in n days)		Distance (km)		Frequency (1x in n days)	
	wet	dry	wet	dry	wet	dry	wet	dry
Olkinos	1.43	3.39	1.37	1.08	1.46	1.08	1.46	1.22
Embolioi	2.03	3.29	1.64	1.10	2.01	1.10	1.69	1,21
Kiboko	1.57	4.95	1.38	1.43	1.53	1.43	1.26	1.47
Elang'ata Wuas	1.53	6.15	1.00	2.00	1.48	2.00	6.09	2.36
Lorngosua	3.59	10.48	1.09	2.41	2.56	2.41	3.61	3.32
Meto	2.39	8.56	1.01	2.06	2.89	2.06	5.75	2.84
Ind. ranchers	1.31	3.53	1.10	1.58	1.15	3.45	4.26	2.03
- Kaputiei	1.17	3.08	1.18	1.00	1.17	3.08	1.18	1.08
- Loodokilani	0.89	4.00	1.00	1.88	0.94	3.67	5.33	2.33
- Matapato	1.77	3.69	1.09	2.00	1.39	3.69	6.45	2.82
Olkinos buyers	1.00	2.33	1.33	1.00	1.00	2.33	1.33	1.00

Source: author's survey

Table 8.16 provides information on the mean distance between the household's *boma* and their source of water for cattle and small stock in the wet as well as the dry season period. It can be concluded that, especially during the dry season Lorngosua, Elang'ata Wuas and Meto lack nearby water sources.

Table 8.17 Presence of Dry Season Pastures

	dry season pasture of ranch	
	enough	not enough
Olkinos	37.6	62.4
Embolioi	38.9	61.1
Kiboko	61.8	38.2
Elang'ata Wuas	65.3	34.7
Lorngosua	93.2	6.8
Meto	72.4	27.6
Individual Ranchers	50.0	50.0
- Kaputiei	69.2	30.8
- Loodokilani	66.7	33.3
- Matapato	9.1	81.8
Olkinos buyers	33.3	66.7

Source: author's survey

Information was also gathered on the opinions of the plot owners about the quantity of dry season pastures on their ranch (see table 8.17). The majority of the Maasai respondents of the not yet subdivided group ranches stated to have a large enough dry season grazing area as opposed to the subdivided areas of Embolioi and Olkinos. Besides the availability of water the presence of forage (grass, shrubs, bushes) is of importance. Forage capacity particularly in the dry season determines the overall grazing capacity of an area. In 1973, Metson found among the 172 Maasai households he sampled a percentage as high as 90.70 per cent stating that the dry season grazing pastures were not enough (see Metson 1974:table 33). This negative response will probably have been influenced by the harsh conditions of 1973/74. At the time of our fieldwork the Maasai had experienced a number of good years. The majority of Olkinos and Embolioi individual plot owners considered their private parcels not to contain adequate dry season reserves. In contrast the opinions of group ranch members and individual ranchers were more positive in this respect. Only the Matapato individual ranchers who had the smallest ranches among the group of established ranchers, also judged their dry season pastures to be too small.

8.4.3 Stocking Densities

The extent of over and understocking of each individual ranch within our sample has also been estimated. If the availability of land per livestock unit is less than the 1.5 ha/TLU (1.59 ha/LE) or 4.2 ha/TLU (4.45 ha/LE) stocking levels the household's ranch should be considered overstocked in the short or long run, respectively.

Table 8.18 Stocking Densities of Individual Ranches

	Stocking Density/Ranch 1986 (ha/LE)			Stocking Density/Ranch 1990 (ha/LE)		
Location	mean	< 1.59	< 4.45	mean	< 1.59	< 4.45
Olkinos	2.32	56.0%	90.0%	1.52	72.0%	93.0%
Embolioi	4.88	25.7%	58.1%	4.04	36.5%	63.5%
Ind. Ranchers	5.38	18.8%	65.6%	5.02	21.9%	71.9%
- Kaputiei	4.22	14.3%	64.3%	3.37	14.3%	78.6%
- Loodokilani	8.14	25.0%	62.5%	9.11	25.0%	50.0%
- Matapato	4.78	20.0%	70.0%	4.07	30.0%	90.0%
Olkinos Buyers	0.33	100.0%	100.0%	0.28	100.0%	100.0%

Source: author's survey

Table 8.18 reveals that by 1990 at least half of all individual rancher households faced the situation of having a shortage of land on which to keep all livestock on the ranch without threatening its long term potential. In Olkinos specifically, 93.0 per cent of the households did not possess enough land for the animals they owned. Olkinos' high stocking density is mainly the

result of the necessity of meeting daily requirements from livestock keeping and a basic lack of land. This applies to 96.3 per cent of the Olkinos households. In fact, over 70 per cent of the established individual ranchers -of whom only 50 per cent were considered to have a deficiency in land at the 4.45 ha/LE level- had overstocked their ranch.

In other words the postulation that the individualization of land will result in stocking rates that do not bypass levels of carrying capacity is, to say the least, somewhat questionable. The answers given by the individual ranchers with reference to herd size management after obtaining their own ranch have much to say in this respect (see table 8.19). Approximately one out of five Olkinos and Embolioi members having their ranch overstocked in 1986, stated to have increased the herd size even further since the moment of subdivision.

Table 8.19 Herd Size Management Conducted After Obtaining an Individual Parcel

Location	Reduced/Increased herd size	Total	Overstocked Ranch 1986 (<1.59)	Understocked Ranch 1986 (≥1.59)
Olkinos (n=95)	Reduced herd size	4.2	4.0	2.4
	No reduction/increase	81.1	76.0	87.8
	Increased herd size	14.7	20.0	9.8
Embolioi (n=72)	Reduced herd size	6.9	11.1	5.6
	No reduction/increase	83.3	66.7	88.9
	Increased herd size	9.7	22.2	5.6
Individual Ranchers (n=29)	Reduced herd size	13.8	20.0	9.1
	No reduction/increase	58.6	60.0	63.6
	Increased herd size	27.6	20.0	27.3
N. Kaputiei IR (n=13)	Reduced herd size	0.0	0.0	0.0
	No reduction/increase	76.9	100.0	72.7
	Increased herd size	23.1	0.0	27.3
Loodokilani IR (n=5)	Reduced herd size	0.0	0.0	0.0
	No reduction/increase	60.0	100.0	66.7
	Increased herd size	40.0	0.0	33.3
Matapato IR (n=11)	Reduced herd size	36.4	50.0	25.0
	No reduction/increase	36.4	0.0	50.0
	Increased herd size	27.3	50.0	25.0
Buyers Olkinos (n=3)	Reduced herd size	0.0	0.0	n.a.
	No reduction/increase	50.0	50.0	
	Increased herd size	50.0	50.0	

Source: author's survey

Except for the Matapato individual ranchers the majority of households had not actively changed the number of animals on their ranch after obtaining an individual parcel. Of those who did, most decided to increase rather than decrease their livestock numbers. This seems to be the trend both for the over

as well as for the understocked ranches.[10]

It could be argued that the subdivided group ranches' members were not interested in destocking their individual parcels as most of them were still recovering from the 1984 drought. A longer time perspective would therefore be desirable. Nonetheless, the group of 29 established individual ranchers who obtained their ranch over a period of 7 to 25 years, are not in a significantly better position with regard to stocking densities and the reduction of herd sizes. Considering the less well-off position of recently subdivided group ranches there seems to be little support for the destocking-after-individualization hypothesis. It should be remembered that, in fact, no real destocking incentive existed for the individual ranchers as they mostly continued having access to group ranch territories either by way of family or stock friend relationships.

Baxter (1987:vi) goes even further by stating that 'It may still be arguable in the West that natural resources are best conserved when they are in private ownership, but there is no evidence at all from Africa to support the contention; indeed, all the evidence suggests the contrary. Overgrazing and ecological damage are serious problems where wealthy stock-owners have been able to override common rights and customary restraints.'

Blaikie and Brookfield (1987) have shown that land degradation occurs all over the world in a wide variety of contexts which include different types of society, land tenure regimes, market relations, population pressures and the like. In chapter 9 we will deal with the issue of privatization of land tenure and land conservation practices in more detail.

8.5 Changes in Herd Mobility After Subdivision

8.5.1 Grazing Management

It should be realized that the figures provided and the conclusions drawn above concerning stocking densities started from the presumption of strict boundary maintenance and a virtually uniform quality of the land in time and place. Reality was found to be different. As at the time of the creation of group ranches Maasai households of subdivided Olkinos and Embolioi group ranches continued *using* the pastures in a communal way for their daily herding practices and for medium to long term movements. Reasons for this practice are the following:

Firstly, as stated by the Ministry of Livestock Development there is a need for mobility due to the economic and ecological unviability of many individual

[10] It should be realized that herd sizes for 1986 have been uniformly obtained by way of reducing the livestock equivalent parameter to 85 per cent of its 1990 level, not taking account of the actual stocking density of the ranch for each and every household.

ranches. Even daily grazing in most Olkinos and Embolioi individual ranches virtually requires by definition that the plot boundaries be violated as the average distance to watering sources far outstrips the mean plot hectarage. Medium and long term mobility, whereby herds accompanied by family members move away from the *boma* for a certain period in search of water, disease free pastures, the grazing or lending of animals to friends or relatives are all methods used to optimize the demand for and the availability of these resources.

Secondly, and as a result of subdivision, taking the herd to an Olkinos, Embolioi, Empuyiankat, Kitengela or Poka Maasai rancher is now legal other than when under the rules of group ranch ownership.

Thirdly, as many owners have not yet settled nor may ever do so, large parts of the pastures, though individually owned, can freely be used with or without permission by the neighbouring households' livestock for grazing.

Table 8.20 Rationale and Number of Livestock Located in Other *Bomas* at Time of Survey

Livestock located in other *bomas*	Olkinos (n=100)	Embolioi (n=74)	Kiboko (n=38)	Elang'ata Wuas (n=75)	Lorngosua (n=100)	Meto (n=104)	Kaj. Ind. Ranchers (n=34)
- households (%)	25.0	20.3	18.4	34.7	45.0	44.2	32.4
- cattle (%)	2.2	4.8	2.8	7.8	6.4	6.2	12.9
- smallstock (%)	9.2	3.7	4.2	6.4	5.0	7.1	0.5
- loan (%)	18.2	53.8	0.0	48.2	50.0	19.1	38.5
- grazing (%)	59.1	7.7	50.0	29.6	40.2	53.2	46.1
- other (%)	22.7	38.5	50.0	22.2	9.1	27.7	15.4

Source: author's survey

Table 8.20 shows that a large number of households had transferred part of their herd to *bomas* other than their own at the time of survey. Foremost animals were located elsewhere because of assisting friends or relatives (loan), fresh pastures (grazing) or for crossbreeding purposes or to avoid disease infected areas (other). Meto members particularly mentioned this last motive.

To get an idea of the relative number of households involved in medium to long term livestock movements respondents were asked to give the number of cattle sent away and/or received during 1989, including the area of destination, period involved, the relation to receiver/sender and the financial arrangement (see table 8.21). Periods mentioned for sending or receiving livestock varied from a minimum of two weeks to all the year round. Some authors had expected that individual ownership could possibly result in the practice of hiring grazing areas for payment. However, only one household in Embolioi and another in Lorngosua stated that they had paid a certain sum of money for taking cattle elsewhere. Among Olkinos and the established individual ranchers nobody mentioned payment in return for grazing. It seems that this is restricted to times of severe stress. For example, an Olkinos household mentioned that it

paid Ksh. 4,000/- per month for letting its livestock graze in the Embakasi ranch during the 1984/5 drought. Individual ranchers in the Nkoile area are also mentioned as renting.

Table 8.21 Medium and Long Term Movements of Cattle and Small Stock, 1989

Livestock movements in 1989	Olkinos (n=100)	Embolioi (n=74)	Kaj. Ind. Ranchers (n=34)	Kiboko (n=38)	Elang'ata Wuas (n=75)	Lorn-gosua (n=100)	Meto (n=104)
CATTLE SENT							
- households (%)	4.0	1.4	23.5	21.1	38.7	30.0	32.7
- cattle (%)	5.0	5.0	17.9	17.9	31.7	11.2	24.6
- group ranch	0.0	0.0	50.0	87.5	93.1	80.0	97.1
- subd. ranch	75.0	33.3	0.0	12 5	3.4	0.0	0.0
- ind. ranch	25.0	66.7	50.0	0.0	3.4	20.0	2.9
SMALLSTOCK SENT							
- households (%)	3.0	4.1	17.6	2.6	14 7	5.0	20.2
- smallstock (%)	1.0	1.9	8.7	1.3	28.7	3.3	16.3
- group ranch	0.0	0.0	100.0	100.0	100.0	40.0	95.2
- subd. ranch	66.7	100.0	0.0	0.0	0.0	0.0	0.0
- ind. ranch	33.3	0.0	0.0	0 0	0 0	60.0	4.8
CATTLE RECEIVED							
- households (%)	6.0	9.5	17.6	21.1	8.6	19.0	19.2
- cattle (%)	4.2	2.4	3.1	5.6	1.8	11.6	16.1
- group ranch	0.0	28.6	83.3	100.0	100.0	68.4	85.0
- subd. ranch	66.7	57.1	0.0	0.0	0.0	0.0	0.0
- ind. ranch	33.3	14.3	16.7	0.0	0 0	31.6	15.0
SMALLSTOCK RECEIVED							
- households (%)	1.0	0.0	0.0	7.9	1.3	0.0	12.5
- smallstock (%)	0.7	0.0	0.0	2 6	1.5	0.0	10.0
- group ranch	0.0	0.0	0.0	66 7	100.0	0.0	92.3
- subd. ranch	0.0	0.0	0.0	33.3	0.0	0.0	0.0
- ind. ranch	100.0	0.0	0.0	0.0	0.0	0.0	7.7

Source: author's survey

It should be noted that the need to send livestock away is not so much correlated to the legal status of the area but to its ecological situation. Meto, Lorngosua and Elang'ata Wuas have a larger variance in ecological potential than the Kaputiei ranches. This is illustrated by the fact that, like most Olkinos and Embolioi ranchers, established ranchers from the Kaputiei area did not send away their animals during 1989. Only 21.4 per cent of the Kaputiei households stated that 2.7 per cent of their cattle was located elsewhere. This is comparable with Olkinos, Embolioi and Kiboko ranches.

In contrast, the mobility patterns of Loodokilani and Matapato individual ranchers' animals are similar to those of the members in Elang'ata Wuas, Lorngosua and Meto group ranches. The latter ranch in particular also makes use of Tanzanian pastures.

8.5.2 Fencing Characteristics in the Subdivided Areas

Daily herding journeys are becoming without doubt less easy to conduct. Besides the legal obstacles there are physical barriers such as fences, *shambas*, *ol-okeri* (reserved pastures) and the presence of wildlife in and outside the National Parks. It has been stated by opponents to group ranch subdivision that these constructions and changes in land use will, in the long run, undermine the viability of the livestock economy in Kajiado District. Table 8.22 provides information concerning fencing and free movement in the subdivided areas.

Table 8.22 Fencing Characteristics in the Subdivided Areas (%)

	Olkinos (n=108)		Embolioi (n=75)		Kaj. Ind. Ranchers (n=34)		Maasai Buyers (n=3)	non-Maasai Buyers (n=6)
	1986	1990	1986	1990	1986	1990	1990	1990
Fenced ranch	0.0	0.0	0.0	0.0	9.1	9.1	0.0	16.7
Fenced *ol-okeri*	?	3.7	?	2.7	?	35.3	0.0	n.a
Fenced *shamba*	1.9	8.3	1.3	9.3	8.8	21.6	33.3	67.7
Free movement								
- increased	1.1		1.7		3.3		0.0	
- unchanged	75.3		68.3		53.3		83.3	
- decreased	23.6		30.0		43.3		16.7	

Source: author's survey
Note: percentages always refer to the total sample population and disregard the actual possession of a *shamba* or *ol-okeri*.

From table 8.22 we learn that the effects of subdivision on mobility has so far been modest. Approximately three quarters of the Olkinos and Embolioi members sampled stated that the free movement of their herd has not changed. So far, the Maasai pastoralists had not fenced their new individual plots, but one of the immigrant buyers had done so (i.e. 17 per cent). The need for fence construction is higher for the latter because they mainly use their ranches for cultivation and want to protect their crops against wildlife and livestock destruction. Moreover, the small parcels belonging to the immigrants are less costly to fence than those belonging to the original Maasai inhabitants. Lastly, most immigrants are familiar with fencing their areas whereas the Maasai have no tradition in this respect. The fact that all ranches in Olkinos and Embolioi are not (yet?) fenced is because of the following reasons.

Firstly, fencing is a very costly affair. A fence made from poles and barbed wire costs approximately Ksh. 60/- per meter. Thus fencing a plot of 40 ha will cost approximately Ksh. 150,000/-! (or Ksh. 75,000/- if one's neighbours are willing to share the investment). In the Loodokilani and Matapato area people construct natural fences made from thorny bushes. This alternative is not easily available for the Embolioi and Olkinos area which lack this kind of

vegetation. Material used for fencing of ranches and *ol-okeri* in Elang'ata Wuas, Lorngosua, Kiboko and Meto is only thorn bush. Fences constructed in Embolioi, Olkinos and established individual areas use both thorn bushes and poles and wires. Huge fences were only seen being erected in the so called "Presidential Area" of Kisaju. Wealthy new owners have been responsible for this development. Table 8.23 provides information on fencing practices in Kiboko, Elang'ata Wuas, Lorngosua and Meto.

Table 8.23 Fencing Characteristics of Not Officially Subdivided Areas (%)

	Kiboko (n=38)		Elang'ata Wuas (n=75)		Lorngosua (n=100)		Meto (n=104)	
Households possession of	1986	1990	1986	1990	1986	1990	1986	1990
Fenced ranch	n.a.	n.a.	1.3	5.2	n.a.	n.a.	n.a.	n.a.
Fenced *ol-okeri*	?	21.1	?	78.7	?	26.0	?	5.8
Fenced *shamba*	7.9	13.2	4.0	8.0	1.0	6.0	13.6	23.1

Source: author's survey
Note: fenced individual ranches in Elang'ata Wuas group ranch are unofficial.

Comparing the situation in the subdivided and not (yet) subdivided group ranches reveals that, in fact, the relative number of households having a fenced *shamba* or fenced *ol-okeri* is higher in the latter areas. However, the increase in fenced localities is higher in Olkinos and Embolioi area, especially as a result of the influx of immigrant buyers. Also among the original inhabitants of the subdivided group ranches the construction of fences has grown faster since 1986.

A second reason for the low level of fenced ranches in Olkinos and Embolioi stems from the fact that a large number of these parcels have not yet actually been occupied by their owners and are still free to be used (see section 8.1). These plots either belong to Maasai living with their family in another *boma* nearby or to people who roam around in towns or stay in other parts of the district or the country. Areas bought by outsiders for speculative purposes are also still available for the local Maasai herds.

Thirdly, it is questionable if the livestock owners are really interested in turning away from the traditional communal use of the pastures forced on them by climatic conditions. Similar to what happened after the introduction of the group ranch phenomenon, herders will not be willing to keep their animals in places without grass or water. Subdivision will not have changed this attitude as it cannot change the climatic conditions in the area. As long as an individual rancher is not able to have an adequate source of water and feed for his animals he is simply forced either to migrate to other places or to sell off part of his herd. In my opinion, the collapse of the group ranch could even encourage the mobility of herds to other ranches as there is no longer a ranch committee to oppose the practice.

8.6 Other Land Use Changes

8.6.1 Reserved Grazing Pastures (*Ol-okeri*)

Although we examined the fencing practices of individual farms, *ol-okeri* (reserved pastures for calves and sick animals) and *shambas*, it should be realized that the growth as such in the number of the last two is also of significance. Unfenced *ol-okeri* and *shambas* contribute to a reduction in the accessibility of grazing areas for the Maasai herds. Tables 8.24 and 8.25 summarise the number of *ol-okeri* and *shambas* possessed by our sample population in a time perspective.

Table 8.24 Increase in Number of *Ol-okeri* of Sample Households (%)

	Olk (n=97)	Emb (n=74)	IR (n=31)	Buy (n=3)	Kib (n=37)	Ews (n=74)	Lor (n=100)	Met (n=104)
-no *ol-okeri*	33.0	66.2	19.4	66.7	27.0	14.9	15.0	4.8
-individual	67.0	33.8	77.4	33.3	64.9	59.4	29.0	11.5
-communal	0.0	0.0	3.2	0.0	8.1	25 7	56.0	83.7
established								
-1982	21.7	9.1	68.0	n.a.	13 0	39.3	53.7	28.8
1983-1989	78.3	90.9	32.0	n.a.	87.0	60 7	46 3	71.2
ind. *ol-okeri* established								
-1982	21.7	9.1	72.1	n.a.	15.0	32.6	56.0	18.2
1983-1989	78.3	90.9	27.9	n a.	85 0	67 4	44.0	81.8
com *ol-okeri* established								
-1982	0.0	0.0	0.0	n.a.	0.0	61 6	52.7	32.5
1983-1989	0.0	0.0	100.0	n.a.	100.0	38.4	47.3	67.5

Source: author's survey

Of our sample population 75.0 per cent stated to have access to an *ol-okeri*. Table 8.24 shows that, except in Embolioi (34 per cent) and among Olkinos buyers (33 per cent), more than half of the households in each region had either a private *ol-okeri* or they shared one with one or more households. Table 8.24 also reveals that, for both categories, an overall increase in the number of *ol-okeri* has recently occurred. For example, in Olkinos and Embolioi over three quarters of the *ol-okeri* have been established in a relatively short period since 1982.[11] Splitting up of communal *ol-okeri* could be partly responsible for this recent increase. However, group ranches of Kiboko, Elang'ata Wuas, Lorngosua and Meto which are not yet subdivided show a similar pattern of

[11] The rationale for taking the 1982/3 dividing line is the acceptance of the group ranch subdivision by the Kenyan Government in 1983. It should be noted however, that the intensification of discussions and, in some cases, the principal decision by the group ranch members of several group ranches to subdivide took place at different moments from 1981 (Poka) until 1989 (Lorngosua) (see chapter 7).

increase, albeit less pronounced.

From the undivided group ranches 55 households claimed to have started a communal *ol-okeri* in the last 7 years as opposed to 42 who had done so before. For individual *ol-okeri* these figures are 65 and 29, respectively. This indicates a process of individualization in ownership of *ol-okeri* since the early 1980s. By 1990 all but Meto and Lorngosua group ranches showed a pattern of preference for individual *ol-okeri*. Of all households having an *ol-okeri* 57.4 per cent held this in private ownership, while 42.6 per cent had access to a communal *ol-okeri*. In addition, we should bear in mind that the absolute number of communal *ol-okeri* will be lower as these are shared tracts of lands. Sizes vary, depending on the number of *boma's* sharing and the size of the herd from 20 ha in subdivided group ranches to 80 ha for established individual ranchers.

The rapid increase in the number of *ol-okeri* seems to have been influenced by the process of subdivision. As stated by Bekure et al. (1987:184/205), frequently the establishment of these specific kinds of plots in the south Kaputiei area has become a mechanism for claiming a certain part of the group ranch area with the expectation of subdivision. An example for Merueshi group ranch where, shortly after incorporation, sons of a deceased chief established their private *ol-okeri* is given to support this statement. Other methods of laying claims such as the construction of permanent houses, the digging of wells or the drilling of boreholes could be of importance as well.

As such it is interesting to note that in Embolioi 40.9 per cent of the *ol-okeri* was established in 1985, while 47.8 per cent of Olkinos members established them in 1986 shortly before official subdivision. However, surveying and allocation of plots had been done in November 1984 and November 1985, respectively. Moreover, half of the Olkinos and Embolioi members do not possess an *ol-okeri* at all. Lastly, one would expect committee-members to be among the *ol-okeri* claimers, especially around the date that the decision to subdivide was taken. Olkinos and Embolioi committee-members, however, show a similar percentage difference between those with and without an *ol-okeri* as non-committee members. In Embolioi all four committee-members established their *ol-okeri* in between 1983 and 1985. In Olkinos, however, none of the four committee-members started their *ol-okeri* in this period. In other words, although possibly being used as a location claiming mechanism as suggested by Bekure et al. (1987) our data do not seem to fully support this postulation for the northern Kaputiei area.

8.6.2 Cultivated Plots (*Shambas*)

A similar pattern of recent origin for cultivated plots is shown in table 8.25. Except for Elang'ata Wuas, where only a few members practise cultivation, subdivided and undivided ranches alike show that some 80 per cent of those

who commenced agriculture did so after 1982.

Of our total sample population 232 or 42.3 per cent claimed to be cultivating a *shamba*. The total acreage cultivated by 231 households out of a total group of 539 households was 291.9 ha equivalent to an average plot size of 1.26 ha. The mean plot size for this group was 0.72 ha at the time they started cultivating. This means that in a relatively short period, besides an increase in the number of Maasai households cultivating, the average plot size cultivated increased by some 75.8 per cent. A total of 152 of the cultivating households embarked upon this activity after the 1984 drought, as opposed to 71 households who had begun before leaving 9 households for which no information could be obtained. In other words, approximately 10-15 per cent of our *total* sample population had begun with cultivation before the drought of 1984/5 and this rose rapidly to over 40 per cent by 1990.[12]

Table 8.25 Increase in Number of *Shambas* of Sample Households (%)

	Olk (n=97)	Emb (n=74)	IR (n=31)	Buy (n=3)	Kib (n=37)	Ews (n=74)	Lor (n=100)	Met (n=104)
% households cultivating	37.0	41.3	47.1	77.8	27.8	12.2	30.0	85.6
shambas established								
-1982	19.4	19 2	25.0	0.0	10.0	55.6	10.7	29.2
1983-1989	80.6	80.8	75.0	100 0	90.0	44.4	89.3	70.8
mean plot size at start (ha)	0.66	1.02	1.15	1.84	0.56	0.93	0.68	0.50
mean plot size 1990 (ha)	1 12	1.31	3.90	2.23	0.63	1.07	0.80	0.97
% change	69.1	27.8	237 5	21.1	12.2	14.6	18.3	93.6

Source: author's survey

As shown in table 8.26 the group of 223 households, for which full information is available had cultivated a total area of 273.72 ha by 1990. As compared to the first season of farming the size of the *shamba* either increased or remained the same (see last columns). Keeping this in mind the 1984 acreage cultivated by the pioneer group of 71 households will be in between their total initial plot sizes (57.67 ha) and the 1990 acreage (118.78 ha).

In other words, a minor 0.1-0.2 per cent of the total area owned (communally or individually) by our total sample population was farmed before 1984/5. In any case, until 1990 the land under cultivation increased with a minimum of 154.94 ha being the total area cultivated by the group of new farmers. As a result the land farmed will have increased to approximately 0.53 per cent of the total area owned by our *total* sample population.

[12] Nine households (Elang'ata Wuas:3, Individual Ranchers:2, Meto:2, Kiboko:1, Lorngosua:1) stated that they had cultivated in the past but were not doing so now.

Table 8.26 The Extent of the Area Cultivated by 1990

	sample area (ha) (1)	*shamba* (ha) (2)	(2) of (1)	year started	ha <1985	ha 1985-	*shamba* size +	±	-
Subdivided areas									
-Olkinos	4,585	37.88	0.83%	1964	12.73	25.15	85.2	11.1	3.7
-Embolioi	6,861	35.15	0.51%	1979	8.89	26.26	40.7	59.3	0.0
Not subdivided									
-Kiboko	6,092	6.06	0.10%	1978	2.63	3.43	18.8	81.2	0.0
-Elang'ata Wuas	9,163	10.50	0 11%	1957	4.44	6.06	22.2	66.7	11.1
-Lorngosua	6,623	20.81	0.31%	1974	1.62	19.19	30.8	69.2	0.0
-Meto	6,671	84.74	1.27%	1965	31.71	53.03	76.1	23.9	0.0
Ind. ranchers	16,939	62.82	0 37%	1958	56.76	6.06	56.2	37.5	6.3
Buyers	485	15.76	3.25%	n.a	n.a.	15.76	80.0	20.0	0.0
Total	51,327	273.72	0.53%		118.78	154.94			

Source: author's survey

Note: the sample area totals presented (column 1 and 2) refer to land occupied by the group of 223 households from whom which this information was available.

+ = increased; ± = unchanged; - = decreased size of the *shamba* since the household started cultivating.

It should be noted that the cultivated plots are not necessarily located near the household's *boma*. For example, one Loodokilani individual rancher had an 32 ha farm in the Loitokitok region and another farm of 16 ha near Namanga Town. Another individual rancher had a farm in the Kitengela area. Four *shambas* belonging to Embolioi ranchers were located in Olkinos. In return four "Olkinos plots" were located in Ngong and Kitengela area. One member from Meto as well as one from Lorngosua had a plot in Ilmarba. Finally, one Elang'ata Wuas group ranch member stated that he possessed a 2.0 ha farm in Naivasha (Nakuru District).

Part of the absolute increase in *shambas* will be the result of a growth of the population. Still, more factors must be operative for the booming increase since the early 1980s. A factor which seems to have influenced the growth in the number of cultivators and the acreage under crops has been the 1984 drought which left many Maasai with heavily reduced herd sizes. This seems to explain the distinct increase in cultivating ranchers in most areas. The more permanent position of Elang'ata Wuas could possibly be explained from this factor as the Elang'ata Wuas Maasai did not suffer so much from the drought as other groups did. In addition, large parts of Elang'ata Wuas group ranch are not very well suited for rainfed cultivation.

8.6.3 Competition from Wildlife

Finally, we should pay attention to the wildlife issue. In sections 4.4.3, 6.3.2 and 7.5.2 we pointed out the importance of the wildlife sector for the national economy attracting many tourists from abroad resulting in a huge growth of

tourism since the 1970s. We also concluded that the local Maasai, by allowing game animals to spread over their pastures, supported the viability of Amboseli and Nairobi National Parks and, as a consequence, the national economy. This hospitality, however, had detrimental effects on their livestock holdings through predation, competition for forage and the spread of disease by game animals. Over the years the Maasai have only been compensated minimally for this burden. Fencing of individual pastures is feared to (further) undermine the wildlife sector, which is facing a declining trend anyway (see table 3.5).

Table 8.27 Wildlife Development in the Subdivided and Established Individual Ranchers' Areas 1977-87

Kajiado District	Wildlife TLU	Wildlife Density (TLU/km²)	Ratio Livestock: Wildlife	
1977	114,451	5.8	2.9	
1983	115,395	5.9	3.1	
1987	67,302	3.1	5.9	
	Olkinos (n=108) TLU '77: 768 '87: 171 WD (TLU/km²) '77: 13.5 '87: 3.0	Embolioi (n=75) TLU '77: 8,770 '87: 3,311 WD (TLU/km²) '77: 37 2 '87: 14.0	Kaj. Ind. Ranchers (n=34)	Olkinos Buyers (n=9)
Wildlife numbers				
- increased	2 2	18.6	16.7	0.0
- unchanged	66 3	42.4	40.0	83.3
- decreased	31.5	39.0	43.4	16.7
Wildlife damage				
- increased	4 5	18.3	20 7	0.0
- unchanged	72.7	45.0	44.8	83.3
- decreased	26.1	36.7	34.5	16.7

Source: author's survey and Peden 1984; Grunblatt et al. 1989; Said et al 1989

For the Embolioi and Olkinos areas we were able to obtain some rough estimates of game animals present in March 1987. Zebra's, wildebeests and Grants gazelles were the most important animals on these ranches. For both ranches numbers diminishing since 1977 have also been recorded (see table 8.27).

Taking into account the 1976 drought which killed many wild animals the negative trend is even more significant. This is confirmed by the ranchers opinion that wildlife numbers and therefore the damage are decreasing. Still, Embolioi faces an above-average number of game. This is reflected by Embolioi members when they mention the transmittance of diseases from wildlife as one of their most important problems (see table 10.24). Embolioi ranchers stated they often have to move their herds to safer places in response

to calving wildebeests which cause Malignant Catarrh.[13] Indeed, from table 10.13 it can be concluded that this disease mainly affects the northern Kaputiei area and hence former group ranch members and established individual ranchers alike. In addition, the recently settled non-Maasai complain about crop damage. The doubling of the human population as a result of this influx and a natural growth in combination with increased fencing is expected to at least restrict the entrance of game and to change migration patterns.

8.7 Summary and Conclusion

In this chapter the effects of the process of group ranch subdivision in respect of the size, economic and ecological viability of the new individually owned parcels have been presented. Attention has also been paid to aspects of land use, including patterns of residence, fencing, livestock movements, cultivation and wildlife habitats. This analysis was based on the post subdivision developments as they have occurred on Olkinos and Embolioi group ranches since late 1986 until the beginning of 1990. Developments in other group ranches (e.g. Kiboko, Elang'ata Wuas, Lorngosua, Meto, and buyers and individual ranchers) were provided by way of reference.

Our data showed average household sizes of 6.0 to 10.6 for Olkinos and Meto, respectively. The number of children in the 0-15 years of age cohort was 50.3 per cent. For Kiboko and Embolioi this figure stood at 64.0 and 64.4 per cent as compared to 47.4 and 45.7 per cent for 1968. This illustrates the increased growth of the Maasai population, probably due to a reduction in child mortality. In the words of a Maasai elder: 'these days, as opposed to the past, we have children of every height'.

Cattle ownership under our sample population stood at 9.1 head of cattle per person with the addition of 12.9 shoats. If the sample population is representative of all Kajiado Maasai pastoralists, this means that the declining trend in cattle ownership as shown before for the 1950-1985 period has been reversed.[14] Besides, it should be taken into account that in general productivity of Maasai cattle has risen due to the introduction of improved

[13] *Malignant Catarrhal Fever* (MCF) is carried by the wildebeest and Red Maasai sheep. The virus is excreted by the female wildebeest during calving and lactation. The calving period of wildebeest on the Athi-Kapiti plains usually coincides with the onset of the long rains (April-June) (see UNDP/FAO 1978:51). Wildlife acts as a reservoir for the blood parasites (i.e. *tsetse*-flies) that are responsible for *Trypanosomiasis* in cattle.

[14] The 1988 Livestock census enumerated 633,388 cattle for an estimated total of some 145,000 Maasai. A certain number of these cattle will have been held by non-Maasai (especially Kikuyu staying in the Ngong Division). Thus, district-wide, cattle ownership will probably average some 4 cattle per person. Especially in the Magadi area cattle ownership is below average cattle holdings.

breeds (see chapter 10). Moreover, these days the number of smallstock in the whole of Kajiado District is higher than that for cattle. The sample population cattle:smallstock ratio found was 1:1.42. This is in line with the 1988 Livestock Census figure of 1:1.52 for the whole of Kajiado District. A less dramatic shift occurred in the percentage of female cattle within the Maasai herds. For Embolioi this was reduced from 69 per cent in 1968 to 54 per cent by 1990. The overall percentage of female cattle with the herd stood at 68 per cent for the group and 67 per cent for individual ranchers. A structural switch to a market and meat-oriented economy for cattle does not seem to have occurred.

Landownership per person has decreased over the 1986-90 period due to natural population growth and the sale of land. The availability of land for Olkinos ranchers decreased from 8.43 ha/person in 1986 to 7.06 ha/person in 1990, a 16 per cent reduction as a specific result of this last factor. Embolioi figures for these years are 15.53 ha/person and 14.29 ha/person, respectively.

Wealth classes among our group of respondents are based on livestock equivalents owned by active adult male equivalents (LE/AAME). A fairly even distribution along three strata was found. The same cut off points had been used as defined by ILCA for their 1980 population. Their stratification showed a larger group of respondents in the middle stratum and a smaller one in the lower stratum.

The second section of this chapter dealt with the outcome of the process of group ranch subdivision in Olkinos and Embolioi. An overall positive position towards the process of subdivision and allocated plots was recorded among the Olkinos and Embolioi ranchers. Approximately 1 out of 5 households, however, had from mixed to negative feelings concerning the size of the plots allocated. The former Olkinos member now possesses a 46.71 ha mean size ranch ranging from 11.00 to 132.00 ha per parcel. Former committee-members were found to have designated themselves and their relatives significantly larger parcels at the most favourable locations. Plots held by committee-members averaged 81.80 ha as compared to 42.53 ha for non-committee member households. For Embolioi the average plot size was 93.37 ha varying from 30.0 to 225.0 ha per parcel. Again former Embolioi committee-members held a higher amount of land (i.e. 130.74 ha as compared to 86.84 ha for non-committee members). Thus the process of subdivision has been favourable to the most powerful within the Maasai group ranch constellation.

One of the main questions concerning the subdivision of group ranches deals with the economic and ecological viability of the allocated plots. In the past several scholars mentioned minimum land requirements for individual ranches of some 80 ha/adult male or 467 ha per household. Herd sizes needed by each household imply certian demands on the amount of land required. Taking into account livestock food requirements there is a land requirement ranging

between 13.7 ha/AAME/hh to 38.3 ha/AAME/hh for the wet and dry season, respectively. For Olkinos and Embolioi we concluded that only a mere 10 per cent or less of the households would be able to keep their animals on the individual ranch without suffering a shortage in grass or without severely overstocking it. Moreover, since the time of subdivision this capacity had decreased by another 1-2 per cent.

Starting from four different categories of landownership based on a situation of deficit or surplus for the wet season or the dry season it was estimated that for those Olkinos households lacking sufficient land in both seasons 40.3 per cent nevertheless owned a large enough number of animals for complete selfsufficiency. In the opposite situation of having enough land for both seasons 75 per cent of these parcel owners were selfsufficient in livestock. For Embolioi these figures were 28.6 per cent and 100 per cent, respectively. We also concluded for Embolioi that large numbers of the households held a reasonable amount of land though they lacked the animals to make use of it.

Asked for their opinion on the economic viability of their individual ranch a large majority (84.9 per cent) of the Embolioi considered it to be highly viable. Olkinos households which, in general, had much smaller parcels, showed more mixed feelings in this respect. Only 43.5 per cent said to believe their parcel to be either viable or highly viable.

Information concerning the ecological viability of the newly allocated plots on a group ranch scale collected by the Kajiado District 1988 Livestock Census was presented showing the recommended stocking rate, the actual stocking density, estimated range condition and trend and the availability and condition of water sources. According to these figures an overstocking of most ranches (except Embolioi) was determined at ratios of 1.7 to 2.9 times the densities allowed. However, overall range condition was stated to be fair (or even good as in the case of Kiboko).

An inquiry into the availability of dry season pasturage revealed the reverse picture with Olkinos and Embolioi ranchers complaining of insufficient dry season reserves on their privately owned parcels. Half of the established individual ranchers -especially Matapato ranchers- shared this opinion.

One of our main interests was to determine the stocking densities before and after the individualization of the now privately owned ranches in Olkinos, Embolioi and established individual ranchers. Mean densities found for 1990 were 1.52 ha/LE (Olkinos), 4.04 ha/LE (Embolioi) and 5.02 ha/LE (individual ranchers). In 1986 these figures were 2.32 ha/LE, 4.88 ha/LE and 5.38 ha/LE, respectively. Short and long term thresholds were applied which revealed that for both Olkinos and Embolioi the densities had increased resulting, for Olkinos, in a theoretically unviable ranch size of 72.0 per cent of all the ranchers on the short run and as high as 93.0 per cent in the long term. For Embolioi these figures were 36.5 and 63.5 per cent, respectively.

This outcome has led us to question the postulation that the individualization of land tenure will result in a reduction of the stocking rate at carrying capacity levels. In fact, those ranchers that actively changed the number of animals on their ranch did so by increasing rather than decreasing the total number of animals, irrespective of whether or not they possessed an over or understocked ranch. Established individual ranchers behaved similarly.

Besides the level of stocking we showed an interest in (the change in) grazing management practices after the subdivision of Olkinos and Embolioi group ranches. It was found that some 20-25 per cent of households interviewed had located part of their herd in other *bomas* at the time of survey. Kaputiei established ranchers mentioned a total of 21.4 per cent. Overall a total of 32.4 individual rancher's households mentioned that they had transferred part of their livestock away from the ranch. Thus among the group of Matapato and Loodokilani individual ranchers a similar number of households had animals located elsewhere as their neighbouring group ranch members.

Detailed information for 1989 medium and long term herd movements of cattle and smallstock revealed that it was not so much the legal status but the ecological condition of the ranch which was the driving force behind transferring animals to other places for medium to long periods of time. Also no firm evidence could be found of a trend towards the commoditization of grazing. Only two households mentioned they had paid money for access to pastures elsewhere.

The practice of locating livestock in other *bomas* is also influenced by the fact that the subdivision process has accelerated a further decrease in *boma* size and the emergence of single household *bomas*. Nowadays half of the Olkinos and Embolioi members live in single household *bomas*. On these ranches less than two households reside in a single *boma* whereas for the Matapato and Loodokilani Maasai this figure stands at between 3 and 5. Reports for the late 1950s give an overall *boma* size of 6-8 households in Kajiado District. This changing pattern of residence influences the availability of labour and the level of co-operation. Tasks in household matters such as collecting firewood, the fetching of water and the herding or milking of livestock has to be organized along other lines. No clear picture, however, emerged as in Olkinos co-operation was said to have decreased, whereas Embolioi members reported an increase.

The complete fencing of ranches has not yet occurred among the group of respondents. In the Olkinos and Embolioi areas enclosures were erected to prevent animals from entering *shambas* (cultivated plots) or *ol-okeri* (small reserved pastures). This trend is on the increase. As a percentage of *all* households interviewed 3.7 per cent of the Olkinos ranchers and 2.7 per cent of the Embolioi households were in possession of a fenced *ol-okeri*. For *shambas* these figures were 8.3 and 9.3, respectively for 1990 as compared to

only 1.9 and 1.3 for 1986. This increase is faster than the increase in the number of *shambas* over this same period.

Enclosures made by not yet subdivided group ranch areas show an even higher percentage of households involved in the practice. However, the increase in this is somewhat slower than in the subdivided group ranches. Fencing practices among established ranchers, particularly of *ol-okeri*, is in the order of 35 per cent. In our view the fencing of *shambas* and ranches by non-Maasai buyers will pose the major threat to the mobility of Maasai livestock. By 1990, 23.6 per cent of the Olkinos respondents stated that in their view free movement had indeed decreased after the subdivision of the group ranch. For Embolioi this was 30.0 per cent. The need to defend the cultivated plots against game and livestock is expected to result in a fast growth of small enclosures scattered over the former group ranch territory. Because these parcels are small, fencing will be not too costly for an individual owner. Maasai ranchers, not accustomed to this practice of enclosing one's territory are faced with high costs if use is made of poles and barbed wire. In addition, many Maasai owners had not yet settled on their new plot. A final reason for the non-appearance of fenced ranches is thought to be the realization of the Maasai that, due to the climatic conditions, fencing one's ranch will result in a dramatic collective disaster in the long term.

Furthermore, attention was paid to the actual increase in the number of *ol-okeri* and *shambas* as the growth as such, either fenced or unfenced, will also reduce the accessibility of grazing areas for Maasai herds. By 1990, 75.0 per cent of the respondents claimed to have access to an *ol-okeri*, either individually or communally owned. Since 1983 a huge increase in the number of *ol-okeri* was recognised, for both types of *ol-okeri*. By 1990 57.4 per cent of the *ol-okeri* were held in private ownership. Communal reserved grazing areas were mainly found among Meto and Lorngosua households. Other researchers have pointed out the land-claiming rationale behind this move; by establishing an *ol-okeri* in one's own favourable location one could anticipate the allocation of individual parcels at the time of group ranch subdivision. However, our Olkinos and Embolioi did not support such a hypothesis.

Of the total sample population 42.3 per cent claimed to be cultivating a *shamba* by 1990. The total acreage cultivated was 291.9 ha. This is equivalent to a mean plot size of 1.26 ha. When these cultivators started growing their first crop, the average plot size was only 0.72 ha. In other words, both the number of *shambas* and the acreage covered has increased rapidly. Approximately 10-15 per cent of our total sample population was engaged in cultivation before the 1984/5 drought and this rose rapidly to over 40 per cent by 1990. We estimated that the area under cultivation had increased over this period from 0.1-0.2 to 0.53 per cent of the total area available to our sample population, including the non-cultivators. Besides a growth in the number of households, the 1984/5 drought is held responsible for the rapid increase in the number of cultivators. A loss of pastures could possibly be balanced by

allowing livestock to graze the fields after harvesting. This requires good relations between cultivators and livestock keepers. Damage done to the crops before harvesting could frustrate this relationship. Another often mentioned negative effect of an increase in the cultivated acreage is that of trespass to reach to watering points. This calls for corridors in order to allow herders to travel as straight as possible.

Finally, we have attempted to highlight the competition for pastures by game in our study area. According to official wildlife estimates based on aerial countings a decline in the number of wild animals has been recorded. This trend was confirmed by our respondents. A doubling of the human population and increased fencing is expected to further reduce competition from wildlife, particularly in the northern Kaputiei area.

Let us now turn to chapter 9 for an evaluation of the use of the individual title deed as a collateral for loans as propagated by subdivision supporters or for a quick sell out to (non) Maasai as feared by their opponents.

APPENDIX 8.1

KIBOKO GROUP RANCH PROFILE

Kiboko group ranch (15,870 ha) is a KLDP phase I group ranch, inhabited by some 1,000 Kaputiei Maasai. It is located in the far north-eastern end of Central (now Mashuru) Division, Kajiado District, and approximately 150 km from Nairobi down the Nairobi-Mombasa main road. The road passes through the ranch although the largest part is in the south. The ranch stretches from Simba T.C. to Kiboko T.C. (Machakos District). Simba centre has several shops, a nursery and primary school, a health centre and slaughter house. Kilunyeti centre is located in the south. One shop, a dispensary and primary school make up the most important facilities here. A borehole and dip can be found in the centre of the ranch. Another borehole and dip can be found in the north but they are not functioning. In addition the ranch has 3 crushes, 4 troughs, 3 water tanks, 1 well, 1 spring, 1 water pan and 5 km of water pipeline.

Kiboko group ranch is for the most part located in agro-climatic zone V. A large number of prominent hills are present. The elevation of the ranch averages around 1,000 m. Soils are dominated by red sandy loams on the plains, lava on the hills and riverine complexes along Kiboko river bordering in the eastern part of the ranch. Other, seasonal rivers are the Esiteti in the south and the Karungu in the north. The vegetation is dominated by a complex of bushland and bushed grasslands in the north and a complex of grassland to bushed grasslands on the erosion-prone plains in the south. Grasslands make up some 60 per cent of the ranch. Approximately 25 per cent is covered by bushed grasslands. Some scattered spots of wooded dense bushland can also be found. Dominant trees are *Acacia* species and perennial grasses such as *Pennisetum mezianum*, *Cenchrus cilliaris* and *satigum*. There is a large variety of wild animals such as giraffes, hyena's, lions, wildebeests and zebras for example and in above average numbers.

The main activity is livestock keeping. Kiboko group ranch was rewarded for good results in this respect by winning the second position in the Farm/Ranch competition of Rift Valley Province in 1986. Some people are involved in subsistence cultivation and they mainly grow maize and beans.

Animal disease, especially East Coast Fever (*oltikana*), is a major problem for the Kiboko ranchers. During periods of stress animals are sent to Chyulu Hills in a search for pasture and water.

On the ranch there used to be one women's group which is now defunct. The group appears not to have been functioning for the last 3 years. There are no church buildings in the ranch except for an Anglican church that uses a classroom at Kilunyeti for its Sunday service.

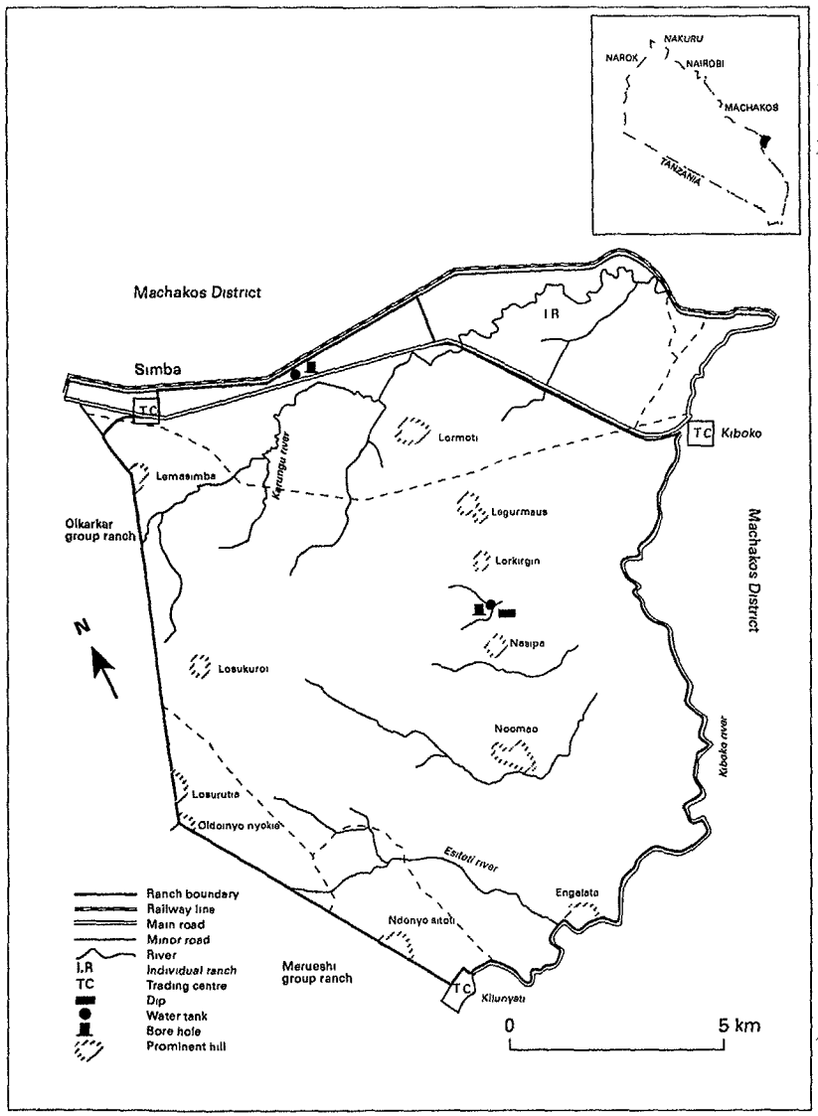

Figure 8.7 Kiboko Group Ranch

ELANG'ATA WUAS GROUP RANCH PROFILE

Elang'ata Wuas (phase II) group ranch (59,497 ha), located some 15 km south-west of Kajiado Town, includes two sublocations (Lang'ata Wuas and Toroka) in the Loodokilani location of the Central Division. Most of the 3,000-3,500 Loodokilani Maasai live in permanent bomas concentrated in the eastern half of the ranch. In the south-western part of the ranch most of the 16 individual ranches (12,767 ha) are carved out. Along the Toroka seasonal river the Magadi Railway branch and some trading centres can be found (e.g. KMQ, Mile 46 (also named Elang'ata Wuas T.C.), Naudot and Singiraini). Oltepesi, located along the waterpipeline providing water for the individual ranches in the south, is a growing small centre. Primary schools can be found in Mile 46 (since 1960), KMQ, Singiraini, Naudot and Oltepesi (also called Enchoro Esentue). Most schools lack good facilities. Mile 46 has had a Government run health centre since 1966. Churches are mainly found in Mile 46 (CPK, AIC), KMQ (CPK, Catholic Church, PCEA), Oloolera (AIC) and Oltepesi (CPK).

Situated in the Rift Valley borderzone, the altitude varies considerable from 1,800 m in the east to 1,100 m in the west. Rainfall is between 450-500 mm annually. The ranch is in agro-climatic zone V. Mean annual temperatures are from 19°C to 23°C rising towards the west. A wide variety in landforms can be found (hills, plateaus, undulating plains). Soils are also diverse, but mainly Chromic Cambisols (well-drained moderately deep, dark reddish brown stony clay loams).

The vegetation is dominated by woodland & bushland in the west and some wooded & bushed grassland in the east. Open grasslands can be found in the central and north-eastern parts. Especially *Comiphora africana*, *Acacia tortilis* and grasses like *Pennisetum mezianum*, *Sporobolus marginatus* and *pelusides*, *Cenchrus ciliaris*, *Chloris roxburghiana* and *Cynodon dactylon* are abundant. In the periodically flooded valleys grasslands are highly productive.

Seasonal swamps are a common feature on the southern side of the Group Ranch and of major importance for the provision of water to people, livestock and wildlife in the wet and dry seasons (e.g Lake Loonkujit, Emparbal Naibor, Kaponko, Emparbal Olkarkari).

Toroka river is the most important seasonal river in the Group Ranch. Running along the northern part of the ranch it ends at Lake Kaponko in the south-western part of the Group Ranch. In Elang'ata Wuas group ranch boreholes, sub-surface dams and wells have been constructed which are owned privately or communally. Pans are the most widespread water facility. Boreholes are also very common. They are concentrated in Orpirikata, two (not functioning) are communally owned and the rest are private. There are other boreholes at Ndupa and on the way to Mile 46 trading centre. Wells are very common in KMQ in the Toroka river, near Mile 46 and near Naudot.

Livestock keeping in Elang'ata Wuas is primarily characterized by trekking the animals for watering from the far south to the far east in cyclical periods of three to four days in the drier months of the year. This is necessary because the south-western corner, used as a dry season grazing area for group ranch members and individual ranchers alike, lacks watering points. Another dry season area for the livestock owners living near Singiraini and Mile 46 is in the north-western corner of the ranch. Pastures in neighbouring Kilonito group ranch are frequented all the year round. Livestock diseases include ECF (around KMQ and the eastern border only), F&M, Blackquarter for cattle and Footrot, Brucellosis for shoats. Dips are widespread but, due to lack of water, hardly ever operate. New breeds of cattle have been introduced like Sahiwal, Friesian, Ayrshire, Guernsey, Jersey, Hereford, Charolais for cattle and Galla goats, Blackheaded Persian sheep and Dorper sheep. Poultry keeping and apiculture can also be seen.

Gazelles, giraffes, zebra, ostrich, hyenas and wolves are the most common wild animals. Lions, leopards and cheetah are also present and make frequent attacks on livestock, especially on the western side of the group ranch.

Cultivation is on the increase although success is limited. Limestone mining concentrates in KMQ. Individuals also engage in marble mining. Others sell sand at a mere Ksh. 100/- a truck. Four women's groups are active in steer-fattening, cultivation and handicrafts.

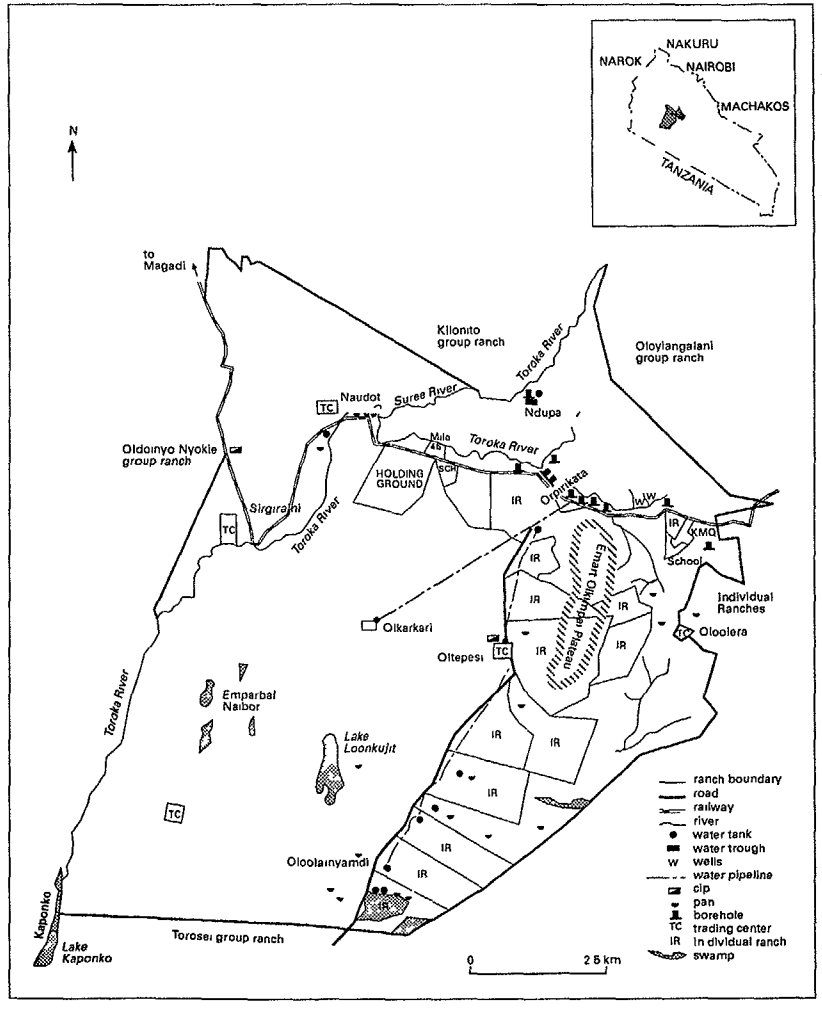

Figure 8.8 Elang'ata Wuas Group Ranch

LORNGOSUA GROUP RANCH PROFILE

Lorngosua (phase III) group ranch (38,282 ha) is situated south of Elang'ata Wuas group ranch covering Ruanje and Lorngosua sublocations of Lorngosua Location, Central Division. It stretches westwards from Bissel Trading centre (not included in the ranch) located some 30 km south of Kajiado Town on the road to Namanga. Some 3,000-4,000 Matapato Maasai live on the ranch. Along the northern border with Enkaroni and Elang'ata Wuas group ranches some individual ranches can be found.

Two trading centres, Lorngosua where the first shop was constructed in 1958 and Ilmotio (1965) serve as purchasing centres for several food and household items. Lorngosua is situated in the centre of the ranch and Ilmotio on the western border. These shops acquire their items from Bissel Trading Centre in the east. Lorngosua primary school was started in 1979, followed in 1982 by Ilmotio. There are no dispensaries in Lorngosua group ranch. A World Vision sponsored mobile clinic has been paying only monthly visits since 1988. The sick have to trek all the way to Bissel dispensary for attention. Two churches have appeared in the area since the mid-1980s; one at Lorngosua and another at Ilmotio. Roads are few and not tarmacked yet. Vehicles can hardly use the few existing roads during the rainy season.

Lorngosua group ranch has an undulating landscape with a few isolated hills (Lemeipoti, Ruanji, Laasur, Longai, Kipokot). As in Elang'ata Wuas group ranch the altitude falls from the east (1,750 m) towards the west (1,350 m). Rainfall is higher than in Elang'ata Wuas, ranging from 500 to 600 mm annually. Most of the ranch is in agro-climatic zone V. The main soils are well drained, very deep sandy loam to clay orthic luvisols in the west, chromic luvisols in the east of the ranch. The latter soil type also occurs in the central part mixed with imperfectly drained clayish eutric planosols. The hilly parts are covered with mainly friable, stony clay loam eutric regosols.

The vegetation on the ranch shows a wide variation the principal types being bushed grassland, wooded grassland among scattered patches of open grassland. *Acacia* species are abundant as is *Balanitis aegyptica* (Maasai name: lorngosua), *Commiphora africana* and grasses like *Pennisetum mezanium* and *Themeda triandra.*

Several seasonal rivers (e.g. the Ruanji, Olmorkeya and Isinon) cover most parts of the ranch. In the northern region several swamps can be found in the rainy seasons after the flooding of these rivers. In the Isinon river World Vision has built a dam. Several small and a few large pans (near Ilmotio and Enchorro) have also been dug holding water from 2 weeks up to 4 months after the rains. North and south of Ruanji hills, near Bissel and west of Lorngosua centre, several wells have been dug. Often labour from Tanzania is hired for this time-consuming job. Some of these wells are very abundant and provide water al the year round. Lorngosua ranchers also make use of wells in Bartimaro group ranch (Ilmarba wells). In 1957 a borehole was constructed in Lorngosua centre.

Dry season grazing areas are found on the neighbouring Osilalei group ranch as well as towards the south-east of Lorngosua centre. In this area water is scarce and ECF prevalent. Other common diseases are CBPP and Anaplasmosis. Unfortunately no operational dip is available. The people use hand-spraying pumps. These are said to be little effective in tick control. The commonest wild animals on the ranch are giraffes, gazelle's, elands, impalas, hyenas and foxes. These species do not pose a serious problem to the livestock economy.

Cultivation is increasing although the plots are small and receive minimal attention due to the amount of attention required for livestock keeping.

Lorngosua area has only one women's group which is not functioning well if at all.

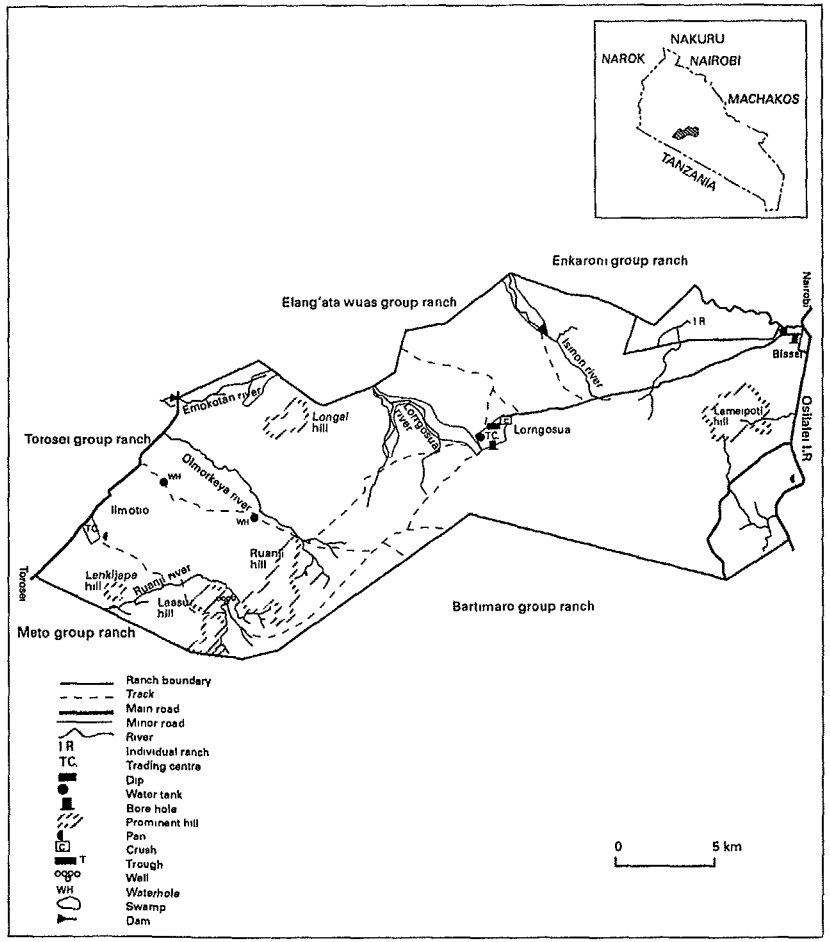

Figure 8.9 Lorngosua Group Ranch

METO GROUP RANCH PROFILE

Meto (phase III) group ranch (28,928 km^2) is situated in South Matapato Location, Central Division of Kajiado District, bordering Tanzania. Approximately 2,750 Matapato Maasai live on this ranch. Originally Meto group ranch included adjacent Oldoinyo Orok group ranch as well. In the process of splitting the ranch 12 individual ranches were formed (3 at Empukani, 2 at Oloshoibor, 1 at Kumpa and 5 at Oloirimirimi).

Meto trading centre has 5 shops, a dispensary, a primary school and a village polytechnic. The CPK Anglican Church has a building here. They also run the Maasai Rural Training Centre sub-station. Enkeju e Lerai has only one shop, a nursery school and a CPK church. Other denominations have planned to establish themselves in Empukani (Baptist Church), Oloshoibor (African Inland Church) and Kumpa (PCEA). Roads in the area are virtually non-existent, except for a junction between Bissel and Meto.

On Meto group ranch three distinct land units can be distinguished, namely; the plains (Empukani and Oloshoibor in the south, Oloirimirimi and Kumpa in the north-east and Iltirpen in the south-western area of the ranch); the gently sloping hills (e.g. Nooliatuani where Meto trading centre is located, Olgos, Olkiu and Enkeresuna); and lastly the hills (Lempalakai in the north, Muntarakua and Kukuo in the south-west; Losirua, Ruanje Kipaipiyoi and Parmung'at in the north-west. Lolayioni, Sambu, Loltiamiloi and Nemampuli hills are located in the central region). The ranch varies in altitude between 1,479 m to 2,100 m. The average rainfall is 600 mm annually.

Most of the soils are a combination of well drained, deep reddish brown sandy clay loam chromic luvisols and imperfectly drained black, very firm clay eutric planosols. Vegetation is almost entirely bushed grassland. *Cenchrus cilliaris* (African foxtail grass) and *Pennisetum mezianum* (bamboo grass) are abundant perennial grasses. *Acacia tortilis*, *Ocimum americanum* and *Aspillia mozambicensis* are the most abundant trees available. Low and unreliable rainfall accounts for tuft grass which has a low nutritional value. This is worsened by quite high temperatures particularly in the Ruanje region and in the Enkeresuna where the vegetation dries up rapidly.

All the streams on the Meto group ranch are seasonal. There are a few pans, the most important one being at Empukani which provides water for a few months after the rains. During the rains the people and their animals get water from pot holes along the stream beds. There are 3 individual boreholes and one Kumpa community borehole. Some wells are also found at Kukuo, Laasur, Mishiye and Noonkinye. However, these wells frequently dry up. Many people get their water from Tanzanian springs like the Looretet, Olchorroibor, Lolarrashi, Entapitipi and others. These water facilities are quite far away and unreliable. The people living in Enkeresuna water their animals at points as far as 40 kilometres away, for example at Ilmarba wells. The Laasur, Kukuo, Noonkinye and the Mishiye wells dry up frequently.

According to key-informants the MRTC at Meto has fostered improved and commercially based livestock farming in the area. It has also introduced better subsistence cultivation methods. Many families have adopted the practice of cultivating small gardens where beans and maize are grown to supplement their diet. This is taking place at a fast rate and some areas like Olkiu which had not done this before are now doing so.

The problem of disease and pests is also quite dominant. East Coast fever, Black water, Foot and Mouth and many others have caused much loss of cattle in the years 1972-4 and 1982-84.

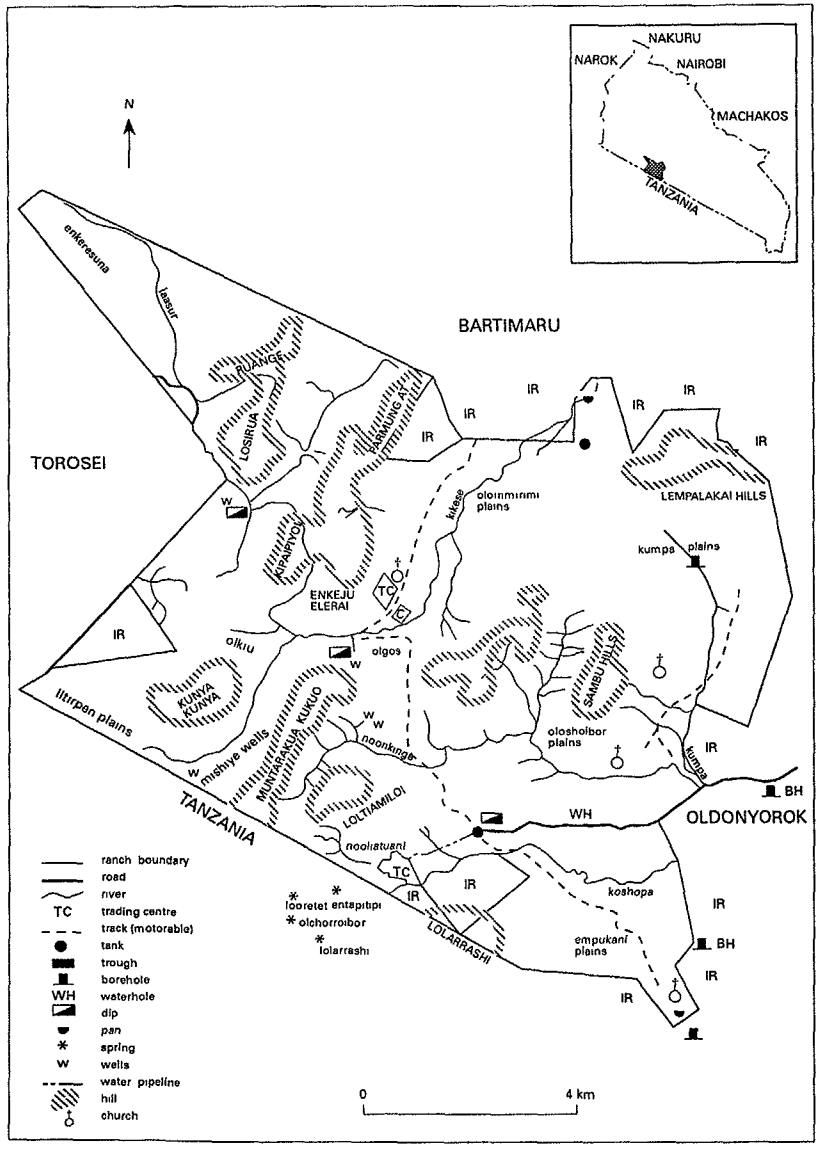

Figure 8.10 Meto Group Ranch

CHAPTER 9

PARTITION, TRANSFER AND MORTGAGE OF LAND IN SUBDIVIDED GROUP RANCHES IN KAJIADO DISTRICT

9.1 Introduction

In this chapter we will present quantitative data concerning the partition, transfer and mortgage of land in Olkinos, Embolioi, Empuyiankat, Kitengela and Poka subdivided group ranches. In addition, improvements made by the new private ranch owners will be discussed. Both issues are among the most important arguments used by opponents and supporters of individual landownership, respectively. A review of experiences of this process of changing communal into individually owned land among groups in other countries will also be presented.

The threat of and the actual sale of land is the most highly debated topic of today in Kajiado District (see e.g. Pasha 1986, Tobiko 1989a, Dietz & Rutten 1989, Kajiado Focus 1991a). For Olkinos and Embolioi we are able to relate the official land transactions with the characteristics of the households which we have collected and presented above to gain a better understanding of this subject. Developments taking place in areas of Kiboko, Elang'ata Wuas, Lorngosua and Meto not yet subdivided as well as on individually owned ranches will be used as a base of reference. Before turning to the outcome of this analysis, the legal procedures concerning the partitioning, selling and charging of land will be outlined.

9.1.1 Land Control Board Procedure

According to the Land Control Act, anybody wishing to subdivide, transfer or mortgage land in his or her possession has to obtain consent from the Land Control Board of the District. Land Control Boards are purely administrative bodies whose function is to grant or to refuse consent of particular transactions brought before them. They cannot and do not have the power to choose between competing purchasers for the same parcel of land. Land Control Boards have no power to alter contracts agreed upon between two parties.

Kajiado District has three Divisional Land Control Boards: the Purka Land Control Board covering Magadi and Central Division; the Oloolaiser Land Control Board for Ngong Division and the Loitokitok Land Control Board for the division of that name. The Board is headed by the Kajiado District Commissioner and its members are local Maasai leaders (e.g. councillors, chiefs, individual ranchers). Board members are supposed to be "watch guards" in helping the Boards to reach just decisions.

In principle the Purka Land Control Board has a meeting every month in Kajiado Town where the applicants present their cases. Applicants have to

show the title deed of the plot and explain the intention of the intended partition, mortgage or transfer of land to the Board The Board will not give consent if it is of the opinion that the parcel is too small to be split, if division would be into too many new parcels, too large a portion of land would be sold or the price offered was too low. Sometimes the head of the household is told to bring his family to the next Board meeting. If money had changed hands before consent from the Land Board was sought the transfer will be declared illegal and will not be accepted.

After consent for subdivision is obtained the owner presents this approval to the district or any other licensed surveyor who prepares mutation forms. After conducting the demarcation the forms are registered with the Land Registrar who issues new parcel numbers. The Land Control Board has to be consulted anew if the owner wants to transfer one of these partitioned parcels to a buyer or to his heir. If consent is obtained a transfer document is prepared and new title deeds issued by the Office of the Land Registrar. Transfers include selling and gifts mainly by inheritance.

Table 9.1 Kajiado District Lands Department Activities 1979-89

	1979	1984	1985	1986	1987	1988	1989
Ha registered ('000)	1,409	1,754	1,754	1,754	n f a	n f a	n.f.a
New titles	351	1,111	2,088	1,942	2,124	1,679	n f a
Subdivisions	104	304	359	334	434	498	724
Transfers	263	807	1,071	759	1,494	1,365	2,410
Leases	2	8	4	2	18	18	28
Charges	215	359	572	518	525	487	625
Lease certificates & title deeds issued	584	1,461	3,838	1,656	2,731	2,876	4,527

Source KDAR 1979 and 1980, KDDP 1988 139, MoL/AR 1989, Statistical Abstract 1982 and 1988

Note: new titles are mainly the result of subdivisions Title deeds and lease certificates are documents handed out to the rightful owner after payment of a fee

The amount of work for the Purka Land Control Board has risen enormously in the last years. In 1984 a total number of 164 cases (including renewed applications) for subdivision, transfer or charging of land were dealt with. This figure remained more or less the same for 1985 (203) and 1986 (187). In 1987, after subdivision started, it more than doubled to 398 requests. The following year it stabilized at 381 cases dealt with. Lastly, in 1989, another doubling occurred placing the total number of applications at 756.

By 1978 4,929 titles were registered in Kajiado District rising to as many as 18,918 titles by 1988. Most of these, however, are in the Ngong and Loitokitok regions. The issue of title deeds for the whole of Kajiado District is done by the Kajiado District Lands Department. The Department's work depends mostly on the land transactions approved by the three operative Divisional Land Control Boards and records received from the Land Adjudication Department (see table 9.1).

9.2 Land Actions Performed by the New Kaputiei Land Owners

9.2.1 Fragmentation of Parcels by the New Kaputiei Individual Ranchers

From table 9.2 we learn that since the Olkinos group ranch split up in September 1986 -subsequently followed by Embolioi, Empuyiankat, Kitengela and Poka group ranches- some 36.7 per cent out of a total of 757 new Kaputiei individual ranchers applied to further subdivide their privately owned parcel up until February 1990. In terms of the affected area this amounts to 34.7 per cent of former group ranch land. The average period for the 757 members during which they had the opportunity to apply for subdivision was only 30 months.

Reasons for applying for further subdivision were varied. In a number of cases subdivision was in order to acquire more title deeds which, if needed, could be inherited by the sons, widows, unmarried or divorced daughters. Another reason for subdividing a ranch was for obtaining a loan by using the land as collateral. Although the whole of the plot could be mortgaged a small part of the ranch is preferred as it avoids the risk of losing the entire parcel in case of a failure to meet loan repayments. Finally, subdivision is a condition for anybody wishing to sell part of his land. Tables 9.2, 9.3 and 9.4 provide an overview of the applications made to partition, transfer and mortgage land in the former group ranches of Olkinos, Embolioi, Empuyiankat, Kitengela and Poka, up to February 1990. Appendix 9.1 shows the maps of the latter ranches.

In principle, the Land Control Board will allow nobody to sell all of his land and become landless. Among the cases rejected were those with no rationale for subdivision or transfer, family members who were opposed to the idea, or others who had too small a parcel too small to be subdivided or sold. Still, several cases have been found in which original rejections were allowed later with or without amendments having been made. Some key-informants stated that most requests for subdivision are made for the sale of parcels and less for inheritance or for mortgage. This seems to be confirmed by the actions of the members of the earliest subdivided Olkinos group ranch. Some 68.5 per cent (37 out of 54 Olkinos members whose applications for subdivision were consented to) subsequently asked permission to *sell* one or more lots of their fragmented plot. Other acts undertaken by this group of 54 Olkinos farmers were the giving of gifts (5.6 per cent), mortgage (9.3 per cent) and further subdivision (1.9 per cent) leaving 14.7 per cent of them undertaking no action as yet.[1] From this it may be concluded that the primary requests for subdivision made to the Land Control Board are intended to enable the selling of one of the new titles rather for loan acquisition or inheritance.

[1] In addition three members charged the whole of their plot

Table 9.2 Applications for Partition of Original Parcels of New Kaputiei Individual Ranchers, February 1990

	Date ranch	Consented				Rejected				Pending				Dropped				Total applications			
	subdivided	nr	%	ha	%	nr	%	ha	%	nr	%	ha	%	nr	%	ha	%	nr	%	ha	%
Olkinos	sep 1986	54	46.6	2,748	45.6	3	2.6	91	1.5	7	6.0	327	5.4	0	0.0	0	0.0	64	55.2	3,166	52.6
Embolioi	nov 1986	57	19.1	4,899	20.4	1	0.3	93	0.3	12	4.0	891	3.7	4	1.3	445	1.9	74	24.7	6,328	26.4
Empuyiankat	mar 1987	29	29.6	4,716	30.9	1	1.0	113	0.7	6	6.1	824	5.4	1	1.0	146	1.0	37	37.8	5,799	38.0
Kitengela	feb 1989	71	45.3	6,509	35.6	2	0.9	113	0.6	25	11.7	1,876	10.3	1	0.5	111	0.6	99	46.3	8,609	47.1
Poka	aug 1989	3	10.0	921	10.3	0	0.0	0	0.0	1	3.3	315	3.5	0	0.0	0	0.0	4	13.3	1,236	13.8
Total		214	28.3	19,793	27.3	7	0.9	410	0.6	51	6.7	4,233	5.8	6	0.8	702	1.0	278	36.7	25,137	34.7

Note: the number of new parcels resulting from partitioned individual plots by the Maasai pastoralists range from two to seven. Some owners divided in one transaction whilst others subdivided in repeated steps to as far as into the third generation.

Table 9.3 Applications for Transfer of Parcels of New Kaputiei Individual Ranchers to New Owners, February 1990

	Date first	Consented					Rejected					Pending					Dropped					Total applications				
	application	mb	%	nr	ha	%	mb	%	nr	ha	%	mb	%	nr	ha	%	mb	%	nr	ha	%	mb	%	nr	ha	%
Olkinos	mar 1987	38	32.8	50$	596	9.9	2	1.7	2	32	0.5	6	5.2	6@	68	1.1	1	0.1	1	10	0.2	41	35.3	59	706	11.7
Embolioi	jun 1987	24	8.0	28#	657	2.7	1	0.3	1	8	0.03	12	4.0	12^	270	1.1	3	1.0	4	43	0.2	33	11.0	45	978	4.1
Empuyiankat	jul 1987	9	9.2	9*	533	3.5	0	0.0	0	0	0.0	9	9.2	9	198	1.3	0	0.0	0	0	0.0	17	17.3	18	731	4.8
Kitengela	jun 1989	13	6.1	15~	191	1.0	1	0.5	4	4	0.02	16	7.5	24"	336	1.8	2	0.9	2	69	0.4	30	14.0	42	600	3.3
Poka	n.a.	0	0.0	0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0	0.0	0	0.0	0	0	0.0
Total		84	11.1	102	1,977	2.7	4	0.5	4	44	0.6	43	5.7	51	872	1.2	6	0.8	7	122	0.2	121	16.0	164	3,015	4.2

$ 4 gifts of 92 ha; @ 1 gift of 2 ha; # 2 gifts of 103 ha; ^ 1 gift of 4 ha; * 1 gift of 20 ha; ~ 3 gifts of 33 ha; " 1 gift of 40 ha; mb = member. Excluding the gifts a total of 115 members (15.2 per cent) *applied* to sell 2,723 ha of land (3.8 per cent) to interested buyers.

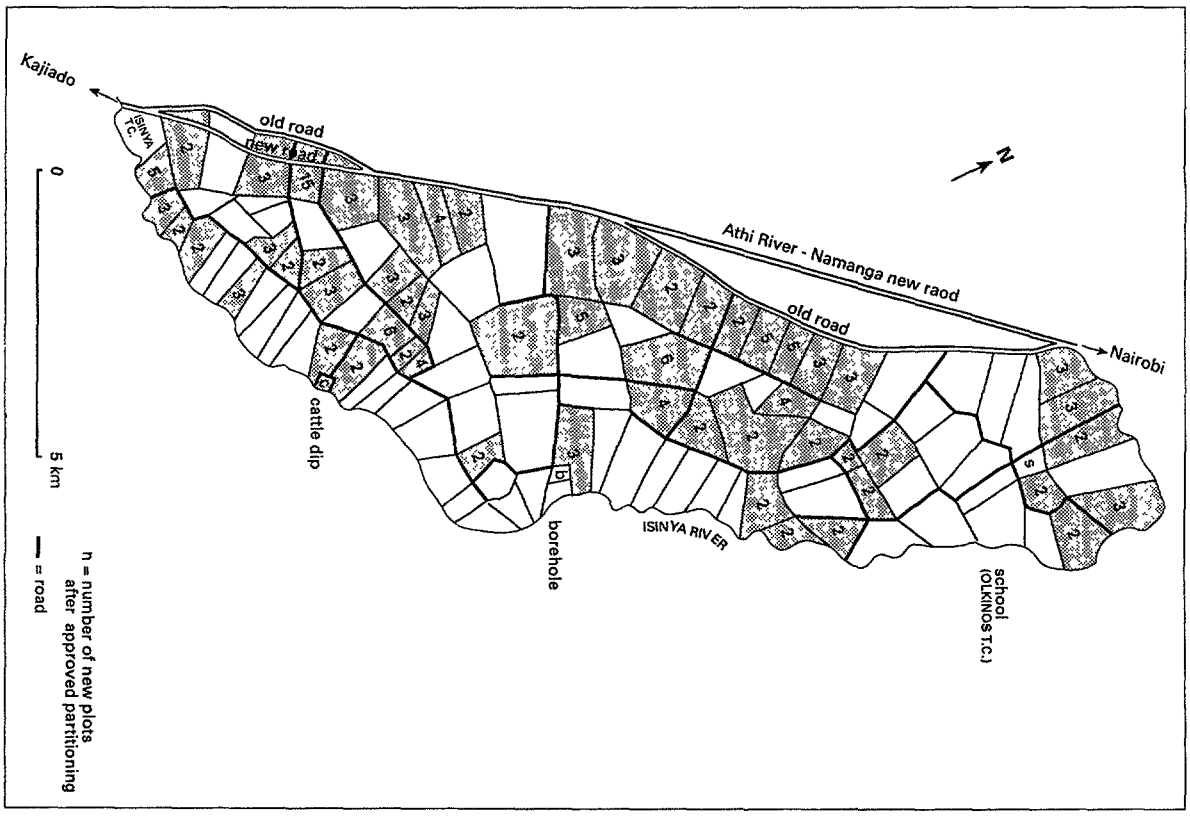

Figure 9.1 Olkinos Partitioned Parcels as at February 1990

Figure 9.1 shows the acceded fragmented parcels on the former Olkinos group ranch by February 1990. The map includes the ranches divided once as well as the parcels that were split, sold, fragmented anew and resold. Parcels as small as 1 acre can now be found in the Olkinos area. For example one rancher sold 25 acres, which was subsequently further subdivided in 15 portions of 6 acres (1), 2 acres (5) and 1 acre (9), and transferred to 14 immigrants.

9.2.2 Transfer of Land Among the New Kaputiei Individual Ranchers

After partitioning the individual ranch it becomes possible to transfer part of it to a willing buyer or an heir. Table 9.3 shows that 16.0 per cent of the new Kaputiei individual owners made the effort to fill in land transfer application forms and defend their requests before the Land Control Board. This happened within an average period of 25 months. By February 1990 11.1 per cent of the ranchers had obtained consent to transfer 1,977 ha of land, either as a sale or a gift, and this was 2.7 per cent of the total subdivided group ranch area. The willingness to transfer land on Kitengela group ranch is astonishing. One out of seven Kitengela ranchers applied to transfer part of the individual ranch within a short period of only 9 months!

Tables 9.4 and 9.5 provide information on the number of sellers, acreage, price and the ethnicity of the buyers for already acceded and pending transfers, respectively. So far 78 Maasai, equivalent to 10.3 per cent of the total number of former group members sold 1,728 ha or 2.4 per cent of their original group ranch land in return for Ksh. 18,525,205/-. In addition 39 people (5.2 per cent) are waiting for consent before selling another 823 ha for a total of Ksh. 9,907,000/-. In other words 110 ex-group ranch members (14.5 percent), have sold or are in the process of selling 2,551 ha or 3.5 per cent of former group ranch land at a price of Ksh. 28,427,205/-.[2] This is the equivalent of an average land price of Ksh. 11,144/- per hectare. On average, the households will have earned Ksh. 258,429/- from the sale of land. Figure 9.2 shows the Olkinos inhabitants who sold part of their land.

It should be noted that the sale of land does not have a constant pattern but is rather one of "boom and slump". This is illustrated by table 9.6. Apparently an initial selling out by those who want to do so is followed by others some time later. Pioneer sellers show up again after some time.

[2] Out of a total of 117 sellers (78 consented and 39 pending) seven sold land before and are waiting for consent to sell another portion, meaning that a total of 78 plus 32 members (110 members) are involved in the commercial transfer of former group ranch land. The seven second-time sellers come from Olkinos (4), Embolioi (2) and Kitengela (1). If we exclude Poka group ranch, as this ranch only recently subdivided, the percentage of members involved in commercial transactions rises to 15.1 per cent of the members and 4.0 per cent of the subdivided area.

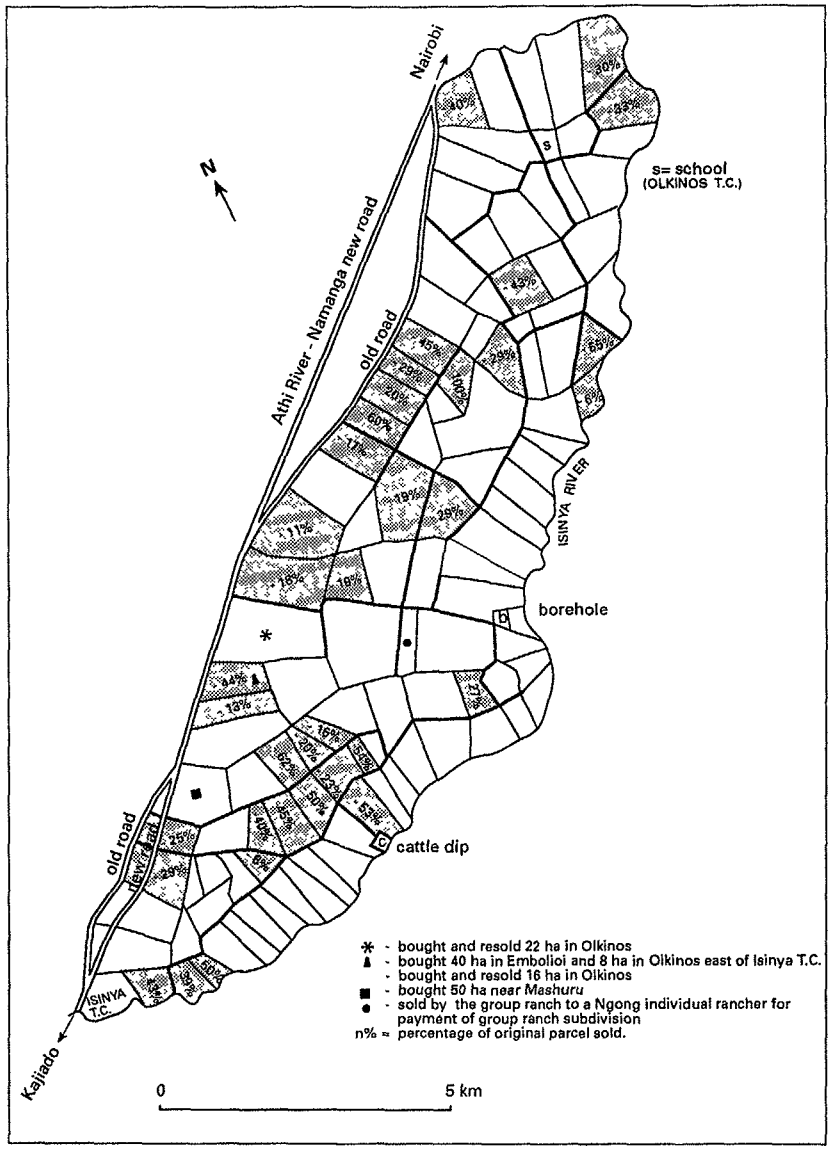

Figure 9.2 Olkinos Selling of Land as at February 1990

Table 9.4 Authorised Primary Transfers of Parcels to New Owners as at February 1990

	Total members	Total ha	Ha sold		Ha sold/month		Sellers			Ethnicity of buyers			
			abs	%	abs	%	nr	%	Ksh. earned	Maasai	ha	Non-Maasai	ha
Olkinos	116	6,020	504	8.4	14.0	0.23	36	31.0	6,497,000/-	9	136	37	368
Embolioi	299	24,000	554	2.3	15.5	0.06	23	7.7	5,728,000/-	8	259	18	295
Empuyiankat	98	15,270	512	3.3	16.0	0.10	8	8.2	3,330,000/-	2	122	6	390
Kitengela	214	18,292	158	0.9	17.6	0.10	11	5.1	2,970,205/-	5	68	7	90
Poka	30	8,926	-	0.0	-	0.0	-	0.0	-	-	-	-	-
Total	757	72,508	1,728	2.4			78	10.3	18,525,205/-	24	585	68	1,143

Note: gifts are excluded. The actual number of first-time buyers lies above the 92 mentioned because this figure only refers to the number of parcels sold and the ethnicity of the buyer. Non-Maasai in particular buy in small groups of 2-10 people. In contrast only a few buyers acquired more than one parcel.

Table 9.5 Pending Primary Transfers of Parcels to New Owners as at February 1990

	Total members	Total ha	Ha to be sold		Ha to be sold/month		Willing sellers			Ethnicity of buyers			
			abs	%	abs	%	nr	%	Ksh. to be earned	Maasai	ha	Non-Maasai	ha
Olkinos	116	6,020	66	1.1	1.8	0.03	5	4.3	1,120,000/-	1	4	4	62
Embolioi	299	24,000	266	1.1	8.1	0.03	11	4.0	2,589,000/-	3	63	8	203
Empuyiankat	98	15,270	198	1.3	6.2	0.04	8	8.2	2,712,000/-	2	32	7	166
Kitengela	214	18,292	293	1.6	32.5	0.18	15	7.0	3,486,000/-	2	8	20	285
Poka	30	8,926	-	0.0	-	0.0	-	0.0	-	-	-	-	-
Total	757	72,508	823	1.1			39	5.2	9,907,000/-	8	107	39	716

Note: gifts are excluded. Of the 39 applicants willing to sell land but whose case is pending, seven had previously sold another portion of their land.

Table 9.6 Authorised Selling of Land by Olkinos and Embolioi Ranchers in a Time Perspective

	1987*		1988		1989		1990#	
	Pers	Ha	Pers	Ha	Pers	Ha	Pers	Ha
Olkinos	7	98	16	234	13	128	5	44
Embolioi	4	193	7	141	12	220	0	0

*Olkinos (only 10 months) Embolioi (only 7 months) # January and February only; the Olkinos number of persons involved in selling totals 41 instead of 36 as shown in table 9.4 because of 5 ranchers who sold anew in another year.

Our main interest, besides the extent to which subdivision and selling occurred in the subdivided group ranches, was directed to the specific socio-economic identity of the seller. Would there be a specific group of Maasai involved in this practice of selling land? Which specific set of features could possibly be associated with the willing-seller type of Maasai individual rancher?

For Olkinos and Embolioi we now had the opportunity to link the personal and socio-economic characteristics of those who sold land and those who had not. Table 9.7 summarises the presence or absence of a correlation between the sale of land and a whole range of personal, household or plot characteristics of the Maasai ranchers of Olkinos and Embolioi.

Table 9.7 Correlations With Sale of Land (0.10 sign. level)[3]

Variable	Olkinos (n=108)	Embolioi (n=75)
Age	negative	negative
Education	negative	negative
Wealth (LE/AAME)	negative	negative
Main occupation	negative	negative
Plot size	negative	negative
Plot size/person	*positive*	negative
Committee member	*positive*	negative

Source: author's survey

[3] For Olkinos we found a correlation between the selling of land and class of wealth, though the significance level was above the 0.10 threshold (0.1165). A major problem in respect to the wealth variable analysis is that, often part of the money earned from the sale of land is used to buy livestock. Also, our wealth estimate (livestock per AAME) does not include possible other family fortunes. Wealth stored in a bank account or in capital assets is not included.

To overcome the first problem we tried to relate the group of sellers to numbers of livestock owned by them in early 1988 as recorded by the Livestock Census. For Olkinos a group of 10 sellers and 20 non-sellers could be traced from the original Census files. The average wealth figures for the group of sellers was 5.86 LE/AAME for January 1988 and 6.70 LE/AAME for January 1990. The group of 20 non-sellers, showed a similar trend in that their wealth was placed at a mean of 8.33 and 9.39 LE/AAME for 1988 and 1990, respectively. In other words, the group of sellers seems to be less wealthy than the non-sellers although with the data available now this cannot be statistically validated.

The above information suggests that age, education, wealth, main occupation or size of the plot are of no significance as far as the selling of land is concerned. Sellers of land can be found among the young, old, literate, illiterate, rich and poor alike. The involvement of all of these groups seems to reflect the broad range of viable logic behind the selling of land; acquisition of capital for investment in productive assets, expensive consumer goods or for sheer subsistence.

For Olkinos correlations were found to exists between the land availability per *household member* and the selling of land. The trend is that households increasingly sell land the more land per person is held in possession. However, among the group of most well-off land-holding households no one is involved in this practice. In this group of landowners the former committee-member households are over-represented. Thus there is a strong correlation between committee-membership and the dislike for the selling of land No former committee-member had sold a single piece of land from his own parcel by early 1990. Some, however, had bought land from another group ranch member and resold this shortly afterwards with a huge profit.[4]

9.2.3 Mortgage of Land By the New Kaputiei Individual Ranchers

Besides offering land for sale parcels are used as collateral when acquiring loans from a financial institution Table 9.8 summarises the amount of land mortgaged as well as the number and amount of the loans taken by the new Maasai individual ranchers

Table 9.8 Original Plot Owners Mortgage of Land to Financial Institutions as at February 1990

	Persons	%	Ha	%	Loan (Ksh)	Status
Olkinos (n=116)	7	60	346	57	1,055,000/-	consented
Embolioi (n=299)	6	20	349	15	2,273,000/-	consented
	1	03	49	02	70,000/-	pending
Empuyiankat (n=98)	no	land	mortgaged			
Kitengela (n=214)	2	09	132	07	400,000/-	consented
Poka (n=30)	1	33	319	36	300,000/-	consented
Total	16	21	1,146	16	4,028,000/-	consented
	1	01	49	01	70,000/-	pending

Source author's survey

[4] For instance, a former Olkinos committee-member bought 22 26 ha at Ksh 110,000/- and resold this piece to a Kikuyu buyer six months later for Ksh 220,000/-

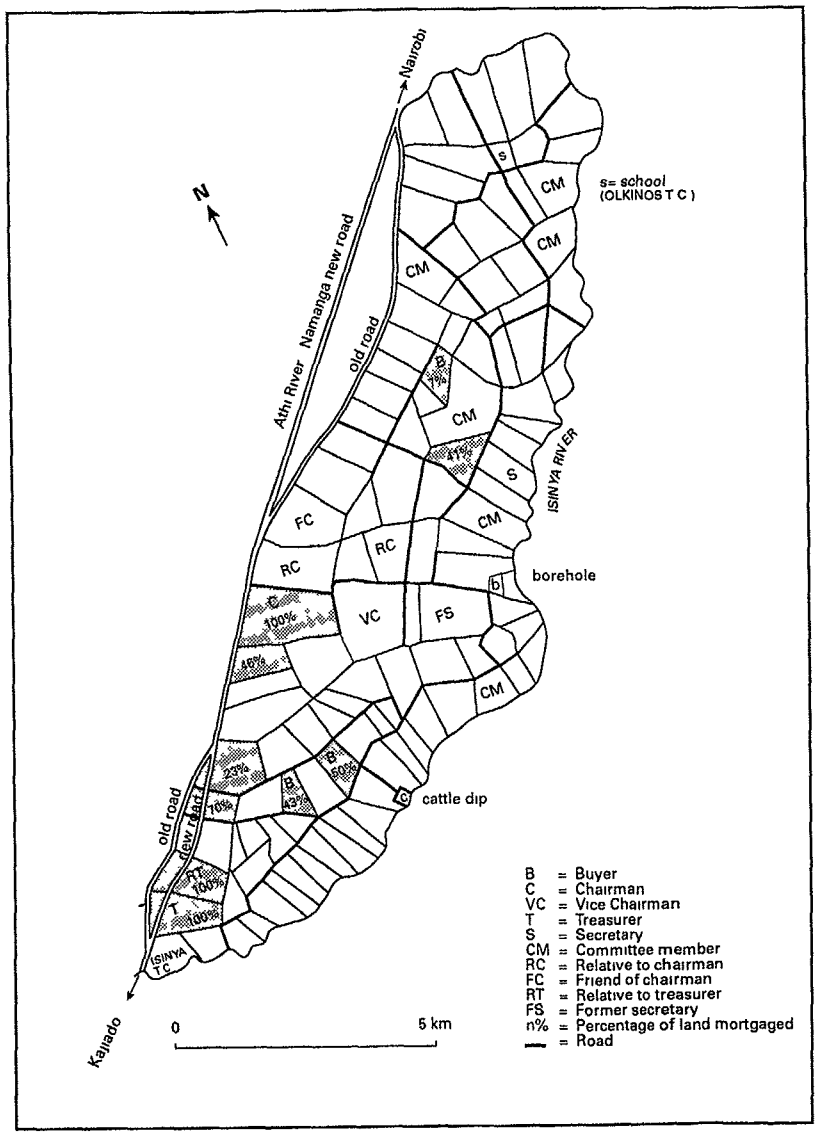

Figure 9.3 Mortgagees of Olkinos Land as at February 1990

Comparing the number of people and amount of land involved in mortgaging versus selling of land makes clear that the Maasai owners sell their land rather than use it as collateral to acquire money. Only 17 applicants (2.2 per cent) intend to or actually mortgaged 1,195 ha or 1.6 per cent of the area for a loan totalling Ksh. 4,098,000/-. Of this group two Olkinos ranchers had also sold land and one Embolioi rancher was willing to do so. It has been suggested that selling off land is a faster, less obstructive and more comprehensible way of acquiring money than mortgaging one's plot. Figure 9.3 shows the 7 Olkinos ranchers who took loans using their individually owned land as collateral.

It is thought that the low level of loans requested is partly due to the absolute or relative unavailability of funds but also to rejections by finance institutions, lack of familiarity with the procedures, high interest rates and fear of default among prospective borrowers. It is hard to know the relative importance of each of these factors. It seems, however, that most ranchers are simply not interested in obtaining credit. Loan rejection is estimated to be 15 per cent overall. Default among established individual ranchers is high. Also the relative unavailability (small sums of Ksh. 5,000-50,000 only) is said to be a handicap when a large loan is required.

Within our survey sample we found 5.6 and 1.4 per cent of the Olkinos and Embolioi population, respectively, stating they had mortgaged parts of their land. This corresponds quite well with the official land mortgagees percentages of 6.0 and 1.5 of the total population of these territories. On average mortgagees obtained some Ksh. 30,000/- per ha. Land mortgaged amounted from 20.0 up to 132.0 ha. Mostly Pan African Credit or the Kenya Commercial Bank provided the loan.

We were mainly interested to know if those taking up loans by mortgaging their land showed any special personal characteristics. For Olkinos a positive correlation between their main occupation, wealth and education in relation to the mortgaging of land was found. For the seven households who had mortgaged part of their land six heads of households had their main occupation in the public sector (two politicians and two civil servants) or were self-employed businessmen (one cattle traders and one shopkeeper). Only one person mentioned livestock keeping as his main occupation. Rich households and those whose heads of households had had a higher level of education were also over-represented within this group of mortgagees. It should be realized that it is not yet clear if these characteristics are themselves the impetus or whether they reflect the minimum requirements imposed by the lending institutions. Former committee-members are also strongly represented within the group of mortgagees. Their experience in dealing with loans will be a possible explanation for this.

None of the established individual ranchers or buyers in our sample stated that they had mortgaged land. However, a large number of individuals within both of these groups stated that they had obtained a loan without using their plot as collateral (see table 9.9).[5]

In other words, individualization as such does not seem to have resulted in a boom in loans taken up by the ranchers. Property located elsewhere or a well paid job could also be used for the acquisition of a loan. For Olkinos, Maasai having their main occupation outside the livestock sector such as businessmen, politicians and civil servants are now the only people responsible having a loan and the only ones willing to take a new one. Among those ranchers who had had a loan in the past the committee-members are strongly represented.

Table 9.9 Past, Present and Future State of Loans Among Respondents

	Percentage of persons having a loan by 1990	Date 1990 loan issued		Former loans (repaid before 1990)	Persons wanting to take a loan
		since 1987	before 1987		
Olkinos (n=108)	6.5	85.7	14 3	0.0	16.2
Embolioi (n=75)	13.9	75.0	25.0	6.6	14.3
Kiboko (n=38)	2.8	100.0	0.0	5.3	11.1
Elang'ata Wuas (n=75)	4.1	66.7	33.3	5.3	19.2
Lorngosua (n=100)	1.0	100.0	0.0	3.0	24.2
Meto (n=104)	1.0	100.0	0.0	0.0	13.5
Individual ranchers (n=33)	42.2	20.0	80.0	38.2	15.6
- Kaputiei (n=14)	21.4	0.0	100.0	14.2	0.0
- Loodokilani (n=8)	50.0	0.0	100.0	33.3	12.5
- Matapato (n=11)	63.6	66.7	33.3	72.7	36.4
Buyers Olkinos (n=9)	11.1	0.0	100.0	11.1	11.1

Source: author's survey

Embolioi shows a different situation. Of ten current Embolioi borrowers (i.e. including those having a loan without mortgaging land) seven stated their main occupation to be livestock keeping. This ratio is more or less congruent with the Embolioi overall employment characteristics. Still, taking into account the main occupation of the Embolioi previous and willing borrowers, totalling 5 and 11 persons respectively, the non-livestock sector is slightly over-represented among the group of (willing) borrowers. Otherwise no special group involved in money-borrowing practices was found among the new individual ranchers.

Meto and Elang'ata Wuas group ranch members seem to underline the favourite position of the rich and educated as the people specifically stated to be willing to borrow in the near future. In Elang'ata Wuas the Maasai of 20 to 40 years of age are among the most interested in acquiring a loan. Among buyers and established individual ranchers there is no significant distinct group of Maasai involved in money-borrowing.

[5] Buyers involved in speculation, however, did use their newly acquired plots to obtain a loan.

9.3 Land Buyers Personal Characteristics and Land Actions

In this section we will deal with the activities of land buyers in the Kaputiei area in more detail. In chapter 8 information concerning ethnicity, household size, livestock wealth and ownership of land for our small sample of buyers of Olkinos land was presented. Now we would like to have a slightly broader look at this group of land seekers. We will specifically study their motives and objectives for buying land in Kajiado District. In addition, we will present their subsequent land transfer activities after having acquired their own parcel of land in the district.

Table 9.10 Characteristics of Olkinos Parcel Buyers

Ethnicity	Origin	Residence	Age	Education	Main occupation	Land used for	Other
Maasai	Empuyiankat	Nairobi	25	Secondary	Subordinate Nairobi University	Livestock, cultivation	wife is teacher in Olkinos
Maasai	Kisaju	Olkinos	45	Primary	Veterinary officer	Livestock, cultivation	wife runs shop and makes handicrafts
Maasai	Kiserian	Olkinos	32	Primary	Pastoralist	Livestock, cultivation	
Kikuyu	Kiambu	Olkinos	67	Secondary	Retired church minister	Poultry keeping	keeps 2,000 chickens
Kikuyu	Ngong	Olkinos	58	Secondary	Retired civil servant	Cultivation	uses tractor, market crops
Kikuyu	Nairobi	Olkinos	40	University	Engineer	Cultivation	wife (NGO-worker) and children in Nairobi
Kikuyu	Ngong	Olkinos	54	Primary	Cultivator	Cultivation, poultry keeping	200 chickens, children schooling in Ngong
Kikuyu	Kiambu	Nairobi	67	Primary	Parastatal employee	Cultivation	hotel and *shamba* in Kiambu
Kikuyu	Kiambu	Nairobi	70	None	Cultivator	Cultivation	children in Kiambu

Source: author's survey

Information presented in chapter 8 refers to those buyers who had actually settled on their newly acquired land. Of 9 buyers interviewed in the Olkinos area 3 were Maasai and 6 non-Maasai. Table 9.10 summarises some relevant details concerning the buyers' background such as ethnicity, place of origin, residence, age, education, main occupation and use of newly acquired plot.

The information provided in table 9.10 for settled buyers suggests that these are not the most poor of Kenya's society. Moreover, as stated by some of the elders, they receive financial support from their children. None of the Kikuyu kept livestock. It has been suggested that fear of cattle rustling by the Maasai was preventing them from doing so. As stated before, most buyers of Olkinos territory had not yet settled at the time of survey. A generalization of the characteristics of the settled group will therefore be a rather biased picture of the buyers in Kajiado District.

In the tables 9.4 and 9.5 facts concerning land dealings for all buyers from Olkinos and other group ranches were presented. Although we lacked details about the level of education, age, main occupation and the like, ethnicity was known and any subsequent action taken in respect of the fragmentation, transfer or mortgage of land. Key-informants were able to provide some background information on this group of buyers both Maasai and non-Maasai.

Out of a total of 37 plots sold to non-Maasai on Olkinos group ranch all but 6 were acquired by Kikuyu. Two land-buying companies, 2 Kamba, 1 Kalenjin and 1 Arab also bought land. The latter was said to have plans for small industry. Among the Kikuyu buyers were rich businessmen, civil servants and some less well-off. The Maasai who bought 9 plots in Olkinos were mostly former Olkinos group members, individual ranchers, civil servants and local politicians.

Among the 8 Maasai buyers of land in Embolioi were a local hotel-owner, a teacher, a Land Control Board member and some individual ranchers. A total of 18 plots was sold to non-Maasai. Only one Indian was among the group of otherwise Kikuyu buyers. This man had settled and cultivated beans mainly. In fact, Embolioi is better-known for its (informal) selling of land to Indian gypsum miners. Most of these are Indians living in Nairobi who 'buy' land per acre for some Ksh. 10,000/- to Ksh. 20,000/-. The acquired plots are exploited in their strip mining business using bulldozers and shovels.[6]

[6] Gypsum (hydrated calcium sulphate) is a basic ingredient in the cement industry, in fertilizers, in plaster materials and the like. Production in the area started in 1968 (see TARDA 1984:33). By early 1985 it was estimated that some 2,000 acres had been laid to waste (see KT 28/03/85). In an earlier article the estimate presented had been only 70 acres (see KT 28/11/84). Local workers receive some Ksh. 30/- to 50/- per day, depending on their productivity. On a monthly basis people may make up to Ksh. 1,500/-. By the mid-1980s land was leased for some Ksh. 130/- to 150/- per day (see KT 28/11/84). The Indian miner managed to get some Ksh. 1,000/- to Ksh. 1,500/- per tons, of which some 10 per cent was paid to the then still-functioning Embolioi group ranch (see KT 28/03/85).

The major negative aspect of this work is that it turns the pastures into wastelands of waterfilled low depressions, dotted by rocky, man-made hills. Ironically, Embolioi Maasai themselves are involved in this practice by offering their labour to sift through the soil to collect pieces of gypsum. Some residents do not bother so much about the environmental degradation because the basins act as small pans. The animals, however, do not seem to like the collected water from these depressions so much as it is too salty.

In Empuyiankat all non-Maasai buyers were Kikuyu with one woman buying three parcels. None of them had settled by that time. Authorisation was given to the sale of land in Kitengela and that was also mostly sold to Kikuyu in the event.

The relationship of cultivators with the soil is much more direct than for pastoralists. In fact, for the latter, digging the earth is a sign of poverty. In contrast cultivators actually work the soil and directly use the produce grown from it.

Davison (1987:19) quotes a Kikuyu woman stating that "Without land we are nothing". She recalls, how prior to British involvement, land among the Kikuyu was perceived as a sacred, generative resource belonging to their ancestors. The introduction of land registration (i.e. the Swynnerton Plan) during the 1950s resulted in a precedence of individual landownership vested in males heads of households which marginalized the usufruct rights of women. Only after Independence were women allowed to own land. With the recent introduction of land sales in the Kikuyu area women began to worry about land security and tensions between neighbours and even family members erupted over land. The unconditional provision of credit for land purchase was proposed to ameliorate this situation (see Davison 1987:26). In addition to land as a necessary resource for making a living, several writers and key-informants mentioned the aspect of a certain obsession among the Kikuyu for acquiring land at all costs as land is considered to be the only true indication of wealth.

In the Ngong area, Kikuyu women groups are also active, as land buyers. Maas (1986:29-52) has reported for a Kiambu Kikuyu women group stating that "it's always a good thing to have land". Initially, the group worked together to improve their houses After that almost all the group's income was invested in the acquisition of land. However, this was not used for farming purposes. According to Maas the group was simply investing money in land for status and speculation and as a security for old age. This last reason was mostly to strengthen the position of the women within their families (vis-à-vis their daughters mainly) and to lessen their dependence on their sons and daughters-in-law.

Out of the 46 plots bought in Olkinos 6 have been further subdivided into 30 new plots. Tables 9.11 and 9.12 provide information about the actions taken by the buyers of land concerning the juridical status of their newly acquired plots.

Table 9.11 Authorised Partitioning, Transfer or Mortgage of Land by Buyers as at February 1990

Location	Ethnicity	plots bought		Consented Subdivisions				Consented Transfers					Consented Mortgage			
		nr	ha	pers	plot	ha	nn plots	pers	plot	ha	Ksh	buyer*	pers	plot	ha	Ksh
Olkinos	Maasai	9	136	1	1	44	2	2	2	38	520,000/-	2 nm	2	2	32	460,000/-
	Non-Maasai	37	368	5	5	68	28						1	1	2	300,000/-
Embolioi	Maasai	8	259										2	2	53	880,000/-
	Non-Maasai	18	295	1	2	68	17	1	4	16	150,000/-	4 nm				
Empuyiankat	Maasai	2	122													
	Non-Maasai	6	390	1	3	228	44	1	3	7	44,000/-	3 nm	1	1	37	150,000/-
Total	Maasai	19	517	1	1	44	2	2	2	38	520,000/-	2 nm	4	4	85	1,340,000/-
	Non-Maasai	61	1,053	7	10	364	89	2	7	23	194,000/-	7 nm	2	2	39	450,000/-

* nm = non-Maasai Kitengela buyers have not yet applied for further subdivision, transfer or mortgage of their newly acquired land Poka members have not yet sold land No application has been dropped or rejected

Table 9.12 Pending Partitioning, Transfer or Mortgage of Land by Buyers as at February 1990

Location	Ethnicity	plots bought		Pending Subdivisions				Pending Transfers					Pending Mortgage			
		nr	ha	pers	plot	ha	nn plots	pers	plot	ha	Ksh	buyer*	pers	plot	ha	Ksh
Olkinos	Maasai	9	136					2	2	40	850,000/-	2 nm				
	Non-Maasai	37	368					2	2	21	440,000/-	2 nm	1	1	4	100,000/-
Embolioi	Maasai	8	259													
	Non-Maasai	18	295	1	1	24	6									
Empuyiankat	Maasai	2	122													
	Non-Maasai	6	390													
Total	Maasai	19	517					2	2	40	850,000/-	2 nm				
	Non-Maasai	61	1,053	1	1	24	6	2	2	21	440,000/-	2 nm	1	1	4	100,000/-

* nm = non-Maasai Kitengela buyers have not yet applied for further subdivision, transfer or mortgage of their newly acquired land Poka members have not yet sold land No application has been dropped or rejected

Second time transfers had also occurred as two Maasai owners resold their newly purchased parcels to new non-Maasai buyers. Three people mortgaged their land.

So far 8 new owners in Olkinos, Embolioi and Empuyiankat subdivided 11 plots totalling 408 ha into 90 new ones. They furthermore resold 9 plots or 61 ha and mortgaged 6 parcels totalling 124 ha. It therefore seems that, for the moment these new buyers prefer to mortgage twice the amount of land that they would offer for sale. Apparently, selling for speculative reasons is not much done. However, when analyzing the pending transfers and mortgages another picture emerges. An extra total of 61 ha is being offered for sale while only 4 ha is being offered as collateral for a loan. In other words, selling and mortgaging seems to be equally frequently performed practices among the group of primary buyers. As we have seen this is quite different from the initial (Maasai) sellers.

Besides those seeking a quick fortune by way of speculation (some Maasai, an Empuyiankat Kikuyu women and land-buying companies mainly), the majority of the buyers seem to be land conscious and development oriented, Maasai and non-Maasai alike. In fact, some of the Maasai who sold only recently purchased land used their profits to invest them in acquiring double this amount of land. Within our sample of 9 buyers the Maasai from Kiserian offered his 50 acres to a willing Indian buyer at a price of Ksh. 700,000/- in February 1990. This parcel of land had been bought from an Olkinos resident in March 1988 for only Ksh. 150,000/-!

To illustrate this land-consciousness we could also refer to the construction of the Kiserian-Isinya road. Among Maasai politicians a quarrel emerged when one of them tried to change the initial plans and redraw the road's location to run closely along his parcel of land. Others backed by a Maasai government top-official, opposed this move. Now the road trespasses over land recently bought by the latter. In this way the development of the plot or its eventual sale will be much more profitable!

Unfortunately, the original Maasai landowners had underestimated the value of what they had once owned. Let us have a look at the use they made of the money they had obtained from these sales.

9.4 Use of Loans and Money Obtained from the Sale of Land

A most interesting issue was to acquire information concerning the utilization of the proceeds of the sale of land and loans taken. Would the Maasai involved indeed devote this money to productive investments? Do differences exist between sellers and mortgagees? Did Maasai or non-Maasai buyers invest in the same way? Or was the money used for other purposes, possibly even outside Kajiado District?

Information from key-informants had made clear that analyzing these issues would be a difficult exercise. In addition to the usual reluctance to open one's books on monetary dealings, the overall disapproval of land sale repeatedly aired by a number of individuals and institutions outside and within the Maasai society has given this practice a stigma. Those land-selling Maasai who rather consumed the proceeds instead of making structural improvements on their ranch would not be very willing to show their records.

Table 9.13 clearly shows that, after individualization, increasing numbers of Maasai ranchers in Olkinos, Embolioi and established Kajiado individual ranchers alike made improvements after the individualization of landownership.[7] In Olkinos, for example, the percentage of people involved in infrastructural improvements rose from 21 to 56 per cent of all Olkinos ranchers. Embolioi group ranch percentages rose from a mere 8 to 45. Those ranchers who did not make improvements after obtaining their own parcel mostly stated a lack of financial resources or the fact they had not yet settled. Among the group of buyers a similarly high percentage of infrastructural improvements made could be observed. Unfortunately, we lack detailed information concerning the construction of facilities by individuals on the ranches not yet subdivided.[8]

Table 9.13 Extent of Improvements Created by Individual Ranchers

	Olkinos (n=108)		Embolioi (n=75)		Ind ranchers (n=34)		Kaputiei (n=14)		Loodo-kilani (n=9)		Matapato (n=11)		Buyers (n=8)
	b	a	b	a	b	a	b	a	b	a	b	a	a
Improvement (abs)	23	60	6	34	7	30	0	12	2	7	5	11	7
Improvement (%)	21	56	8	45	21	88	0	86	22	78	45	100	87.5
Reason for no improvement													
- lack of finance	12.6		43.7		0.0		0.0		0.0		0.0		0.0
- lack of knowledge	1.1		0.0		0.0		0.0		0.0		0.0		0.0
- just or not yet settled	22.1		4.2		0.0		0.0		0.0		0.0		100.0
- no interest	2.1		5.6		0.0		0.0		0.0		0.0		0.0
- not applicable	62.1		46 5		100.0		100.0		100.0		100.0		0.0

Source: author's survey
b = before individualization; a = after individualization

[7] It should be clear that the figures do not give information about the total number and kind of improvements made. Moreover, they do not show the total number of farmers who made an improvement over both periods. The main aim is to show the change in the relative number of ranchers involved in establishing one or more improvements before the time of subdivision as compared to after subdivision

[8] It is known that two groups of Meto Maasai of 4 and 8 people, took the initiative of drilling a borehole. Some opposition existed to this as it was feared that land was being claimed before the process of subdivision was to start. Still, all group members now make use of the boreholes by paying a small fee.

Table 9.14 Correlation of Infrastructural Improvements Made Before and After Subdivision with Sellers and Mortgagees Versus Non-Sellers and Non-Mortgagees

		Olkinos		Embolioi		Olkinos		Embolioi	
Land		Sold		Sold		Mortgaged		Mortgaged	
Improvements made		yes	no	yes	no	yes	no	yes	no
Before	Yes	6%	12%	1%	4%	5%	18%	0%	5%
	No	34%	48%	14%	81%	2%	75%	1%	94%
After	Yes	24%	20%	10%	34%	7%	31%	1%	40%
	No	16%	40%	5%	51%	0%	62%	0%	59%

Source: author's survey

Note: the group of non-sellers excludes ranchers who mortgaged land. The group of non-mortgagees excludes the sellers.

Confronted with the increase in the implementation of improvements, we are interested to evaluate the effect of the title deed by comparing sellers and mortgagees with non-sellers and non-mortgagees (see table 9.14).

For both groups, sellers and non-sellers, an increase can be recorded in the number of ranchers who made improvements. For example, for Olkinos 18 per cent of the ranchers -excluding mortgagees- made an improvement. After subdivision this increased to 44 per cent. However, the rise in Olkinos ranchers involved in improvements is significantly higher among the group of sellers. Before subdivision they made up 33 per cent of the improvers or 6 per cent of all ranchers. Afterwards this rose to 55 per cent or 24 per cent of all ranchers. For the group of Olkinos mortgagees a less clear picture emerged. Although overall the number of people involved in improvements grew from 23 to 38 per cent, the relative portion of mortgagees did not (notably).

For Embolioi ranchers in particular the effects of selling on possible improvements made is also questionable. The relative position of the sellers before and after individualization stands at 20 and 22 per cent of the group of people who invested in improving the infrastructure. For Embolioi mortgagees these figures were 0.0 and 2.5 per cent. In other words, non-sellers and non-mortgagees seem, in general, to be just as development oriented.

Table 9.15 Source of Finance for Infrastructural Improvements (abs)

Source of finance	Olkinos (n=108)	Embolioi (n=75)	Ind. R. (n=34)	Kap. (n=14)	Loo. (n=9)	Mat. (n=11)	Buyers (n=8)
Improvements (ex. fence)							
1. own capital	63	38	52	24	6	22	13
2. loan	8	0	14	7	0	7	0
3. selling of land	23	4	12	12	0	0	0
Fence							
1. own capital	10	9	4	3	n.a.	1	5
2. loan	2	0	2	2	n.a.	0	0
3. selling of land	10	1	3	3	n.a.	0	0

Source: author's survey

Table 9.15 shows the sources of finance used for the improvements. A similar, if not even more important question concerns the kind of infrastructural improvements made. Are these investments those to increase the carrying capacity of the ranch such as pans, boreholes or fences? Table 9.16 presents an overview of the number of ranchers who constructed such facilities.

Table 9.16 Infrastructural Improvements Before and After Individualization

	Olkinos (n=108)		Embolioi (n=75)		Ind. ranchers (n=34)		Kaputiei (n=14)		Loodo-kilani (n=9)		Matapato (n=11)		Buyers (n=8)
	b	a	b	a	b	a	b	a	b	a	b	a	a
No improvement	85	48	69	41	27	4	14	2	7	2	6	0	1
Modern house	16	51	2	31	2	23	0	11	1	5	1	7	7
Pan	2	10	0	5	2	21	0	9	0	4	2	8	0
Tank	4	8	3	1	1	18	0	10	0	2	1	6	6
Water pump	1	3	1	0	0	4	0	4	0	0	0	0	0
Borehole	0	0	0	0	3	8	0	1	1	1	2	6	0
Wells	0	0	0	0	2	0	0	0	0	0	2	0	0
Dip	0	0	2	1	3	11	0	6	1	1	2	4	0
Sprayrace	17	17	0	1	1	4	0	2	0	0	1	2	1
Fence	7	22	0	10	0	8	0	6	0	0	0	2	5

Source: author's survey

b = before individualization; a = after individualization

figures refer to the absolute number of respondents involved in the construction of a particular kind of facility. The total number of improvements will be slightly higher as some people erected, for instance, two modern houses.

For the majority the building of a modern house seems to have been the most favoured endeavour. Fences -for *shambas* mainly- sprayraces and pans followed though some way behind. Boreholes were not erected, the costs involved being probably too high.[9] In contrast, the established individual ranchers were in a much better position in respect to the supply of water and dips alike.

The group of buyers mostly invest in fences and tanks. Their small plots allow them to do so more easily. Watertanks are used for human consumption and the roofcatchments of their newly erected modern houses are used to fill these tanks.

In other words, as far as the Olkinos and Embolioi Maasai are concerned, it can be concluded that the apparently positive effect of group ranch subdivision in respect of the amount of infrastructural improvements should be diluted to

[9] Drilling a borehole costs some Ksh. 220,000/-. Additional funds are needed for a pump (Ksh. 96,000) and diesel. Moreover the risk of failure exists. Fencing a 40 ha plot with barbed wire and poles will cost some Ksh. 150,000/-. If all neighbours participate this sum of money could at best be halved. For erecting a modern house one needs some Ksh. 100,000/-.

some degree as most investments in infrastructure are in consumer facilities such as modern houses and less in dips or boreholes.

Among the group of Olkinos ranchers who made improvements before subdivision, mortgagees of land and wealthy (stratum III) livestock owners were over-represented (see table 9.17). Some 66.7 per cent of the mortgagees had made some improvement before subdivision. More specifically all of them had dug a pan, whereas among the group of non-mortgagees, no-one had. For Embolioi these relationships could not be confirmed.

Table 9.17 Statistically Significant Correlations Between Improvements Made and Household Characteristics, Olkinos (per cent)

	Olkinos before subdivision		Olkinos before subdivision			Olkinos after subdivision		Olkinos after subdivision		Olkinos after subdivision	
	mort-gage	non-mortgage	str. I	str II	str. III	school	no school	land seller	non-seller	pastoral	non-pastoral
All impr.	66.7	9.9	16.7	10.3	31.0	61.1	37.0	60.0	38.2	-	-
Fencing	50.0	3.9	-	-	-	37.0	11.8	32.6	12.3	-	-
Pan	100.0	0.0	-	-	-	7.7	0.0	-	-	9.7	0.0

Source: author's survey
Note: "All improvements" includes, houses, boreholes, pumps, dips, sprayraces, wells, tanks, pans, dams but excludes fences.

When considering the effected improvements after subdivision we can see that Olkinos sellers of land were over-represented among those who made an improvement on their ranch. This group was also mostly involved in fencing. This is also the case for those who built a house (37.2 per cent of the sellers as compared to 23.4 per cent of the non-sellers). This latter relationship was, however, not significant. Olkinos ranchers who constructed a pan after subdivision can mainly be found among the educated and those Maasai having their main occupation outside pastoralism. Before subdivision this was mainly done by those ranch members who, after subdivision, mortgaged their land (i.e. mainly committee members). For tank constructors no special group was found.

For Embolioi the group of non-educated Maasai was most significant among those who invested in some kind of improvement after subdivision. This relationship was also found to be significant for the erection of a fence after subdivision. Before subdivision the group of "non-pastoralists" was mostly involved in this latter aspect.

The relations sketched above can also be specifically viewed from the angle of those who fenced, sold or mortgaged land. It has often been propagated that the fencing of rangelands would start a shift towards the capitalization of livestock production and include a process of intensification resulting in higher productivity.

So far, Olkinos and Embolioi members have not fenced their ranches. Enclosures have been erected only for *ol-okeri* and *shamba*. Olkinos ranchers who fenced after subdivision are mainly among the group of educated Maasai and land sellers. For Embolioi this latter relationship was not found to be statistically significant. Instead, ranchers who were occupied outside the livestock sector were mostly among the group of fencers. This relationship was also valid for the group of educated Embolioi heads of households. The single correlation found between Olkinos after-subdivision-fencers and infrastructural improvements made was in the construction of pans (10 per cent of the fencers did so, whereas none of the non-fencers did). Two out of six before-subdivision-fencers constructed a tank whereas none of the non-fencers. For Embolioi none of these relations were found.

With respect to sellers and mortgagees of land and infrastructural improvements made it was found that the Olkinos mortgagees were over-represented in before-subdivision construction of pans and fences. After subdivision the group of Olkinos sellers were mainly seen among those who constructed some kind of improvement and fencing.

We now come to a review of the spending of money for other than infrastructural improvements. In chapter 8 we already mentioned ranchers using the proceeds from the selling of land to buy livestock instead of destocking their ranch (see section 8.4.3). In the words of an Olkinos rancher who remarked that he had been lucky to have procured some land at the time of the group ranch's subdivision, 'I feel I should sell part of my land to buy animals, cultivate a piece of land and finally get married'. He had already found some willing buyers but the selling process was still proceeding.

Another Olkinos landowner involved in the cattle trekking business on the route from Emali to Ngong livestock markets said he wanted to sell all of the plot and leave the area. The same intention was aired by an Olkinos medicine man and his brother both roaming in Maasailand. Two other brothers of these men had sold land and ended up drinking beer in Isinya pubs. Another Olkinos respondent admitted that he had sold land to use the money for drinking.

This practice of selling land and misusing the proceeds is often criticized. For example, one Maasai observer stated 'we are selling land but instead of developing the remaining portion, we rush to buy Peugeots which are parked at bars, awaiting to take home the owner after "gulping" the proceeds from land transactions. The vehicle may drive you home or equally to death' (see Kajiado Focus 1991a:10).

This statement does not stand alone and has also been aired by key informants within the Maasai society, officers within the Ministry of Livestock Development and by the national newspapers (see e.g. DN 15/01/87 and Standard 31/08/87). In some cases the Land Control Board has told applicants for land transfer to disappear and apply anew the moment they were sober. Another Olkinos Maasai, coming to grasp the finite character of the amount of

land that could be sold, offered the same portion of his land to various people. He was ordered by the Purka Land Control Board to stop this practice. To avoid getting involved, Maasai sometimes illegally "sell" their land without going through the Land Control Board procedures (see DN 23/01/87). Once the buyer realises his position he needs a lot of time and effort to recover his frequently squandered money. Nonetheless, sometimes he will succeed or even end up as the legal landowner as a compensation for the money lost! Some key-informants stated that potential buyers sometimes followed this strategy on purpose.

We tried to check the complaint about "buying cars" by analyzing the number of cars in possession and the time of their purchase. Table 9.18 shows the percentage of respondents for each of the survey locations, including the total number bought -some owned more than one car.

Table 9.18 Ownership of Cars and Time of Purchase

	Persons (%)	Cars	Purchased within last 2 years	Purchased more than 2 years ago
Olkinos	11.1	19	9	10
Embolioi	8.0	6	5	1
Kiboko	5.3	2	1	1
Elang'ata Wuas	4.0	3	0	3
Lorngosua	1.0	1	0	1
Meto	1.0	1	0	1
Individual ranchers				
- Kaputiei	64.3	9	3	5
- Loodokilani	55.6	10	2	5
- Matapato	63.6	7	1	6
Buyers	44.4	4	0	4

Source: author's survey
Note: information for time of purchase is lacking for some of the Kaputuei and Loodokilani cars.

The favourable position held by the established individual ranchers is clearly shown. Whereas Olkinos members did possess a reasonable number of cars before the first sale of land, Embolioi car ownership is of more recent date. However, by correlating the land sellers with the recent car owners, no valid relationship could be found. Most car owners belong to the "rich" wealth stratum.

Land held under private ownership was seen as a prerequisite, or at least a major incentive for raising consciousness concerning responsible use of resources. Improved range management by destocking the ranch, the introduction of rotational grazing, the burning of the pastures, the planting of trees and the growing and provision of extra feed was expected to be increasingly implemented. Table 9.19 shows that the percentage of ranchers who applied these improvements before and after the start of subdivision (i.e. 1987) is very modest. Burning pastures to get rid of ticks and eradicate shrubs

and poor grasses which will then be replaced by young fresh herbage was feared for the possibility of things getting out of control or for a failure of the rains.

Sena (1990:67) has argued for the planting of belts of trees and the growing of napier grass as supplementary feeding. Potter (1989:14-18) questions this latter option as he does commercial reseeding and hay-making. Instead *in situ* ranch conservation and the planting of sorghum should provide additional sources of fodder. Commercial feeds are too expensive and will result in unprofitable holdings, especially for beef cattle. Only strategic supplementary feeding to female cattle of 1-2 kg per day during the post-calving period could ensure reconception as soon as possible. Improved breeds could also be supported in this way. These have a rather poor tolerance of the conditions in Kajiado District so, to raise the likelihood of their survival, they could be given a high quality diet (see Potter 1989:18). Mention has been made of the option of mixing in chicken dung as a means of extra feeding (see van Klinken Conf. file paper. A more detailed account of processes of intensification and diversification of the Maasai livestock economy is provided in chapter 10.

Table 9.19 Ranch Improvements Initiated Before and After Subdivision

	Rotational grazing (%)	Before 1987 (%)	Since 1987 (%)	Burning (%)	Extra feed (%)	Feed since	Tree planting
Olkinos	6.5	25.0	75.0	2.1	1.1	1988	0.9
Embolioi	4.2	50 0	50.0	1.4	0.0		0.0
Kiboko	0.0	n.a	n.a.	0.0	0 0		n.f.a.
Elang'ata Wuas	25 3	81.3	18.9	4.0	0.0		n.f.a.
Lorngosua	7.4	25.0	75.0	4.0	0.0		n.f.a.
Meto	0.0	n.a.	n.a.	1.0	0.0		n.f.a.
Individual ranchers	42.4	72.7	27.3	3.0	2.9	1984	0.0
-Kaputiei	23.1	100.0	0.0	0.0	7.1	1984	0.0
-Loodokilani	77.8	66.7	33.3	0.0	0.0		0.0
-Matapato	36.4	50.0	50.0	9.1	0.0		0.0
Buyers	0.0	n.a.	n.a.	14.3	0.0		0.0

Source: author's survey
Note: Maasai pastoralists provide leaves of specific trees (e.g. *olparrarrua, oloirien, oltimigomi*) to their livestock (calves mainly) during the dry season. *Acacia* pods are mainly provided to goats. These practices were excluded from the extra feed category. Extra feeding provided by the Olkinos rancher was cabbage. The Kaputiei individual rancher feeded napier grass. Burning of grass was mainly done to eradicate ticks. After the introduction of acaracides burning of pastures decreased notably (see White & Meadows 1981:25).

In the following section a review of experiences of changing land tenure legislation among other African pastoral groups is presented. The effects of these adjustments will serve as a base of reference for the Maasai situation outlined above.

9.5 Review of Experiences of Individualization of African Pasture Land

Analyzing the evolutionary process of the individualization of landownership among the Maasai raises questions about the causes, details and final results of similar developments of this kind of land tenure transformation among other groups such as African pastoralists in particular.

In chapter 1 we mentioned that a growing number of African countries are switching to a land policy characterized by Western concepts of adjudication and registration of individual title deeds. According to Riddell (1988:39), since the early 1980s economic planning in developing countries has wholly abandoned social property concepts and embraced a planning pattern which emphasizes a form of private property rights. In spite of doubts and harsh criticisms expressed about the appropriateness of implementing this concept in the rangelands by researchers, Non-Governmental Organizations and representatives of Western Governments alike (e.g. Lawrance Mission), several pastoralist groups have been confronted with the privatization of land ownership.

One of the first experiences with the effects of changing land tenure among nomadic pastoralists in Africa has been reported by Dufour for the Bedouin pastoral society living in Tunisia. In 1935 a decree was published which contained provisions about the exploitation and fair distribution of collective lands. However, the result was that the plots of equal size allotted to each member of the group were quickly snapped up by the most enterprising and richest members. The result was a concentration of landownership in the hands of a small aristocratic group (see Dufour 1971:44-5).

At the time of Independence, similar attempts were made but failed as well; 'the plots allocated were too small; and the beneficiaries, having neither credit nor the technical advice required for rational working of their newly acquired land, either neglected it or hastened to sell their rights in it' (Dufour 1971:45). This experiment was abandoned in 1960. A new reform of agriculture was promulgated in 1969. The legislative arsenal of the Government again lacked any power to stop the concentration of holdings. A continually widening gap between "big" and "small" farmers is characteristic of the land tenure situation in Tunisia.

Ezeomah described the situation for the pastoral Fulbe (Fulani) of Nigeria. The need to provide food for a growing population resulted in the extension of cultivation at the cost of traditional grazing areas and enhanced the importance of individual landownership. The importance of communal rights decreased resulting in increased conflicts between farmers and pastoralists. Ezemoah pleaded for the establishment of grazing reserves providing facilities such as water, access roads, improved grass and other feeds (see Ezeomah 1987:43). A similar call was made by the Fulbe themselves, as early as 1970. Their newly created National Livestock Association expressed, among other things, its concern with regard to their land and herding problems, the security of cattle routes and the lack of representation at state level.

According to Milazi (1988:51), Botswana's changing rangeland tenure system is partly the result of an increased population and partly a response to government programmes aimed at increasing employment and income in rural areas. Two specific development initiatives were the World Bank Livestock Development Programme of 1972 followed in 1975 by the Tribal Grazing Land Programme (TGLP). The former was mainly oriented at fenced ranching and infrastructural development at the expense of social support while giving little attention to sociological factors (see Milazi 1988:52). The latter programme declared the subdivision of tribal land into three zones of land tenure; communal, commercial and state i.e. reserved land. The major aims of this programme were to halt the degradation of pastures that had increasingly become concentrated in the hands of a few wealthy people. Both trends had to be stopped.

Bennet et al. hold that the TGLP drew heavily upon the "Tragedy of the Commons" paradigm as formulated by Hardin in 1968 (see section 9.6.1), and that, in the end, most of the programme's resources went to large, commercial holders in exclusive tenure areas. Above all, most large holders do not seem to have adopted the improved production and land use practices envisaged by the TGLP (see Bennet et al. 1986:viii). Furthermore, some ranch owners brought their cattle to the communal areas under drought conditions (see Hinderink & Sterkenburg 1987:193). To make matters worse increasing commercialization encouraged by an EEC subsidy had replaced tribal and extended family obligations and communal management with individualistic and competitive behaviour to the detriment of the ranch (see Blaikie & Brookfield 1987:195).

Another well-known project geared at the radical transformation of pastoralists into "modern" ranchers was started among the Ankole of southwestern Uganda in the mid-1960s by the United States Agency for International Development (USAID) and the Government of Uganda. The project was intended to create 125 cattle ranches of several thousand acres each, to be placed in the hands of 'competent ranchers who will be able to undertake large-scale beef production on an economically viable basis' (Doornbos & Lofchie 1971:166). By 1968 only forty ranches had been completed.

One of the major causes for this failure of implementation was the controversy between the several parties involved, especially between the USAID and the Government of Uganda. The issue of ranch tenure forced all other planning considerations into the background. The primary point at issue was whether to allow absentee owners to acquire a ranch and this resulted in intense debates and political struggles. USAID feared that the allocation of

ranches would lead to politically influential individuals acquiring ranches at the cost of the original inhabitants. Doornbos and Lofchie recalled the process of negotiations between USAID and the Uganda Government. They demonstrated a major failure of communication both between and within the sections of the two parties. The role of diplomatic considerations was also highlighted. Pressure from the American embassy resulted in a situation by which USAID could not take a strong position against the ranch tenure question. As a result top officials and influential businessmen had been able to allocate to themselves most of the 40 ranches that had been constructed (see Doornbos & Lofchie 1971:186).

Gunn (1990:156-161) for northern Somalia shows us a rather similar picture of the implementation of livestock development projects including the introduction of new land tenure legislation. By 1975 all land was secured in the name of the state making it illegal to own land privately. Only small parcels (30 ha) could be leased for 10 year periods. However, grazing land, as opposed to agricultural land, was excluded from this, leaving pastoralists without legal claims. Classifying marginal land as agricultural land enabled the creation of private rangeland "exclosures" in the intermediate zone between pastures and cultivated plots. For example, by 1982 there were 14,500 of these ranches, so densely packed around the perimeter of the grazing land that no corridors were left for transient herds to get to the town's permanent wells (see Gunn 1990:161).

The owners of these ranches were small livestock co-operatives introduced by the government as a new form of collective ownership in the pastoral areas. Although initially designed for poor pastoralists the members now included the more wealthy. In fact, these co-operatives mainly acted as a family-owned private company situated in the better-watered areas of the range and receiving outside aid for infrastructural developments. Moreover, while holding these special rights to dry season pastures and receiving assistance, many co-operative members had the majority of their livestock graze on the free ranching areas.

Let us resume considering the situation in respect of changing landownership and mounting pressures laid upon the pastures by other activities for some of the afore mentioned Kenyan pastoral groups (see chapter 3).

Oba (1987), reporting on the Obbu Borana living in the north-east corner of Marsabit District bordering on Ethiopia, concluded that, by the late 1980s, farming was being practised at individually selected relatively high potential plots within communal rangelands. Bushland and forest clearings had resulted in the enclosure of some 200 km^2 of formerly communal land in the Obbu Borana area. Although no legal ownership was connected to this it could serve as a basis for the near future. Some wealthy stock-owners grabbed as much as possible at the cost of the less well off. 'This has happened on Marsabit

mountain, where big traders-cum-farmers and politicians have acquired disproportionately large farms relative to those of poor families' (Oba 1987:41).

Sandford (1983a:93) states that the Borana pastoralists supported the introduction of grazing blocks only to the extent that they provide a device for keeping Somali pastoralists out of the area.

For Tana District, Kelly (1987:82) informs us of the Orma worries in respect of controversial plans of the Kenyan Government to appropriate a large portion of dry season grazing lands to be turned into an irrigated rice-growing scheme (Bura). Private and company ranches predominantly owned by non-Orma wealthy farmers, urban businessmen, merchants and parastatals, and National Parks reduced the pastures available to a fast growing number of Orma pastoralists.[10] Nowadays, the competition for pasture is reported to be very intense at times. Furthermore, diversification into farming by the Orma along the banks of the Tana River has raised tensions between the original Pokomo farmers and the encroaching Orma.

9.6 Land Tenure and Livestock Development: A Review of Theoretical Considerations

The issue of land tenure in livestock herding systems in relation to overgrazing of pastures is a frequently debated and highly controversial topic among researchers from a large number of fields such as economics, anthropology, ecology and geography and amongst decision-makers, development workers and, last but not least, livestock keepers themselves. A second topic of debate is the role of land tenure versus the commercialization of livestock production systems.

9.6.1 Land Tenure and Land Degradation

It has recently been estimated that 15 per cent of the earth's land area has been degraded by human activities to varying degree (see UNEP 1992:42). The main causes of such degradation are overgrazing (34.5 per cent), deforestation (29.5 per cent), agricultural activities (28.1 per cent), over-exploitation (7 per cent) and bio-industrial activities (e.g. excessive manuring 1.2 per cent). We would like to remind that the total area of grazing land in the world comprises of some 24 per cent whereas land under cultivation is 11 per cent, forests and woodlands comprise 31 per cent and 34 per cent is classified as "other land".

[10] Between 1969 and 1979 their population doubled, mainly as the result of immigration of Wardey people.

In other words the relative importance of overgrazing for land degradation is less than the figures presented above would suggest.

About 3.5-4.0 million ha of rainfed croplands are currently lost every year in the world's drylands (0.8 per cent of the total dryland rainfed area). In addition, 1.0-1.3 million irrigated ha are wasted (0.8 per cent of the world's total irrigated area in the drylands) (see UNEP 1992:43).

Percentages of rangelands within drylands most affected by desertification are highest in North America (80 per cent), South America (75 per cent) and Asia (74 per cent). Africa (73 per cent) ranks fourth.[11] By the late 1970s estimates stated that roughly 75 per cent of the publicly held rangeland and 60 per cent of the privately held ranges in the United States were in fair to poor condition as a result of overgrazing (see Gilles & Jamtgaard 1982:1).

The link between overgrazing and land tenure was popularized by Garret Hardin's classic article about the "Tragedy of the Commons" written in 1968.[12] Hardin argued that any commonly held and collectively owned resource that is exploited by individuals will be overused. He used common ownership of rangelands as an *example* to demonstrate his point of view. Common pastures shared by individually owned herds will lead to a situation of over-exploitation as no incentive operates for individual herd-owners to reduce their number of animals. The *benefits* of reducing one's herd will be passed on to their neighbours, whereas the *costs* are a burden for the individual herder. In other words, although Hardin and others realise that land tenure is only one of the causes of ranch depletion, it is postulated that only under individual tenure is it possible to control the number of animals on a ranch as then the costs and the benefits would apply to one and the same individual.

Unfortunately, this simple and apparently straightforward idea has resulted in some kind of doctrine which perceives full individual ownership of land as the only viable option for sound livestock development (e.g. the prevention of overstocking and the increased marketing of livestock) in every region of the world. However, as Sandford (1983a:16) rightly stresses, it is seldom remembered 'that the alleged greater efficiency of private over communal-landownership was initially based on evidence in fertile northern Europe not in arid tropical rangelands, and that in Europe also the social consequences were often dire'. In Africa's drylands conditions preclude the development of

[11] More widespread than desertification is the gradual deterioration of agricultural soils in dryland areas. expansion of cropping, with ever-shorter fallow periods, into areas with marginal rainfall exposes the soil to wind erosion (see World Bank 1992:55).

[12] As Blaikie and Brookfield point out a "common" is a resource or facility which is distinguished by three characteristics; it is subject to individual use, not to individual possession; users have independent rights of use and only as a group can users exclude others who are not members of that collective (see Blaikie & Brookfield 1987:186).

individually owned ranches unless huge areas are allocated.[13]

Furthermore, it is often forgotten that traditional controls over the use of resources exists among the livestock communities (e.g. the Maasai *Il-oshon*). In a number of cases these traditional forms of tenure have deliberately been destroyed and this has made environmental degradation possible.[14]

Vittianen (1982:60) has shown that for the Kababish pastoralists of Northern Kordofan in Sudan the spread of agriculture to areas with little or uncertain rainfall was the main cause of desertification. The ploughing of dry season pastures even in times of drought resulted in desertification mainly by way of wind erosion. In addition, the loss of these pastures has led to overgrazing of the remaining wet season pastures.

As stated above the rangelands in full private ownership in the United States of America or leases such as in Australia also suffer from degradation.[15] Examples presented in section 9.5 seem to underline the view held by some writers that environmental degradation is similar if not worse on private commercial ranches than it is under the traditional communal system. Individual ranchers are able to exploit communally held resources whilst preserving their own pastures for the dry season. Those ranchers who had

[13] Rainfall varies considerably from year to year in the rangelands of the Sahel and East Africa. In parts of Kenya areas of rain storms rarely exceed five kilometres in width and on average less than one kilometre. The conversion of common rangeland into private holdings would only impede the movement of animals and increase the possibility of overgrazing. To prevent this Gilles & Jamtgaard estimated that Maasai herders must have access to 120,000-200,000 hectares (see Gilles & Jamtgaard 1982:3/4).

[14] Jodha has shown how in semi-arid western Rajasthan (India) traditional controls over grazing lands (*Jagirdari system*) were removed and some 25 per cent of the pastures were transferred into private ownership for cultivation in the early 1950s. Following this decline, livestock farming underwent several changes. The mean size of herds decreased, the proportion of sheep and goats increased while that of unproductive animals declined. This latter development was mainly the result of stall feeding implying higher private costs. The growing importance of smallstock was said to have resulted from the fact that these can better deal with degraded pastures and provided easier access to better-watered areas elsewhere. The increased marketability and profitability of animal products in recent years was mentioned by Jodha as being an explanation of the above mentioned changes (see Blaikie & Brookfield 1987:196-207).

According to Jodha those who were able to gain from the process of the privatization of communally owned land are now also in a better position to exploit the remaining pastures for commercial purposes. Processes that have led to the degradation of land have also resulted in a strengthened stratification of the population. Meanwhile, on the land converted from pastoral to arable use under privatization, all the consequences of using ecologically marginal land without regard for its vulnerability were seen.

[15] Behnke (1983:9) describes how in Australia and in North America people started to use fences when grazing became a scarce resource in order to control land rather than cattle. The idea was not to close themselves in but to keep others out. Initially livestock production became less productive because the ranches became overstocked and overgrazed as the flexibility to handle the marginality of the area was lost.

ranches too small to provide an adequate standard of living for their families are forced to overstock them in case no other source of livelihood or communal pastures are available. In addition, if market prices are high the overstocking of privately owned ranches could become very lucrative by investing the profits in other enterprises (see Gilles & Jamtgaard 1982:3).

USAID, prompted by the disappointing performance of its livestock and range management projects decided by the mid-1980s to conduct a major review of its policies towards the livestock sector (see above for the Ankole livestock development project). Attention was primarily directed towards African land tenure problems. Planners often pointed out that communal land tenure was the major obstacle to increased animal output for urban markets and range conservation. Development projects thus embraced the "Tragedy of the Commons" paradigm as a rationale for establishing individual rights. However, experience has shown that tenure reform has often not been an effective instrument in fulfilling either growth or conservation policy objectives. The USAID study concluded that in most pastoral production areas of Sub-Saharan Africa, communal tenure makes economic and ecological sense (see Bennett et al. 1986:158). The group ranch system was viewed as being the most suitable arrangement for the better range areas, although it was recognized that in these areas ranches would need to compete with cultivation and game parks.

Close attention should be paid to the developments of regulatory and community management institutions for communal land usage. It was realized that this would be a long and difficult undertaking, especially as nowadays planning is dominated by some form of private property rights. If these new property rights undermine the sound management of marginal pastures and/or bring an end to economies of scale in the provision of certain facilities, e.g. boreholes and fencing then community ownership of land seems to be more favourable. Whenever such economies of scale do not exist and pastures are plentiful or when careful management and maintenance of numerous scattered small facilities, e.g. open wells is required, then private ownership may be preferable.

In itself private ownership is not enough to control livestock numbers at the low levels usually desired by range scientists. The occurrence of both types of land tenure within the same area could result in parasitic behaviour by individual ranchers at the cost of communally owned pastures. Apart from combating overgrazing land tenure adjustments are often proposed to stimulate commercialization of pastoral livestock production.

9.6.2 Land Tenure and Commercialization

Commercialization within pastoral systems is an even more hotly debated topic among scientists, development planners and administrators. As with the concept of land degradation a complex set of parameters shape the process and final outcome of the commoditization of livestock production. Several theories

which deal with agrarian change have looked at this process closely. Most theories stress that land tenurial adjustments are crucial in respect of transforming a subsistence-based livestock producing system to one orientated to the market. Swynnerton's plan to intensify Kenya's agricultural production and the Kenya Livestock Development Programme that introduced group ranches in Kenya both recognised this aspect.

Attempts among groups of subsistence-oriented pastoralists in other countries have almost all failed. As Behnke (1983:3) states, no ranching scheme has ever engineered a complete and abrupt reorganization of a pastoral society. Some pastoralists, however, did commercialize their herding operations all at once, frequently disregarding outside help and without fenced ranching. This recognition has led Behnke to make a threefold division among livestock producing systems: subsistence pastoralism, open-range ranching and fenced ranching. Each of these systems is thought to have its own particular rationale and characteristics of production. The most striking differences are that subsistence pastoralism depends on natural pastures in climatically unstable environments forcing animals to move in search of grazing or water or to avoid diseases. This results in high labour demands.

Open-range ranching refers to the "cowboy" type of ranching found in Medieval Spain and after the American Civil War. These operations were much less labour intensive. Ranchers were relatively rich in stock and market-oriented.

Fenced ranching is normally carried out on large stretches of land (between 1,000-100,000 ha) which carry large permanent herds of some 1,000-10,000 animals. Fencing was seen as a shift in the commercialization of cattle to one of cattle and land. But, as Behnke highlights, fences were seen as only the beginning and they were followed by the increased use of artificial watering points, fodder production, the use of irrigation, veterinary inputs and feed supplements.

In other words, when shifting from open-range to enclosed ranching, production becomes increasingly characterized by high rates of capital investment, whilst labour remains low or is even economised upon.

Behnke stresses that it should be remembered that commercial livestock systems can be organized differently and include ranchers who use traditional methods of husbandry, housing, clothing and the like. Range ranching should be included as a form of commercial ranching. The major problem facing subsistence pastoralists in Africa nowadays is that, in contrast to the western world of free resources and few people, they need to substitute an intensive system of production for an extensive system of production for exchange.

The idea of subsistence pastoralists becoming primarily market-oriented would seem to be one lacking all common sense. A relative shortage of livestock and an apparent abundance of labour should not allow these pastoralists to sell their source of livelihood, even if commercial outlets and reasonable prices exist

Marketing and productivity have often been interchanged when evaluating different forms of livestock production. However, several writers have shown that the inclusion of subsistence milk consumption, relatively cheap inputs of land and grazing and the like places nomadic pastoralism in an equal if not even a more favourable position with respect to productivity (see e.g. Dahl & Hjort 1976, Swift 1982, Behnke 1985). Commercialization of livestock production involves a redefinition of production goals, not necessarily an increase in the level of productivity (see Behnke 1983:25). Moreover, the moment off-take channels become unreliable in time of stress, pastoralists will still be forced to keep a larger number of animals within their herds than are strictly necessarily for human consumption, as a security against periods of drought. Thus commercialization could lead to even more "surplus" animals.

In chapter 7 (section 7.3.1) we briefly looked at the process of commercialization among Maasai pastoralists. Lack of incentives (low prices, moderate needs) and a poor marketing structure have been mentioned amongst the most important reasons for the relatively moderate rate of commercialized livestock production in Kajiado District (see also chapter 4). In chapter 6, we have shown that Maasai pastoralists certainly reacted to market incentives as livestock was offered to illegal outlets mainly, offering higher prices.

Research conducted by White and Meadows in the early 1980s showed that the basic profitability of individual ranches per livestock unit was not higher than that of group ranches and that higher individual ranchers' household income levels were attributable to higher livestock numbers, steer fattening operations (largely AFC financed) and to non-livestock sector activities (see White & Meadows 1981:vi). Moreover, it should be realized that group ranches and Tanzanian pastures have provided young steers for fattening on individual ranches. Subsequent marketing will be recorded in the accounts of the individual ranchers.

Evangelou (1984:260) also found no significant differences in the levels of marketing between individual ranchers and group ranch producers suggesting that the individualization of land tenure would not stimulate commercial production in Maasailand. Moreover, Evangelou states that the rates of livestock off-take among the Kajiado Maasai are as high as possible under the present circumstances. In chapter 6 we demonstrated that Maasai pastoralists have always been interested in selling cattle and have not avoided illegal trading if prices offered by official markets were too low. In chapter 10 contemporary commercial livestock actions will be considered in detail.

9.7 Summary and Conclusion

In this chapter we presented an analysis of the outcome of group ranch subdivision in Kajiado District with respect to the transfers of land and the improvements made. Any rancher willing to partition, transfer or mortgage

land has to seek permission from one of the three Kajiado District Land Control Boards. This Board has been afforded the power to turn down an intended fragmentation, sale or mortgage of land. Nonetheless, in general the Boards approve most applications after adjustments advised have been made. After consent is obtained, new title deeds are issued by the Office of the Land Registrar in the district. In the last decade the number of Kajiado District titles registered has risen enormously from 4,929 in 1978 to 18,918 in 1988.

The subdivision of group ranches is one of the main reasons for this growth in the number of title deeds. Olkinos, Embolioi, Empuyiankat, Kitengela and Poka group ranches had been subdivided in February 1990. In this way, a total of 757 Maasai received their privately owned parcel of land. Between September 1986 and February 1990 some 36.7 per cent of these ranchers applied for authority to further subdivide their individual ranches.

For Olkinos, the earliest subdivided group ranch, 64 members (55.2 per cent) had done so. From this group 54 gained actually permission to partition their plot into two or more parcels. Finally, 37 people (68.5 per cent of the group of 54) subsequently asked consent for the *sale* of one or more lots. In contrast, in addition to the 3 Olkinos ranchers who mortgaged all of their land, 5 members who had subdivided their ranches charged part of their land. In other words requests for parcel partitioning seem intended to render the sale of part of the ranch possible rather than to using it as collateral for a loan.

Including data from the other subdivided group ranches showed that, by February 1990 78 Maasai or 10.3 per cent of all former group members had obtained consent to transfer 1,728 ha of land in return for a sum of Ksh. 18,525,205/-. This is 2.4 per cent of the total former group ranch territories. No specific set of characteristics could be perceived for the group of sellers. Nonetheless, the group of Olkinos former committee-members turned out to be foremost among the group of non-sellers. Those committee-members who did sell had bought their land previously and apparently for speculative reasons. Furthermore, a correlation was seen in the plot size per person and the selling of land. The more land available the more will be sold, except by the most well-off land holding households who are not engaged in selling at all. This of course reflects the fact that the group of former committee-members are very much aware of the value of the land they possess as well as the shortcomings this amount of land still poses for fenced ranching livestock production.

Obtaining loans from financial institutions by offering land as collateral does not appear to have developed significantly among the Maasai new land owners. Only 17 applicants (2.2 per cent) of all former group members intended to or actually mortgaged 1,195 ha or 1.6 per cent of the former group territory. It was stated that the selling of land is a much faster, less obstructive and more comprehensible way of obtaining money than is mortgaging one's plot. Financial institutions (especially the AFC) also seem to be somewhat reluctant to provide loans, except in the case that the prospective borrower has been formally educated to a high level and has other more important sources of

income besides livestock keeping. Only Embolioi seems to part somewhat from this rule. The individualization of land as such seems therefore not to have resulted in a boom in loans obtained by the ranchers. Other factors such as the level of education, the main occupation, experiences or lack of it with financial institutions seem to be of more importance.

The group of land buyers in Olkinos group ranch was also analyzed in order to obtain information concerning their area of origin, main occupation, residence, education, age and the like. The foremost motives and objectives for buying land in Kajiado District were dealt with. In addition to the 9 buyers that had settled in the area or resided nearby, key-informants gave information about as many buyers as possible and this revealed that, out of a total of 37 plots sold in Olkinos area, all but 6 were acquired by non-Maasai. Rich business men, civil servants and less wealthy people were among the Kikuyu buyers. Maasai buyers were mainly former Olkinos committee-members, individual ranchers, civil servants and politicians. Another special group of informal buyers found were Indians who were practising strip gypsum mining on Embolioi group ranch.

Evaluating the actions taken so far by the buyers of land showed a preference for mortgaging land instead of reselling it. The inclusion of pending partition, transfer and mortgage applications shows that the frequency of selling or mortgaging seems to be more or less equal. This is in great contrast to the Maasai preference for selling rather than mortgaging land.

Information was also gathered concerning the utilization of the proceeds of the sale of land and loans taken. On Olkinos the percentage of people who made infrastructural improvements rose from 21 to 56 per cent of all Olkinos ranchers. The Embolioi group ranch percentage increased from a mere 8 to 45. Lack of funds or the fact of not being settled were among the most frequently mentioned reasons for not conducting an improvement. Comparing Olkinos sellers versus non-sellers and mortgagees versus non-mortgagees shows that both groups were increasingly engaging in infrastructural improvements. However, the rise amongst the group of sellers is significantly higher. No clear picture emerged for the borrowers. Embolioi ranchers also seemed to be as much development oriented either selling or non-selling, mortgaging or non-mortgaging their land. This is also reflected in the fact that only 5 Embolioi members said that they had used the proceeds of the sale of land and no one mentioned the use of a loan. Olkinos had higher figures with 33 times the sale of land and 10 cases of loans named as the source of the finance required for the construction of infrastructural improvements.

The kind of improvement made was also considered. The building of a modern house seemed to have been the most popular. Fences (mainly for *shambas* mainly), sprayraces and pans followed but at some distance. Boreholes had not yet been drilled. The group of buyers was mostly investing

in fences and watertanks.

So far, the ranches have not been fenced by the original Olkinos and Embolioi ranch owners. Like drilling boreholes, this is a costly innovation. Those Olkinos ranchers that did fence their *shamba* or *ol-okeri* were mainly found among the group of educated Maasai and land sellers. For Embolioi it is the non-pastoralists who are mostly involved in this.

In other words, most of the infrastructural improvements made seem to have occurred in non-productive facilities such as the building of a modern house. People will need to sell another part of their parcel in order to undertake real development. Other accusations about consumer behaviour by the Maasai ranchers who sold part of their land were frequently referred to the buying of cars and the drinking of beer. However, no clear correlation could be found in this respect.

The marginalized Maasai who roam and who have no involvement in the former group ranch matters and the like, seem to be the most willing to sell part of their ranches and earn the salary of a lifetime all at once! Some excesses have apparently followed!

We also looked at the less capital-intensive improvements made in range management. Hardly any innovations had been undertaken since the time of subdivision. Potter (*1989*) has stressed the common sense nature of this attitude as these adjustments would not be economically viable anyway.

This chapter was concluded by presenting a review of the experience of the individualization of African pasture land and some theoretical reflections on this issue in relation to environmental degradation and commercialization as well. Examples from Tunisia, Nigeria, Botswana, Uganda, Somalia and other Kenyan districts all report of the decreasing availability of land for nomadic pastoralism. All reports show features of our outline of the Maasai history of land use, land ownership and land policy in the last century. Increasing competition for the better-watered pastures by encroaching farmers, herder cultivators as well as absentee herd owners were found to varying degree.

It is Government and programmes sponsored by international donors which have mostly either by intention or not been responsible for the introduction of individually owned ranches. Dominated by the doctrine of the "Tragedy of the Commons" concept, overgrazing and commercialization would be dealt with effectively once the collective ownership of pastures was ended. In fact, the final outcome of these projects propagating privatization and the subsequent commoditization of land was often that influential and wealthy people were able to grab large parcels of land at the expense of a large group of less wealthy and less powerful pastoralists. Furthermore, traditional rules for pasture management have increasingly been thwarted and rendered useless.

Several writers report that they predict that land tenurial changes and commercialization will ultimately lead to the further stratification of society.

White and Meadows, referring to the economic viability of Maasai group ranches versus existing individual ranches, concluded in the early 1980s that

> 'Group ranches should not be sub-divided into individual units but, for the time being, should stay under group ownership. (...) Division of group ranches into individual units would not replicate the apparent success of the individual ranches in Kajiado but would result in sub-viable economic units, since the land:population ratio of the average group ranch is much below that of the average individual ranch. Also, since dry season grazing on group ranches is only available in a few areas, shared by all members, sub-division would lead to acute problems of access' (White & Meadows 1981:vi).

Statements such as this can nowadays also be read in Worl Bank Develompent Reports. Rememberring the World Bank's initial position towards the Maasai lands (Narok District in particular) and the Banks strive for private ownership of land the following sounds revolutionary:

> 'Pastoralists in Africa face particular problems in maintaining access to their traditional pastures. An example is the case of the Maasai and Samburu of Kenya. At one time the Kenyan government hoped to set up group ranches as a way of increasing beef exports while retaining collective management. Recently, the government has promoted the privatization of these ranches, asserting that corporate land tenure impedes rational land management The Bank study notes that Maasai elders regard private landownership as an "alien concept" and express fears that "subdivision may lead to a disastrous change of lifestyle of the Maasai people." The only source of income for the Maasai people is livestock. Their culture provides them with a system in which they can preserve the arid and semi-arid areas (..) in such a way that certain areas are put aside in periods of drought in order to keep grazing areas in good condition. Although lately it has become more difficult to do, it still works within and among group ranchers, especially where upgraded cattle breeds are introduced. However, in the fragile (semi-) arid areas it might even become impossible to keep livestock on an individual basis on small plots; it will also irrevocably lead to soil erosion, overuse of water resources, and desertification' (World Bank 1992:37-38)

In this chapter we have tried to highlight the issue of access to land for Maasai pastoralists after subdivision. It seems to underline the experience of other pastoralist groups that the individualization of land mostly benefits those who are among the most influential and wealthy members of society. We ought to speak of the "Tragedy of the *Un*commons" to underline that ultimately a small group of well-off people are able to restrict access to land for a large crowd of

less well-off people, instead of all acting irresponsibly towards a collectively owned resource.

Moreover, as stated and proved by several authors (e.g. Fallon (1962:28) and Evangelou (1984:253)) individual landownership is no guarantee for proper range management. Also this research has shown that instead of destocking theoretically overstocked individual ranches the owners not seldom bought more livestock from the proceeds of the sale of land. In fact, also commercial livestock production on individual ranches could lead to a more profound misuse of that particular tract of land in case the owner is forced to overstock his ranch because of a large household demand or because of loan repayment obligations. Not livestock but human numbers are of importance.

In the next chapter we will review the current Maasai abilities and strategies applied to cope with the decreasing land resource

Appendix 9.1

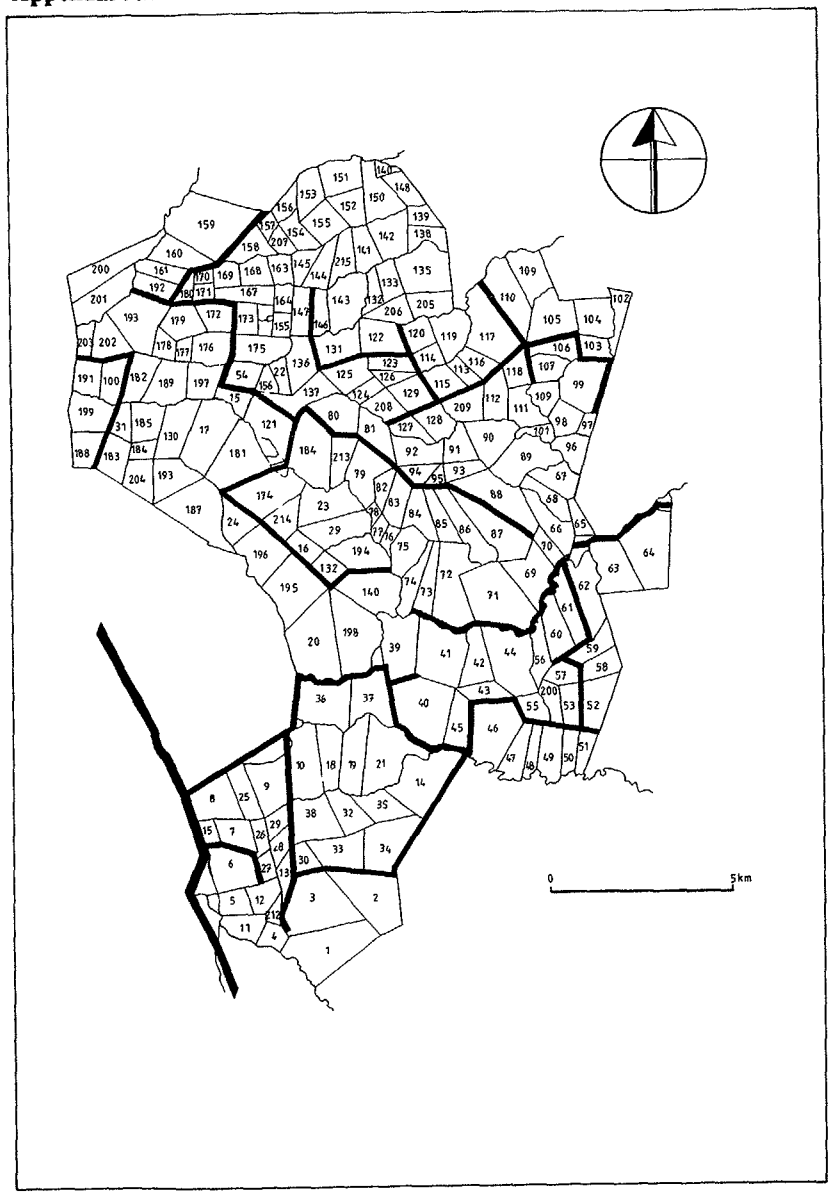

Figure 9.4 Kitengela Subdivided Group Ranch

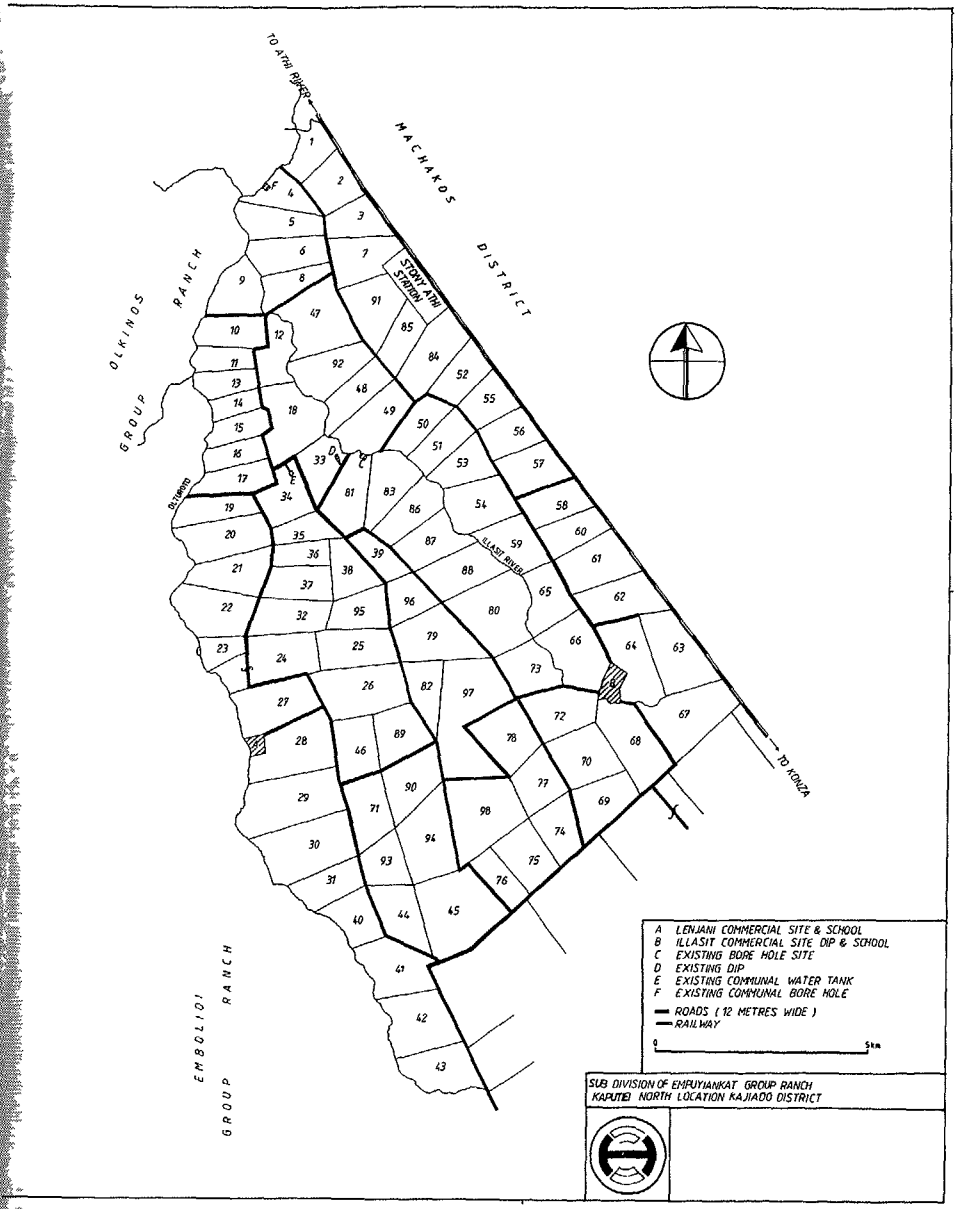

Figure 9.5 Empuyiankat Subdivided Group Ranch

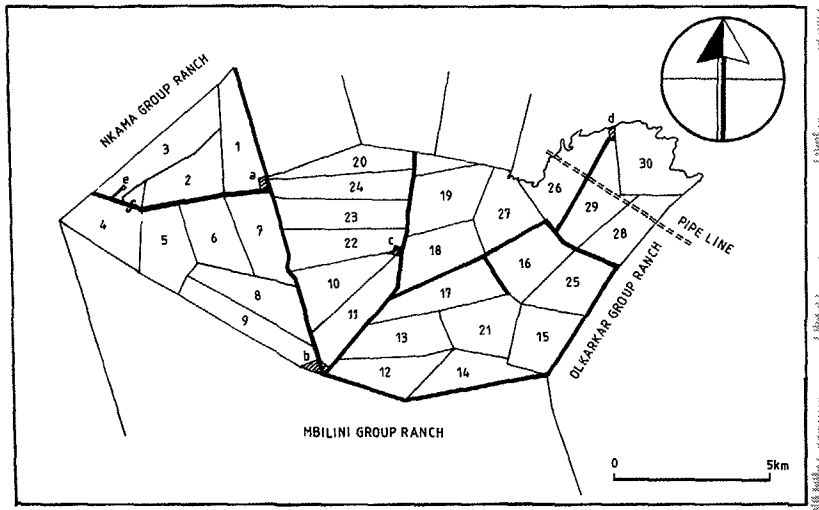

Figure 9.6 Poka Subdivided Group Ranch

CHAPTER 10

THE FUTURE OF MAASAI PASTORALISM IN KAJIADO DISTRICT

10.1 Introduction

Nomadic pastoralism requires livestock, labour and land in order to fulfil its major goal which is the provision of food for the stock-keeping human population. Cossins (1983:217) mentions three series of constraints which have to be overcome in the pursuit of this aim:

1. Normal - seasonal events: episodes of diseases, parasites, availability of forage;
2. Disasters - epidemic disease, drought;
3. Long-term changes - irreversible loss of dry-season grazing, land tenure changes.

Nomadic pastoralists constantly try to manipulate all three production factors to meet the mainly milk-oriented production goal of traditional subsistence pastoralism. Several strategies (long term) and tactics (short term) are employed in order to spread risks and to physical, economical and social survival. The most important *livestock* related, risk-avoiding strategies and tactics are:

1. Communal possession of pastures and water allowing for optimal flexibility. This strategy is employed in order to optimize the use of the low ecological potential of the arid and semi-arid rangelands, their minimal and unreliable precipitation and of disease-infected areas.

2. Diversification of the family's herd; i.e. the keeping of cattle, camels, goats, sheep and donkeys, each having specific requirements for food and water and possessing different production capacities and abilities to adapt to the harsh environment. This diversification allows for the use of all the ecological possibilities and provides complementary output for the pastoral household.[1]

[1] For example, cattle and sheep are grazers and prefer grass pastures. Camels and goats are browsers, eating the young shoots and leaves of trees -although they sometimes also eat grass. Camels can go for long distances, require watering only once in two weeks, produce milk even in the dry season and have a high drought survival rate but also a high calf mortality. Cattle have a lower rate of survival, have to be watered daily and cannot go for very long distances but they do produce excellent milk and meat and are used to stock capital. Goats are stronger than sheep and reproduce very quickly. They are mainly kept for meat and are less important for milk in the dry season. Donkeys are used as carriers.

3 Herd accumulation, selective breeding and the dominance of the female sex in the herd's composition Besides using different species, pastoralists use a specific sex composition strategy favouring females in up to 60-70 per cent of the total herd in order to maximise the production of milk and the reproductive capacity of the herd.

4. Relations with "stock associates" or "bond-friends". Animals are given to friends or relatives in order to spread the risks. In fact, each man is in the centre of a field of diverse formalized inter-personal social relations. This fact acts as a disaster-insurance as the "owner", in rebuilding his herd, seeks help from his stock-associates. Provision of labour is also an option.

With diminishing land resources the Maasai pastoralists need to diversify or intensify all their economic activities. Those Maasai who have lost their land or who will only be able to legally claim restricted access to inherited lands, will have to look for new opportunities.

Several possibilities can be mentioned as ways of withstanding the decline in cattle wealth and some of them relate to the above mentioned strategies. Among these are:

1. *diversification of production* (e.g. increased importance of small stock, cultivation, wage labour);
2. *intensification of production* (e.g. improved breeds, better veterinary care);
3. *commercialization of production* (i.e. increased sales of livestock and its produce) together with *changing food habits* (i.e. increased intake of grains and other agricultural products instead of livestock products).

In the last decades several authors have reported Maasai households adopting one or more of the above-mentioned strategies (e.g. Berntsen 1979a, Metson 1974, Campbell 1979b, Njoka 1979, Ingule 1980, White & Meadows 1981, Grandin et al. 1982, Bekure et al. 1987). For an analysis of several characteristics of our survey population we will compare our data with that of these authors.

Metson (1974) conducted a survey among 172 Maasai spread over all of Kajiado District. Campbell (1979b) interviewed 164 Maasai pastoralists, 90 Maasai farmers and 135 non-Maasai farmers in the Loitokitok region. Njoka (1979) concentrated on 148 Kaputiei households. Ingule (1980) interested himself in the acceptance and means of the introduction of improved breeds among a group of 300 Maasai all over Kajiado District. White and Meadows (1981) collected information on Poka, Olkarkar, Kiboko, Elang'ata Wuas and Lorngosua group ranches and adjacent individual ranchers. Twelve households were interviewed In each group ranch. The main object of their research which was undertaken between August 1980 and July 1981, was to quantify the extent to which group and individual ranch development had changed the

pastoral production system and improved the living standards of the Maasai (see White & Meadows 1981:i). Kiboko, Olkarkar and Poka were considered as representing the developed group ranches in Kajiado District, while Lorngosua and Elang'ata Wuas exemplified the undeveloped ranches.[2] Finally, the research conducted by the International Livestock Centre for Africa among 282 Maasai households in Olkarkar, Merueshi and Mbirikani group ranches in the early 1980s revealed very detailed information about labour, livestock management and commercial livestock production (see Grandin 1982; Grandin et al. 1982, Bekure et al. 1987).

But what is the state of diversification and intensification of the Maasai economy in the early 1990s? In the following section we will present a brief overview of our sample of 500 (former) group ranch Maasai households, 34 established Maasai individual rancher households and 9 land buyer households in respect of the adaptive strategies employed.

10.2 The Personal Characteristics of the Sample Population

In section 8.1.1 the basic characteristics of our surveyed population were presented. Here we will consider to some more detailed information concerning their personal features such as age, level of education, additional training and knowledge of languages. All of these are thought to be of importance in order to assess the ability of the Maasai population to cope in the future.

The level of education of the head of household per wealth class as found in this survey is shown in table 10.1. It shows that, except for the Olkinos buyers, half to almost all of the heads of the households interviewed had never been to school. For the group as a whole at best some 20-30 per cent had had some primary education. No statistically significant correlation was found with the wealth class in this respect. The rich, however, show in general more educated heads of household.

Metson (1974:table 7) reached an overall figure of 15.7 per cent of educated Kajiado Maasai heads of households for 1974. Except for Kiboko our survey found a remarkable improvement as compared to 1980 figures presented by White and Meadows (1981:62). Their sample in Kiboko, Elang'ata Wuas, Lorngosua and of individual ranchers recorded that 8, 17, 8 and 33 per cent of heads of households, respectively, had obtained some kind of formal education.

[2] Unfortunately, White and Meadows used another method to stratify their survey population, a chief was asked to appoint ranchers for three distinct groups of rich, average and poor classes For every group ranch 12 households were selected, four stemming from each wealth class However, in comparing White and Meadows' data with those of ILCA for Olkarkar shows that in fact White and Meadows had stratified their population into medium, rich and very rich groups Despite this setback, we will at times refer to their data whilst bearing in mind the small size and the bias in White and Meadows' sample

Table 10.1 Level of Education of Heads of Household by Wealth Stratum

	Olkinos				Embolioi				Kiboko				Elang'ata Wuas			
	I	II	III	Tot	I	II	III	Tot	I	II	III	Tot	I	II	III	Tot
None	73.0	62.1	54.8	63.0	72.0	75.0	50.0	65.3	100.0	90.9	94.4	94.7	79.2	73.3	57.1	70.7
Primary	21.6	27.6	33.3	27.8	24.0	16.7	34.6	25.3	0.0	9.1	5.6	5.3	20.8	13.3	28.6	20.0
Secondary	5.4	6.9	9.5	7.4	0.0	4.2	11.5	5.3	0.0	0.0	0.0	0.0	0.0	10.0	9.5	6.7
College	0.0	3.4	2.4	1.9	4.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	3.3	4.8	2 7
University	0.0	0.0	0.0	0.0	0.0	4.2	3.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0
	Lorngosua				Meto				Individual ranchers				Buyers			
	I	II	III	Tot	I	II	III	Tot	I	II	III	Tot	I	II	III	Tot
None	75.8	77.8	80.6	78.0	79.1	84.6	63.6	77.9	33.3	63.6	47.1	50.0	14.3	n.a.	0.0	11.1
Primary	18.2	19.4	16.1	18.0	16.3	12.8	36.4	19.2	50.0	27.3	29.4	32.4	28.6	n.a.	100.0	44.4
Secondary	3.0	0.0	3.2	2.0	4.7	0.0	0.0	1.9	16.7	0.0	0.0	2.9	42.9	n.a.	0.0	33.3
College	3.0	2.8	0.0	2.0	0.0	2.6	0.0	1.0	0.0	9.1	23.5	14.7	0.0	n.a.	0.0	0.0
University	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	14.2	n.a.	0 0	11.1

Source: author's survey

Note: I, II, III = wealth strata for poor, middle and rich households, respectively.

Table 10.2 Heads of Household Additional Training and Knowledge of Kiswahili and English (%)

	Olkinos (n=108)	Embo-lioi (n=75)	Kiboko (n=38)	Elang'ata Wuas (n=75)	Lom-gosua (n=100)	Meto (n=104)	Ind. ranchers (n=34)	Buyers m(3)	nm(6)
Training 1	9.3	17.3	0 0	20.0	10.0	12.5	23.5	66.7	0.0
Training 2	0.9	2.7	0.0	1.3	4.0	1.0	8.8	0.0	0.0
Speak Kiswahili	84.3	85.3	76.3	60.0	37.0	35.6	88.2	100.0	100.0
Read/write Kiswahili	40.7	34.7	18.4	42.7	23.0	18.3	50.0	100.0	83.4
Speak English	34.3	30.7	10 5	24.0	17.0	11.5	47.1	100.0	83.4
Read/write English	32.4	30.7	7.9	22.7	17.0	11 5	47.1	100.0	83.4

Source: author's survey

Note: m = Maasai; nm = non-Maasai.

We also collected information concerning additional training followed by the heads of household (see table 10.2). Overall 15.3 per cent of the sampled heads of household had attained some kind of additional training. This is in line with the 16.3 per cent figure found by Metson (1974:table 8).

The kind of training most frequently mentioned for our group was veterinary training (83 per cent) and range management (19 per cent). Other main categories of additional training named were blue collar jobs (16.9 per cent), military/police/security (13.3 per cent), social/health (10.8 per cent), priest/catechist (9.6 per cent), commercial (7.2 per cent), formal adult education (6.0 per cent), other (13.3 per cent). The favourable position in terms of levels of education is also shown in the higher percentage ability to read/write Kiswahili and English among the northern Kaputiei heads of households, established individual ranchers and the group of buyers.

Besides considering the head of the household, information was gathered about other household members. For the younger generation (from 5-18 years of age) in particular a significantly better school enrolment rate was found (see table 10.3). Differences between locations were nonetheless rather high. For instance, the Kaputiei group ranches had much lower percentages of non-educated than the southern Matapato and Loodokilani ranches.

White and Meadows (1981) found 57 per cent of their 5-18 years of age cohort attending school (Kiboko 67 per cent; Elang'ata Wuas 40 per cent; Lorngosua 41 per cent; individual ranchers 82 per cent). Surprisingly, for Lorngosua and individual ranchers these figures are above those found by our survey 10 years later. This probably stresses the bias in the White and Meadows' sample as it is mainly among the wealthy households that the percentage of educated household members is highest.

The sex composition of school-attending children found by White and Meadows for Kiboko stood at 70 per cent for boys and 67 for girls; Elang'ata Wuas boys 56 per cent and girls 45 per cent; Lorngosua boys 59 per cent and girls 15 per cent. Metson 1974 (table 10) found overall figures for the percentage of school-attending children of 16.9 for boys and 8.7 for girls.

Table 10.3 Level of Education Household Members (above 5 years of age)

	Olkinos			Embolioi			Kiboko			Elang'ata Wuas		
	Tot	M	F	Tot	M	F	Tot	M	F	Tot	M	F
5-18												
None	16.2	18.0	14.3	27.9	21.6	35.9	32.0	31.5	32.7	51.2	44.0	60.2
Prim.	77.3	75.5	79 3	69.7	74.9	63.0	59.0	56.5	62.2	47.1	54.5	38.0
Seco.	6.5	6.5	6.4	2.4	3.5	1.1	9.0	12.0	5.1	1.7	1.5	1.8
> 18												
None	57.0	18.7	70.3	56.8	4.4	81.9	77.5	30.8	93.4	77.6	58.6	86.8
Prim.	26.3	43.7	20.0	29.4	68.9	10.6	14 6	38.5	6.6	13.1	21.3	9.0
Seco.	16.7	37.6	9.7	13.8	26.7	7.5	7.9	30.7	0.0	9.3	20.1	4.2

	Lorngosua			Meto			Individual ranchers			Buyers					
										Maasai			non-Maasai		
	Tot	M	F	Tot	M	F	Tot	M	F	Tot	M	F	Tot	M	F
5-18															
None	77.8	68.2	89.0	75.9	65.8	87.6	32.0	31.5	32.7	10 0	0.0	20.0	11.1	0.0	20.0
Prim.	21.9	31.3	11.0	23.9	33.8	12 4	59.0	56.5	62.2	80.0	100.0	60.0	44.5	50.0	40.0
Seco	0.3	0.5	0.0	0.2	0.4	0.0	9.0	12 0	5.1	10.0	0.0	20 0	44.4	50.0	40.0
> 18															
None	92.1	84.1	94.3	87.2	65.7	97.0	55.7	38.1	69.1	11.1	0 0	14.3	16.7	0.0	27.3
Prim.	7.0	11.1	5 7	9.5	24.6	2.6	20.2	30.9	21.6	44.5	100.0	28 5	44.4	42.9	45.4
Seco	0.6	3.2	0.0	3.0	8.7	0.4	22 1	29.8	16.3	44 4	0.0	57.2	38.9	57.1	27.3
Coll	0.3	1.6	0.0	0.3	1.0	0.0	1.5	0.0	2.7	0 0	0.0	0 0	0.0	0 0	0.0
Univ	0.0	0 0	0 0	0.0	0.0	0.0	0 5	1.2	0.0	0 0	0.0	0.0	0.0	0.0	0.0

Source: author's survey

In addition to the level of education we were interested in the place of residence of the household members. In some families the head of the household resides away from the household's home whilst sometimes other household members were also stated to be living elsewhere for most of the year. Employment is the main reason for this temporary absence. In table 10.4 information concerning this aspect of income earning strategy is given.

It was among the group of buyers that this form of "absentee ownership" was most significant. Also, one out of four Olkinos ranchers did not stay in the household residence for most of the year. A difference between these two groups is that buyers mostly reside outside Kajiado District in an urban area, while the Olkinos ranchers usually stayed nearby in another Olkinos or Embolioi *boma*.

Nairobi was mentioned by some two thirds of the head of households as their urban place of residence outside Kajiado District. Also mentioned were Athi River, Eldoret, Nakuru and Mombasa. For other household members Nairobi was only important for the group of buyers, the Olkinos and individual ranchers' households. A wide variety of other places was found (e.g Mombasa, Athi River, Isiolo, Kisumu). The reason for residing elsewhere is mostly linked to the performance of off-ranch employment. In the following section attention will be paid to this diversification strategy of the Maasai household economy.

Table 10.4 Main Place of Residence (%)

	Olkinos (n=108)	Embo-lioi (n=75)	Kiboko (n=38)	Elang'ata Wuas (n=75)	Lorn-gosua (n=100)	Meto (n=104)	Ind ranchers (n=34)	Buyers m(3)	Buyers nm(6)
Heads of households									
Boma	75 0	92.0	92 2	90.7	91.0	98 0	88.2	66.6	66.6
In district (rural)	12 1	0 0	5.2	0.0	1.0	0 0	0.0	0.0	0.0
In district (urban)	3.7	2 7	2 6	8.0	3.0	1.0	5.8	0.0	0.0
Out district (rural)	1.8	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
Out district (urban)	4.6	2.7	0.0	0.0	3.0	0 0	5.8	33.4	33.4
Other (unspecified)	2.8	2.7	0.0	1 3	2.0	0.0	0.0	0.0	0.0
Other household members (n)	*529*	*399*	*303*	*708*	*830*	*1,002*	*456*	*19*	*28*
Boma	82.4	93.2	85 5	95.2	94.1	99.4	86.8	84.2	53.6
In district (rural)	9.0	6.3	13 5	1.7	1.8	0.4	2.6	15.8	0.0
In district (urban)	6.0	0.3	0.6	1 8	4.0	0 1	7.7	0.0	0.0
Out district (rural)	0.4	0.0	0 0	0 0	0.0	0.0	0 0	0.0	14.3
Out district (urban)	2.3	0 3	0.3	0.4	0.0	0.1	2.9	0.0	32.1
Other (unspecified)	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0

Source: author's survey
Note: m = Maasai; nm = non-Maasai.

10.3 The Diversification of the Maasai Economy

Filmactor, personnel officer, computer specialist, university lecturer, NGO-officer, travel agent, pilot; who would have thought half a century ago or even less that all of these jobs could be filled by Maasai in 1990? Though still exceptional the Maasai do occupy these jobs nowadays.

For each household interviewed we recorded the current and former main occupation(s) of the heads of household. Table 10.5 gives the main occupation in broad categories held by the heads of households at the time of survey.

Table 10.5 Main Occupation of Head of Household

	Olkinos	Embo-lioi	Kiboko	Elang'ata Wuas	Lorn-gosua	Meto	Ind. ranchers	Buyers m	Buyers nm
Livestock keeping	70.4	77.3	78.9	74.7	87.0	93.3	79.4	33.3	0.0
Wage labour	22.2	21.3	10.5	17.3	8.0	2.9	11.8	66.7	50.0
- public	13.9	8.0	7.9	12.0	6.0	0.0	0.0	0.0	0.0
- private	8.3	13.3	2.6	5.3	2.0	2.9	11.8	66.7	50.0
Private business	4.6	1.3	10.5	8.0	5.0	2.9	8.8	0.0	0.0
Cultivation	1.9	0.0	0.0	0.0	0.0	1.0	0.0	0.0	50.0
No occupation	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: author's survey
Note: m= Maasai; nm=non-Maasai.

Table 10.5 tells us that stock-keeping is no longer considered to be the *main* occupation of some 20-30 per cent of the heads of households interviewed. In the North Kaputiei ranches in particular, people have turned to other types of

employment (mainly wage labour). In the south (Lorngosua and Meto) stock-keeping is still the most important activity. This is more in line with the situation found by Metson of 97.7 per cent of the heads of households stating that stock-keeping was their main occupation (see Metson 1974:table 11). The most important off-ranch main occupations in the mid-1970s were teaching (1 per cent) and shopkeeping (0.5 per cent).

By the early 1990s some head of households were engaged in public employment such as that of policeman, soldier, teacher, civil servant, accountant and magistrate. Private employment included jobs as watchman, lab technician, tour guide, cook, waiter, mechanic, industrial labourer, carpenter, bus conductor and corpse washer in the mortuary. Private businessmen included stock traders/meat suppliers, hide and skin traders, butchers, shop owners, blacksmiths and taxi drivers.

A number of respondents said they had more than one occupation. Some were even said to be involved up to in 4 different jobs. For instance, someone could be employed as a policeman while running a shop, owning a taxi business and helping in cultivating the *shamba*. Table 10.6 summarises the percentage of heads of households involved in several activities. It shows that, in general, half of the heads of households are engaged in a second income-earning activity mostly cultivation or the keeping of livestock. Private businesses were also often mentioned.

Table 10.6 Number of Other Activities of Heads of Households

	Olkinos	Embo-lioi	Kiboko	Elang'a ta Wuas	Lorn-gosua	Meto	Ind. ranch.	Buyers	
								m	nm
Second occupation	*45.4*	*60.0*	*52.6*	*44.0*	*60.0*	*91.3*	*70.6*	*66.7*	*50.0*
Stock-keeping	20.4	20.0	15.8	26.7	12.0	6.7	17.6	33.3	0.0
Wage labour	4.6	1.3	2.6	5.4	2.0	2.9	8.8	0.0	0.0
- public	3.7	1.3	0.0	2.7	0.0	1.0	2.9	0.0	0.0
- private	0.9	0.0	2.6	2.7	2.0	1.9	5.9	0.0	0.0
Private business	6.5	6.7	13.2	10.7	24.0	21.2	14.7	0.0	0.0
Cultivation	13.9	32.0	21.1	1.3	22.0	60.6	50.0	33.3	50.0
Third occupation	*11.1*	*10.7*	*7.9*	*12.0*	*10.0*	*28.8*	*23.5*	*33.3*	*16.7*
Stock-keeping	3.7	1.3	2.6	0.0	0.0	0.0	2.9	0.0	0.0
Wage labour	0.0	0.0	2.6	2.7	0.0	1.0	0.0	0.0	0.0
- public	0.0	0.0	0.0	1.3	0.0	1.0	0.0	0.0	0.0
- private	0.0	0.0	2.6	1.3	0.0	0.0	0.0	0.0	0.0
Private business	3.7	2.7	0.0	0.0	2.0	5.8	11.8	33.3	16.7
Cultivation	3.7	6.7	2.6	9.3	8.0	22.1	8.8	0.0	0.0
Fourth occupation	*3.7*	*1.3*	*0.0*	*1.3*	*0.0*	*1.0*	*2.9*	*0.0*	*0.0*
Stock-keeping	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wage labour	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- public	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- private	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Private business	2.8	1.3	0.0	0.0	0.0	0.0	2.9	0.0	0.0
Cultivation	0.0	0.0	0.0	1.3	0.0	1.0	0.0	0.0	0.0

Source: author's survey
Note: m = Maasai; nm = non-Maasai.

Metson (1974:table 12) recorded a total of 59.9 per cent of livestock owners having an *extra* occupation, livestock trading (47.1 per cent) in particular. An increase does not seem to have occurred in the number of Maasai heads of households engaged in other occupations alongside stock-keeping. Lack of detailed data from Metson's survey hinders any definitive statement on quality, timespan and number of third or more jobs.

The activities performed by other household members were also noted. An overview of the main activity of all other household members is shown in table 10.7. It reveals that, besides the involvement of household members in livestock herding and house-keeping some 5 per cent of them helped the head of household to earn money either by running a private business or by way of wage employment. These percentages are higher among the group of buyers, Maasai and non-Maasai alike.

Table 10.7 Main Activity of Other Household Members[3]

	Olkinos	Embo-lioi	Kiboko	Elang'ata Wuas	Lorn-gosua	Meto	Ind. ranch.	Buyers	
								m	nm
House-keeping	22.2	24.8	27.2	20.9	30.5	28.8	19.6	13.6	17.9
Livestock herding	6.6	12.8	19.3	26.9	34.6	30.6	18.8	0.0	0.0
Cultivation	0.4	0.0	0.0	0.0	0.1	0.0	0.9	6.8	10.7
Wage labour	2.6	4.2	0.3	2.1	0.3	0.6	3.4	16.0	21.5
- public	2.0	3.3	0.0	0.9	0.1	0.3	3.0	11.4	14.3
- private	0.6	0.9	0.3	1.2	0.2	0.3	0.4	4.6	7.2
Private Business	1.6	1.1	0.0	1.9	1.6	0.6	1.7	11.3	14.3
At school	45.5	44.1	35.7	25.2	10.1	13.1	39.5	45.5	28.6
No occupation	21.4	13.3	17.0	22.7	22.5	26.1	15.6	6.8	7.1

Source: author's survey
Note: m = Maasai; nm = non-Maasai.

A certain stigma exists concerning young Maasai who flood the streets of Nairobi looking for jobs as watchmen (*askari*) for shops, factories and houses in the better-off residential areas of the city. The Standard (21/12/80 and 12/04/84) reported that, since 1975, the number of Maasai watchmen hired by employers in Nairobi had increased tremendously. This will also be the result of the good reputation of Maasai watchmen. Letters in newspapers have praised the Maasai for their trustworthiness, hard-work and bravery (see DN 30/12/77). The Standard estimated that in 1980 some 600 Maasai were roaming Nairobi doing all sorts of jobs, mostly guarding shops, 24 hour night clubs and cars. Most of these watchmen were said to be from Kajiado District, particularly from the Ngong area and from Samburu (see DN 24/08/82). The

[3] With respect to the main activity mentioned it should be realised that more tasks than these are performed. School-going children, for instance, will help in household duties, milking and cultivation.

over-representation of the Ngong Maasai is explained by its proximity to Nairobi, good transport facilities and the increasing shortage of land in the area. The older generation of Maasai labourers in Nairobi came to the city after the drought of 1975. By the early 1980s the number of young semi-educated Maasai was thought to be rising among the group of Nairobi watchmen.

The data presented in table 10.4 and 10.7 and our analysis of emigration from the district before, however, show no evidence of a massive flight of the Maasai to Nairobi for employment as *askari* by the late 1990s. It should also be realised that this kind of employment is of a temporary nature. After having saved enough money most Maasai want to return to their area of origin (see DN 28/04/85). In a survey among 77 young male Maasai of Esokota group ranch (i.e. 18-30 years of age) five were found to be residing in Nairobi: two soldiers, two parastatal employees (one security officer), and one watchman. In total eight more watchmen were counted in nearby Kajiado and Ngong towns (see Kantai 1989:12-15).

One of the most important opportunities for diversification is cultivation. In section 8.6.2 attention was paid to the increasing amount of land set aside for cultivation. After a period of drought many Maasai decide to try cultivating a *shamba*. Metson (1974:table 39) still found only 9.3 per cent of her sample households practising cultivation. By 1990 our figures give a percentage of 42.3 per cent cultivating households (see section 8.6.2).

Table 10.8 reveals that it is the lower wealth stratum households which are particularly engaged in cultivation. For all locations the poor showed the highest percentage of farming households. However, not the middle but the higher wealth class takes up second position in this respect. Thus the often aired statement that cultivation is solely for the poor seems outdated. Nowadays even the most wealthy also seem to be interested in farming.

Table 10.8 Cultivating Households by Wealth Strata

	Olkinos	Embolioi	Kiboko	Elang'ata Wuas	Lorngosua	Meto	Ind. ranchers	Buyers
Stratum I	45.9	48.0	33 3	26.1	36.4	88.4	66.7	71.4
Stratum II	27 6	33.0	18 2	3.3	30.6	82.1	45.5	0 0
Stratum III	35.7	42.3	31 3	9.5	22.6	86.4	41.2	100.0

Source: author's survey

The farmers' main reason for practising cultivation was for subsistence reasons, though some respondents used the produce for exchange or sale to raise a little money. Non-Maasai wives have played a role in increasing acceptance of cultivation which is said to have been alien to the Maasai because of the low and unpredictable rainfall and due to cultural barriers (crop production being seen as an inferior venture) (see e.g. Sinket 1990:93 and van Klinken & ole Seitah 1990:99). Irrigated agriculture in particular is becoming a favoured occupation among Maasai pastoralists (see Masharen 1989:9).

We also questioned those not engaged in cultivation as to why they were not. In table 10.9 the reasons for not cultivating a *shamba* are presented.

Table 10.9 Reasons For Not Cultivating (%)

	Olk	Emb	Kib	Ews	Lor	Met	Ind	Buy	Total
Lack of (reliable) rainfall		18.8		60 0	18.2		42.9	n.a	25.9
Lack of (money for) labour	27 5	68.8	14.3		40.9	50.0	14.3	n.a.	25.4
No interest/no need		6.2	42.9	5.5	27.3		28 5	n.a.	13.2
Not/just settled	45.0	6.2			2.3	50.0		n.a.	11.6
Lack of good land	2.5		7.1	12.7	4 5			n.a.	7.7
Crop damage by animals	25.0			1.8				n.a.	6.0
No seeds/equipment			14 3	7.3	4.5		14.3	n.a.	5.0
No farming knowledge			7.1	9.1				n.a.	3.3
No land in possession			14.3	1 8	2.3			n.a.	2.2

Source: author's survey

Lack of adequate and reliable rainfall and inadequate availability of labour are the main reasons mentioned by the households for not practising cultivation. The problematic position of large parts of Elang'ata Wuas group ranch is reflected in that 60.0 per cent of these households mentioned the lack of reliable rainfall as being the major obstacle. The suitability of the soil was hardly mentioned. This is in line with the remarks made by Mortimer in 1932 concerning the failure of cultivation in the Sultan Hamud-Konza area being foremost drought and infestations of caterpillars and locusts (see KLC 1934:1250). Likewise Metson (1974:table 31) found that only 15.7 per cent of the respondents mentioned poor soils as an obstacle to farming.

The percentage of cultivating households that hire non-Maasai labour is highest among individual ranchers (64.3 per cent) and Meto Maasai (56.2 per cent), followed by Embolioi (48.1 per cent), Olkinos (43.6 per cent), Lorngosua (42.3 per cent) and Kiboko (10.0 per cent). None of the Elang'ata Wuas respondents mentioned the hiring of labour.

Table 10.10 suggests that both sexes are involved in all aspects of cultivation. Men seem to be slightly over-represented in ploughing, while planting, weeding and harvesting are mostly done by women. Rather surprisingly, daughters are less involved in cultivation than we had expected. Other members (dependents or casual labourers) are mainly involved in ploughing.

In the past, cultivation has often been propagated by the Colonial Authorities as an alternative to stock-keeping. However, diversification into cultivation enables a growth in livestock numbers directly as well as indirectly. The proceeds of commercial agriculture are often reinvested in the livestock sector (see Masharen 1989:9). Likewise, subsistence production leaves, potentially, more milk for the calves. This provides an extra stimulant for their growth and reduces the risks of calf-mortality.

Table 10.10 Involvement of Household Members in Cultivation (%)

Area	Household member	Ploughing	Planting	Weeding	Harvesting
Olkinos	Heads	43.6	46.2	46.2	53.8
	Wives	55.0	90.0	85.0	95.0
	Sons	52.4	57.1	57.1	66.7
	Daughters	22.7	56.5	52.2	52.2
	Others	93.1	78.9	63.2	85.0
Embolioi	Heads	44.4	33.3	37.0	55.6
	Wives	36.7	38.7	35.5	51.6
	Sons	65.4	73.1	69.2	73.1
	Daughters	23.8	36.1	38.1	47.6
	Others	100.0	92.3	84.6	92.3
Kiboko	Heads	22.2	22.2	44.4	11.1
	Wives	77.8	100.0	100.0	100.0
	Sons	62.5	62.5	75.0	75.0
	Daughters	33.3	50.0	66.7	50.0
	Others	100 0	100.0	100.0	100.0
Elang'ata Wuas	Heads	33.3	33.3	22.2	22.2
	Wives	77.8	77.8	88.9	100.0
	Sons	28.6	14.3	0.0	14.3
	Daughters	0.0	12.5	0.0	12.5
	Others	n.a	n.a.	n.a.	n.a.
Lorngosua	Heads	80.8	61.5	50.0	56.0
	Wives	40.0	60.0	68.0	70.8
	Sons	31.3	31.3	31.3	33.3
	Daughters	7.7	7.7	15.4	16.7
	Others	100.0	20.0	10.0	44.4
Meto	Heads	69.7	79.8	78.7	80.9
	Wives	25.6	68.6	68.8	76.7
	Sons	29.3	62.1	62.1	62.1
	Daughters	3.5	22.8	26.3	28.1
	Others	98.1	52.0	38.8	30.6
Olkinos Buyers	Heads	42.9	42.9	42.9	57.1
	Wives	42 9	85.7	71.4	85.7
	Sons	33.3	66.7	66.7	83.3
	Daughters	33.3	50.0	66.7	83.3
	Others	n.a.	100.0	100.0	100.0
Individual ranchers	Heads	7.1	14.3	14.3	14.3
	Wives	31 3	62.5	56.3	62.5
	Sons	33.3	66.7	66.7	66.7
	Daughters	42.9	64.3	64.3	64.3
	Others	90 9	60.0	70.0	60.0

Source: author's survey

We believe that account should be taken of the fact that the diversification of the household economy not always lead to an analogous level of growth in income. For example, productivity in the livestock sector is likely to fall if less time can be spent on this enterprise. As early as the 1930s, Count Dornhoff, reporting to the Kenya (Carter) Land Commission, pointed out the difficulty of rearing cattle in agricultural-potential areas which are often fly-infested. In that case the *boma* is located too far away and control over the cultivated plot is lost allowing wildlife and livestock to destroy crops (see KLC 1934:1208).

Research assistants in Embolioi reported a relative lack of interest in the livestock enterprise when households were engaged in the mining industry. Likewise absentee individual ranchers, having their main occupation mostly outside the livestock sector, mentioned a similar negative aspect to their homebound livestock enterprise performance. Overall, however, diversification enables the spread of risks and creates opportunities for "straddling" so that earnings, knowledge and experience obtained in occupations outside livestock-keeping can be used to one's own benefit (see Poyck 1985:35).

Several authors have stressed the need for the diversification of the Maasai economy, particularly in coping with the negative consequences of group ranch subdivision. Nevertheless, as Potter (1989:30) remarks 'Agriculture is incapable of doing it alone'. Sources of income outside agriculture should be sought to help the Maasai to fulfil the needs of a growing population.

Apart from cultivation, three specific opportunities for diversification were mentioned by the 1989 ASAL conference: the exploitation of minerals, tourism and livestock based industries (see van Klinken & ole Seitah 1990:100). Instead of having others reap the benefits of the district's fortunes (e.g. the mining companies or the tourist industry) it was said that the Maasai themselves should take advantage of these assets. At least they should be compensated fairly for the labour provided in the mining business and the negative effects of tolerating wildlife on their pastures.

Campbell (1986:51) perceives a largely untapped potential for the development of livestock-related small-scale industries. For example, slaughtering and leather-working activities could generate off-farm employment. In this way a new opportunity could be provided for the Maasai population without disrupting their socio-economic system. Holland (1989:21) stresses that some of these industries (tanning, slaughter, leather-craft) exist at the fringes (e.g. Athi River, Ong'ata Rongai) of Kajiado District but that they are mostly run by the Kikuyu, partially because of the Maasai's traditional negative attitude to these activities. Still, he pictures a change in the outlook for Maasai engagement in slaughtering, butchering and leather-crafts. It is mostly women who play an important role in the development of the latter activity. Today as well as products being exported to the Nairobi tourist stores handicraft shops can also be found in Kajiado District.

Campbell (1981b:58) points out that some of the following conditions would have to be met: suitable scale of operations; improved quality of livestock, hides and skins and appropriate financing arrangements. We would like to underline the present difficult position of the leather-processing industry world-wide. After the Second World-War until the early 1980s conditions for this industry flourished. Since then overproduction in Australia and the increase of shoats-keeping in Europe as a result of the EG-milk quota, resulted in a collapse of the market. Prices dropped and factories closed. In Australia 20 million sheep were killed in an attempt to restore a balance between supply

and demand (see Volkskrant 22/07/92).

Diversification *within* the livestock sector of the Maasai household economy, i.e. changing the herd's composition, is another option. We already mentioned the growing importance of small stock as opposed to cattle (see section 8.1.1). Furthermore, the importance of poultry, rabbits and apiculture (bee-keeping) is rising. Pigs are found in the Ngong area. It is mostly non-Maasai households that are involved in these enterprises (see table 8.3).

A revolutionary development has been the recent introduction of camels to Kajiado District.[4] The Ministry of Livestock Development in co-operation with the ASAL programme managed to transport 110 camels from Wajir District to willing buyers of the Kajiado Maasai.[5] A subsidy from the ASAL programme allowed the price of a camel to be set at Ksh. 1,000/- only. The idea was that camels as browsing animals provide an opportunity to Maasai pastoralists to make better use of the taller shrubs and bushes available in Kajiado District. Moreover, watering is only required three times a month, resulting in a high(er) rate of survival during times of severe drought. Also, milk production during these times continues longer than with cattle. Drawbacks to camel keeping are their proneness to diseases (e.g. Trypanosomiasis), high calf mortality, expensiveness and problematic handling. A successful introduction will depend on the Maasai getting used to the milk and the animals ability to survive in the semi-arid ranges of Kajiado District. This is particularly true for newborn camels.

Finally, as Sinket (1990:96) rightly stresses, certain infrastructural improvements (communications, water supply, education) must be undertaken to make the process of diversification possible. Bekure et al. (1987:448-9) also call for an integrated rural development effort although they place most emphasis on the intensification and commercialization of the livestock economy. Community development centres run by local Maasai development workers trained in practical skills and geared to livestock extension (including veterinary services, maintenance of water facilities, provision of inputs and

[4] Camels are the dominant species kept by Saharan pastoralists. They also use the camel to ride on. In contrast East African pastoralists are called herders-on-foot. Pastoral groups like the Turkana, Rendille, Gabbra and Somali, living in the arid zones of northern Kenya, keep camels but not for human transport. Pastoralists, especially those living in the semi-arid areas, often hardly have any camels but concentrate on cattle and small stock.

[5] On October 2nd 1989 the camels were handed over to the 58 Loodokilani and Matapato Maasai owners at Bissel Holding Ground. Among the buyers were established individual ranchers as well as group ranch members and one women's group. It was agreed to form five camel herding groups herded by a herdsman. Reactions so far have been positive (e.g. camel meat is highly appreciated). But some Maasai herding boys in Lorngosua group ranch killed a camel that had gone astray. They had never seen one before and feared that this giraffe-like creature would attack their cattle.

breeding stock, livestock marketing) adult education, infrastructural development and maintenance should be started at local level. In addition to national and international commitments poll taxes should be introduced to finance these projects. In the following sections we look at the intensification of the Maasai economy.

10.4 The Intensification of the Maasai Economy

To raise output from livestock labour, resources and capital can be adjusted to increase productivity. We tried to gain information for a number of these parameters in respect of the intensification of Maasai livestock production. The issue of increasing primary production (i.e. raising herbage production by applying a proper stocking rate and other range management practices such as water improvements) has been dealt with in chapters 7 and 8. Here our interest will primarily focus on the means applied to improve secondary productivity (i.e. to directly raise the output per animal: use of veterinary medicines, vaccinating, dipping or spraying of animals, introducing improved breeds, frequency of milking and the like). The consequences of these measures are mostly the intensification of labour and capital.

Cultivating practices can also be intensified, for example, by irrigating which gives shorter intervals between farming seasons (i.e. the intensification of land use) or by intensifying inputs of labour or capital (e.g. fertilizers, pesticides, improved seeds).

10.4.1 The Intensification of Livestock Production

According to Poyck (1985:22) the Maasai society of the past was characterized by a minimal labour intensity of as little as 1 to 2 hours a day as livestock herding was mostly performed by the older children. It is understood that Poyck only refers to men in respect of labour input as in the past the labour intensity for women would have been higher considering their nomadic existence (i.e. packing up and rebuilding their huts) and relatively large herds (i.e. milking many animals).

In the early 1930s Count Dornhoff told the Kenya Land Commission that 'all the cows which are fresh in milk are generally milked but then many of the cows which would still give some milk are left over. I know that a cow will give on an average not more than half a gallon [2.3 l]. I should think the average is below that, I should say about three pints [1.7 l]. (...) there is a great deal more milk than is used' (KLC 1934:1205/6). It is not known whether or not Dornhoff was acquainted with the Maasai practice of milking only two teats leaving the others for the calves.

As reported by de Leeuw and Wilson (1987:381) assessing milk yields in traditional herds presents considerable difficulties, one major problem being the

partitioning of total milk output into that taken by calves and that for human consumption. The ILCA survey among Maasai households has also made clear that milking strategies of poor households (less than 30 cattle) differed from that of wealthy ones (over 250 head). Rich herd owners took only 20 per cent of the potentially available milk, whereas poor households extracted near the maximum. In rich households only one third of the cows with calves were milked, mainly once a day rather than twice daily as was practised by poor households (see de Leeuw & Wilson 1987:381).

Potter (1989:14) mentions a maximal daily yield of 3 litres per Maasai cow, of which, after allowing the calf to suckle, only one litre would be available for human consumption. Thus a 100 ha farm could support about 20 cows of which some 15 would be lactating continuously. In other words, a maximum of 15 litres per day is expected for the household, causing Potter to see relying on subsistence production from natural grazing to be foolhardy.

We asked respondents to estimate the daily milk production of their herd of cattle available for human consumption, the number of times livestock was milked, and the practice of milking small stock (see table 10.11).

Table 10.11 Milking Practices Among Maasai Pastoralists

Milk output Maasai hholds	Olk (n=93)	Emb (n=70)	Kib (n=36)	Ews (n=70)	Lor (n=95)	Met (n=104)	Kap (n=14)	Loo (n=7)	Mat (n=11)	Buy (n=3)
CATTLE										
av. nr lactating	7.9	10.5	19.5	17.8	15.5	14.0	31 9	60.9	37.7	29.3
av. nr milked	5.8	7.2	14.1	16.9	13.1	12.2	17.6	48.4	25.5	19.0
% milked	73%	69%	72%	95%	85%	87%	55%	79%	68%	65%
av. ltrs/hh/day	9.6 1	6.5 1	8.7 1	20.2 1	20.7 1	22.6 1	19.6 1	53.0 1	50.1 1	10.7 1
ltrs/cow/day	1.7 1	0.9 1	0.6 1	1.2 1	1.6 1	1.9 1	1 1 1	1.1 1	2.0 1	0.6 1
SHOATS										
hh milking in wet season	9.2%	2.8%	16.2%	56.3%	69.5%	82.5%	0.0%	33.3%	45.5%	0.0%
av. ltrs/hh/day	6.0 1	12.0 1	1.6 1	4.1 1	3.5 1	2.5 1	n.a.	11.7 1	3.0 1	n.a.
hh milking in *dry season*	*22.4%*	*9.9%*	*16.2%*	*32.4%*	*43.2%*	*14.6%*	*7.1%*	*11.1%*	*18.2%*	*0.0%*
av. ltrs/hh/day	5.4 1	3.7 1	1.3 1	1.8 1	2.5 1	1.0 1	6 0 1	3.0 1	1.5 1	n.a.

Source: author's survey

The data presented in table 10.11 should be interpreted with great care. As stated above by de Leeuw and Wilson several factors are involved in determining the actual availability of milk for human consumption. For instance, the seemingly smaller quantity of milk available for human consumption among the Kaputiei households is congruent with a lower need as their households are also smaller. The degree of diversification is also expected to influence the need for milking for human consumption. The ability to purchase food lowers the demand for milk and meat from the herd. In contrast, poor people are forced to milk more animals for larger quantities at the expense of the calves. The high daily production of 1.9 litres for Meto cows as compared, for instance, with the 0.6 litres for Kiboko could be due to the relatively less wealthy households living in Meto group ranch as compared to the better-off Kiboko Maasai. The litres produced per cow presented here do not necessarily reflect the milking quality of the cows.

Nevertheless, our data seem to confirm the afore mentioned practice of rich ranchers milking less animals than are potentially available (i.e. 55 to 79 per cent) while other ranchers milk some 70 to 95 per cent of all the lactating cows. Households milking small stock are mainly found among the Matapato and Loodokilani Maasai. The impact of the dry season period on milk output can be seen in that the availability of milk per household is significantly higher during the wet periods. Again no hard conclusions can be drawn as to output per animal.

Another factor influencing the household's production of milk is the number of improved breeds available. Under favourable conditions these animals are able to produce more milk than indigenous breeds. For instance, White & Meadows (1981:iii) reported that: 'the Sahiwal crosses in the zone IV areas recorded higher milk yields than the Small East African Zebus throughout the study period, even at the end of a long dry period from August to mid November 1980, when it was thought that conditions might have been too harsh for them, with adverse effects on milk production.'

As highlighted in chapter 6 the Maasai pastoralists have always shown an interest in keeping improved breeds. Colonial regulations, however, frustrated the importation of Boran cattle from northern Kenya. Since Independence a significant number of bulls of other breeds have been introduced into Kajiado District in an attempt to improve the quality of the Maasai herds and to increase the production of milk and beef. The most important introduction has been the Sahiwal (Bos indicus) which is a comparatively recent arrival to Kenya from Pakistan (see White & Meadows 1981:23). Other exotic animal types, though much less in number, include Boran, Friesian, Ayrshire, Simmental, Jersey and Charolais. These animals have been bought either as pure breeds or as a cross-breeds with the local Zebu.[6]

The original Maasai sheep were the Red Maasai sheep (also named Fat-Tailed Brown Maasai). Since the early 1970s crossbreeding is reported as being on the increase. For this purpose use is made of Dorper and Blackheaded Somali sheep in particular. Other imported sheep species are the Merino and Suk. According to White and Meadows (1981:24) the upgrading of goats is

[6] The Small East African Zebu is the major breed of East Africa. It is smaller than the Boran or Sahiwal. Several types of the Small East African Zebu exist that vary somewhat in size and colour. The Maasai type shows many signs of other breeds, particularly Nandi Zebu, Boran and Ankole longhorn found in Central African countries. In general, Maasai Zebu are taller than other Small East African Zebu. The typical colour is black. Though the milk yield is low the cattle tend to be long-lived (breeding lives of 15 cattle in 20 years). They can go for long distances and can stand being without water for two to three days (see Pratt & Gwynne 1978:147). They have a high tolerance of local diseases and a long breeding life. Potter (1989:22) questions the hardiness of European breeds and warns against the unconsidered condemnation of the Zebu.

less common. The Small East African goat still dominates the Maasai household's flocks. In fact, before the 1960/61 drought there were hardly any goats in some parts of Kajiado District goats. This has changed nowadays and the Galla goat has become popular for upgrading purposes. Other exotic goats are the Boer goat and Tockenburg goat (particularly in Ngong).

Ingule studied the time of acquisition and important factors involved in adopting improved breeds among a group of 300 Kajiado Maasai (see Ingule 1980:60). It turned out that over the 1940-1980 period almost three quarter of the respondents had acquired their improved breeds in the 1961-1970 period. According to Ingule the role played by the Maasai Rural Training Centre-Isinya has been of importance. Members of MRTC visited cattle dips to inform the Maasai herders concerning exotic breeds. The 1960 disaster was mentioned as a significant moment for speeding up the adoption of improved breeds.[7]

By 1980 four out of nine Kiboko households owned some Sahiwal crosses. comprising 15 per cent, 25 per cent, 40 per cent and 50 per cent of their herds, respectively. On Elanga'ta Wuas five of the nine households (56 per cent) had improved breeds in their herds, but on Lorngosua all cattle owned had local Zebu. Among individual ranchers a total of 52 per cent had upgraded animals (see White & Meadows 1981:24). For the late 1980s Sinket (1990:95) noted a trend in Kajiado District in animal production towards dual purpose breeds, Sahiwal in particular.

We tried to gain some insight into the percentage of improved breeds within the Maasai herds of today. In chapter 4 we cited a Ministry of Livestock Development estimate that by the end of the 1980s 60 per cent of the district herd would still be local Zebu. The exact importance of improved breeds is hard to determine and was outside the scope of this survey. We restricted ourselves to determining the number of pastoralists having improved breeds at all. In addition information was gathered on the types of improved breed.

Table 10.12 provides an overview of these aspects. It shows that Elang'ata Wuas group ranch members in particular seem to be significantly more interested in improved breeds than other Maasai. This is not in line with ILCA's statement that the introduction of improved breeds is mainly restricted to group ranches that receive higher rainfall (see Bekure et al. 1987:420). However, though improved breeds have higher watering and feeding requirements the impact of livestock diseases seems to be crucial in understanding the adaptation of improved breeds. It is said that ECF is present mainly in the higher rainfall receiving zones of the district (see White & Meadows 1981:31).

[7] We would like to point out the impact the ending of the status of closed district had on the banning of livestock imports and the importance of outside assistance after 1960.

Table 10.12 Percentage of Pastoralists Having Improved Breeds and Percentage Distribution over Types of Improved Breeds Held

Improved breeds	Olk	Emb	Kib	Ews	Lor	Met	Kap	Loo	Mat	Buy
% having improved	*16*	*42*	*65*	*79*	*33*	*47*	*71*	*89*	*91*	*67*
CATTLE										
Sahiwal	56	81	90	62	38	40	50	39	46	67
Boran	18	13	10	17	30	45	22	22	27	0
Friesian	26	3	0	13	15	7	22	11	8	33
Ayrshire	0	0	0	2	12	0	6	6	0	0
Other	0	3	0	5	5	8	0	23	20	0
% having improved small stock	*24*	*36*	*73*	*88*	*46*	*76*	*71*	*89*	*100*	*67*
GOATS										
Galla	91	100	90	97	91	96	100	67	92	100
Boer	9	0	10	3	2	0	0	22	8	0
Other	0	0	0	0	7	4	0	11	0	0
SHEEP										
Dorper*	96	93	69	86	100	97	80	87	100	0
Merino	4	0	31	9	0	0	20	13	0	0
Other	0	0	0	5	0	3	0	0	0	0

Source: author's survey

* crossbreed of *Dor*set Horn and *Per*sian Blackhead sheep.

Table 10.13 Percentage of Ranchers with Diseased Livestock Among Their Herds and Flocks

Cattle	East Coast Fever	Foot & Mouth	Malignant Catarrh	Trypano somiasis	Other#	Disease free
Olkinos	97.9	71.6	7.4	0 0	11.6	1.1
Embolioi	83.8	25.7	28 4	0.0	23.0	8.1
Kiboko	80.6	25.0	2.8	66 7	36.1	5.6
Elang'ata Wuas	45.1	52.1	0.0	0 0	23.9	16.9
Lorngosua	88.9	77.8	0.0	0.0	41.4	9.1
Meto	98.1	44.2	1.0	1.0	36.5	0.0
-Kaputiei IR	92.3	53.8	30.8	7.7	30.8	7.7
-Loodokilani IR	57.1	71.4	0.0	0.0	42.9	0.0
-Matapato IR	90.9	54.5	0.0	0.0	90.9	0.0

Sheep and Goats	East Coast Fever*	Foot & Mouth	CCPP	Orbuss	Manges	Diarrhea	Ovine entor.	Other	Disease free
Olkinos	35.1	24.7	32.0	12.4	11.3	0.0	1.0	15.5	39.2
Embolioi	29.4	1.5	17.6	16.2	26 5	25.0	4.4	14.7	38.2
Kiboko	5.6	27.8	58.3	0.0	2.8	2.8	5.6	22.2	22.2
Elang'ata Wuas	1.4	15.5	43.7	0.0	1.4	21.1	15.5	2.8	32 2
Lorngosua	4.1	2.1	52.6	0.0	4.1	46.6	38.1	7.2	17.5
Meto	25.0	2.9	18.3	0.0	0.0	59.6	15.4	11.5	15.4
-Kaputiei IR	57.1	21.4	35.7	0.0	7.1	14.3	0.0	28.6	21.4
-Loodokilani IR	0.0	12.5	75.0	12.5	0.0	12.5	37.5	0.0	12.5
-Matapato IR	18.2	0.0	36.4	0.0	0.0	36.4	36.4	18.2	18.2

Source: author's survey

* sheep only;

\# mainly anthrax in Olkinos, Elang'ata Wuas and Lorngosua and contagious abortion among animals of Meto and Matapato individual ranchers.

According to the Ministry of Livestock the five major livestock diseases found in Kajiado District are East Coast Fever, Trypanosomiasis, Foot & Mouth, CBPP and rinderpest (see KDDP 1988:106-7). The latter had been almost eradicated while CBPP occurred in mostly periodic outbreaks. ECF and Trypanosomiasis cannot be controlled by vaccination and are, in general, responsible for livestock deaths. Only preventative treatment, by way of dipping is possible. Table 10.13 provides an overview of the percentage of Maasai herders that mentioned that their animals had been affected by some kind of disease in 1989. The prevalence of ECF and F&M for cattle and ECF, Contagious Caprine Pleuro Pneumonia (CCPP) and diarrhea for shoats is clearly shown.

Apparently the major reason for the relatively better performance of improved breeds in the Loodokilani area compared to other parts of Kajiado District seems to be related to the remarkably lower frequency of ECF. This peculiarity of the Loodokilani area has been recognized by several author's (see e.g. van Klinken & ole Seitah 1990:97 and White & Meadows 1981:27). Several respondents also stated that they had transferred part of their herd to the Loodokilani area because of the relatively less frequent occurrence of livestock diseases. One key informant, a Maasai individual rancher from Olkiloriti, stated he had transferred 40 young steers acquired via an AFC loan, to a relative in Elang'ata Wuas to avoid ECF which was prevalent in his home area. Likewise, at the time of the 1988 Livestock Census ranchers from North-Kaputiei often mentioned the Loodokilani area as the destination for cattle they had temporarily transferred from the household's home area.

For small stock the percentage of ranchers stating to have disease-affected animals was much lower than among cattle owners. This could be the rationale for the slightly larger number of ranchers who had improved sheep or goats as compared to improved cattle (see table 10.12). The much higher body weight of Dorper sheep, in particular, is popular among Maasai pastoralists. Likewise the Galla goat is said to produce more milk than the local Maasai breed. Nevertheless, at the Conference on the Future of Maasai pastoralists it was reported that the Galla goat is more susceptible to pneumonia (see van Klinken & ole Seitah 1990:97).

Other types of upgraded shoats are also more vulnerable to diseases than the indigenous species. Among our group of respondents one Olkinos rancher mentioned that he had bought a Boer goat in 1985 which died within 12 weeks. Another had only recently bought a Merino sheep that had died soon after. For this reason some Conference participants favoured a strategy of selective breeding with the local Maasai goat in order to raise milk output while preserving the qualities of hardiness and resistance to diseases.

Table 10.14 shows the main reasons given by some of the Maasai pastoralists for having no improved breeds. High acquisition costs were most often mentioned. The risks and the lack of availability were also among the

main reasons given for having no improved breeds Lack of interest in these was hardly ever expressed. As a result of the variety in topographic location, local environmental conditions and wealth standards the importance of each of the factors mentioned above varies.

Table 10.14 Reasons Given by Maasai Pastoralists for Having No Improved Breeds

	Olk	Emb	Kib	Ews	Lor	Met	Kap	Loo	Mat	Buy
% having no improved breeds	*84*	*58*	*35*	*21*	*67*	*53*	*29*	*11*	*9*	*33*
CATTLE										
Not available	14	7	9	17	22	23	0	0	100	
Too expensive	44	71	45	75	68	56	0	100	0	
Too much risk	35	14	36	8	8	17	0	0	0	0
Unfamiliar	5	0	9	0	2	2	0	0	0	0
No interest	2	7	0	0	0	2	100	0	0	0
% having no improved breeds	*76*	*64*	*27*	*12*	*54*	*24*	*29*	*11*	*0*	*33*
SHOATS										
Not available	19	6	0	11	33	58	0	0	0	
Too expensive	35	41	71	78	60	33	0	100	50	
Too much risk	38	41	29	0	4	9	0	0	0	
Unfamiliar	5	0	0	0	2	0	0	0	0	
No interest	3	12	0	11	0	0	100	0	50	

Source: author's survey

The lack of upgrading centres was one of the main problems pointed out by a study conducted by TARDA in the early 1980s. It was then concluded that: 'One of the constraints facing ranchers in Kajiado District is absence of a reliable source of improved beef stock. It is therefore proposed that four holding grounds i.e. Namanga, Emali, Kuku and Shombole be converted into duo-purpose centres for rearing better performing stock as well as accommodating bull camps' (TARDA 1984:123). In spite of these recommendations no action has been taken since then and the 1989 ASAL Conference also called upon the Government to be more active in ensuring the availability of improved breeds.

That year the new Kajiado District Development Plan revealed a willingness to upgrade the Maasai herds by the development of AI service and the encouragement of "bull camps" (see KDDP 1988:96). Financial assistance from the Kajiado ASAL Programme finally made it possible to build a Livestock Multiplication Centre. In Mile 46 the former holding ground (840 ha) was allocated to be turned into a centre for upgrading small stock. If successful, cattle improvement will also be taken in hand (see ASAL 1989-November:6)

Until the present time the Sahiwals were mainly obtained from upgrading centres in Naivasha and the Borans from Mutara. In 1988 and 1989 official imports of Sahiwal bulls stood at only 63 and 50. Boran bulls numbered 25 in

1989 and Friesian bulls 2 and 3 in 1988 and 1989, respectively (see MoLD/AR 1988, 1989). Apart from these official channels more improved breeds were obtained either from local upgrading centres or family members, friends and markets in or outside the district (see table 10.15). In general the ranchers tried to acquire a single bull for upgrading their cattle herd. Likewise rams and bucks are favoured though female sheep and goats are also purchased.

Table 10.15 Main Sources of Improved Breeds

ranch (n)	Olk (64)	Emb (65)	Kib (70)	Ews (168)	Lor (95)	Met (190)	Kap (30)	Loo (28)	Mat (47)	Buy (5)
own herd	9.4	0.0	2.9	4.8	0.0	14.7	0.0	0.0	4.3	0.0
friend/relative	10.9	4.6	2.9	41.7	4.2	36.8	16.7	28.6	29.8	40.0
neighbourhood	23.4	18.5	11.4	7.1	10.5	11.6	23.3	3.6	2.1	0.0
upgrading centre	53.1	73.8	65.7	28.0	37.9	11.6	56.7	42.8	48.9	60.0
livestock market	3.1	3.1	17.1	18.4	47.4	25.3	3.3	25.0	14.9	0.0

Source: author's survey

Note: for all acquisitions of improved breeds (both small and large stock) we recorded the place of procurement. In general a transaction consisted of only one or two animals.

Finally, we tried to gain some information about the willingness of the Maasai to increase the relative number of improved breeds within the Maasai herds. Table 10.16 shows that a nearby multiplication centre will be warmly welcomed by the Maasai herders for cattle and small stock alike. The low percentage of Olkinos ranchers having improved breeds as demonstrated in table 10.12 is also reflected in their reservation about increasing their numbers.

Table 10.16 Maasai Willingness to Increase the Number of Improved Breeds in Herds and Flocks

Improved breeds	Olk	Emb	Kib	Ews	Lor	Met	Ind	Kap	Loo	Mat	Buy
CATTLE											
Decrease	1.1	1.9	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
No change	45.3	9.5	36.0	2.8	2.1	12.9	16.7	35.7	0.0	9.1	33.3
Increase	53.7	88.6	56.0	97.2	97.9	87.1	83.3	64.3	100.0	90.9	67.7
SHOATS											
Decrease	2.1	1.9	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7
No change	43.2	11.3	16.0	1.4	2.1	9.0	16.7	35.7	0.0	9.1	16.7
Increase	54.7	86.8	80.0	98.6	97.9	91.0	83.3	64.3	100.0	90.9	66.6

Source: author's survey

The intensification of the Maasai livestock sector therefore mainly involves the increased application of capital to the acquisition of improved breeds. In addition, these breeds are more susceptible to disease and call for increased expenditure on the buying of veterinary medicines and vaccinations. Finally, because of this and the more frequent need for water the input of labour has also been intensified.

The Kajiado District Development Plan (1988:106-7) estimated that some

35 per cent of Kajiado cattle was vaccinated.[8] This low percentage is mainly due to problems occurring at the supply side such as the poor supply of vaccines and the district's poor infrastructure. A setback of vaccinating one's animals is a drop in milk production and the risk of other diseases affecting the animal as the health condition of the animal is lowered (see White & Meadows 1981:iii). On the other hand animals which are dipped have a higher rate of survival and higher milk production as the ticks obstipate the udderteats of the cow. It was reported by one key-informant that dipping had raised the rate of survival of calves from 25 to 75 per cent.

Table 10.17 Veterinary Care Practised by Maasai Pastoralists (per cent)

	Olk	Emb	Kib	Ews	Lor	Met	Ind	Kap	Loo	Mat)
CATTLE										
dipping	21.0	25.3	2.7	2.8	7.1	59.6	53.0	78.6	0.0	63.6
hand-spraying	72.7	73.2	91.9	98.6	77.8	23.1	47.1	28.6	88.9	36.4
drenching	11.6	0.0	5.4	0.0	23.2	0.0	11.7	14.3	22.2	9.1
vaccinating	25.3	4.2	13.5	76.1	27.2	1.0	41.2	28.6	66.7	36.4
antibiotics	8.4	0.0	0.0	28.0	9.0	0.0	8.9	14.3	11.1	18.2
SHOATS										
dipping	5.1	14.1	0.0	0.0	5.2	5.8	23.5	35.7	0.0	27.3
hand-spraying	83.7	76.1	94.6	100.0	91.7	81.7	79.4	70.4	88.9	72.7
drenching	56 1	43.7	91 1	100.0	67.7	37 9	76.5	92.9	88.9	45.5
vaccinating	31.5	1.4	2.7	22.2	17.0	0.0	29.3	28.5	44.4	18.2
antibiotics	33.6	0.0	0.0	33 3	5.0	1.0	11.8	21.4	22.2	18 2
formaline bath	27.5	0.0	0.0	37.5	0.0	0.0	20.5	21.4	44.4	0.0

Source: author's survey

Table 10.17 shows the practices applied by the Maasai ranchers in respect of the veterinary care practised. It shows that nowadays most Maasai households are involved in dipping or hand-spraying their livestock.[9] Vaccinating is mostly practised among the Elang'ata Wuas ranchers. Their dedication to

[8] Vaccinations are mainly given to control CBPP, Rinderpest and F&M. ECF and Trypanosomiasis, being tick-born diseases, cannot be controlled by vaccination. Only preventative treatment by way of dipping or spraying the animals with acaricide (see Pratt & Gwynne 1978:184-6). The bites of the ticks (*Theileria lawrencei*) act as transmitters of ECF. Treatment of ECF is only effective in the very early stages of the disease. Dipping should be done every five days as the best way to control East Coast Fever. The Olkinos enumerators came across a strange belief among some Olkinos ranchers that milking the cow "dry" would prevent it from being affected by ECF. Trypanosomiasis is spread by the tsetse fly (*Glossina*). For "Tryps" several curative drugs are available. Mention was already made of the practice of burning bush to eradicate the fly. In the Magadi area a tsetse trap has recently been introduced. A blue cloth, drenched in cow or buffalo urine equated with cheap natural chemical attractant lines a plastic bag. The flies are then killed by heat once they enter this bag (see DN 21/09/89).

[9] It should be kept in mind that the table provides no information concerning the frequency and quality of the dipping practices. In general dipping is done once every week. The dipping bath could be too watery or out of date which will make the treatment in-effective whilst too strong a solution could harm the animal. A problem also is that ticks become resistant to a certain type of acaricide. Hand-spraying was favoured for its mobility but is said to be less effective.

veterinary measures was also recognized by White and Meadows (1981:27) stating that on Elang'ata Wuas ECF was no problem, yet all households recorded the use of acaricide over the survey period.

Finally, improved feeding could increase the output of the livestock enterprise. Before we have shown that the provision of extra feeding or range improvement is virtually non-existent among the Maasai pastoralists interviewed (see table 9.19). According to several authors natural pastures will continue to be the main source of animal feed in the district (see e.g. Sinket 1990:94). Only in those rangeland areas where conditions are favourable, can the planting of, for example, napier grass be tried. Lowering of grazing pressures through the opening up of too remote water-deficient pastures by establishing new watering points is another option. A more even spread of livestock over the rangelands could therefore be a positive side effect of the subdivision of group ranches. On the other hand it does increase the risks of overgrazing on a local scale. Improved feeding, watering and management will be necessary if improved breeds are adopted. In conclusion, intensifying the input of capital (e.g. breed improvement, veterinary drugs, use of acaricide, watering, etc.) is seen as the best improvement possible (see Bekure et al. 1987:421).

10.4.2 The Intensification of Cultivation

In general the growing of crops under rainfed conditions in the rangelands of Kajiado District is successful in only 3 out of 8 seasons (see Bekure et al. 1987:417). Ways to offset the problem of poor rainfall and to increase the production of crops are shown in table 10.18.

Table 10.18 Practices Applied to Increase Crop Production

	Olk n=36	Emb n=31	Kib n=10	Ews n=9	Lor n=30	Met n=89	Ind n=17	buy 2 m	buy 5 nm
Tractor	63.9	16.1	10.0	0.0	0.0	0.0	25.0	50.0	80.0
Ox-plough	2.8	6.5	10.0	0.0	0.0	3.4	6.3	0.0	0.0
Certified seeds	41.7	9.7	50.0	0.0	13.3	0.0	18.8	50.0	80.0
Insecticides	8.3	3.2	0.0	0.0	0.0	0.0	6.3	0.0	0.0
Fertilizer	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0
Manure	2.8	0.0	20.0	22.2	3.3	0.0	31.3	0.0	40.0
Fenced shamba	25.0	22.6	50.0	66.6	20.0	27.0	43.8	50.0	60.0
Improved storage	5.6	0.0	0.0	0.0	0.0	0.0	12.5	50.0	40.0
Farm record	0.0	3.2	0.0	0.0	0.0	0.0	6.3	0.0	0.0

Source: author's survey

Note: application of a tractor means an intensified use made of capital while extensifying the input of labour.

The use of certified seeds seems to be the most wide-spread adoption so far. The favourable position of non-Maasai buyers is also clearly reflected.

10.5 The Commercialization of the Maasai Economy

In section 9.6.2 we quoted several authors who had conducted one or more years follow up studies of livestock transactions and who had stated that, for many years, the Maasai had sold virtually all their saleable cattle (see Evangelou 1984:256-7). In the foregoing we provided district-wide offtake figures for Kajiado cattle and small stock (see table 4.18). The impact of periods of drought (high offtake of up to 40 per cent) and times of post-drought (a mere 7 per cent) are significant as are climatic fluctuations on an annual basis. The outbreak of disease also influences the number of animals marketed as does the recurring obligation to pat school fees.[10]

Most of the above mentioned sales are provoked by events unlike the sales which are part of buying-fattening-selling or stock-trading practices. The high totals of female cattle also point to the still primarily milk-oriented livestock economy of the Maasai pastoralists.

10.5.1 The Selling of Livestock

The functions of livestock transactions are numerous. Among the most important is the sale of livestock for the payment of school fees, medicines, clothing, furniture and the like. For 1974 Metson found a total figure of 32.6 per cent of respondents who had sold livestock over a one year period (see Metson 1974:11/table 23). We found that, over a one month period in late 1989, 30 to 74 per cent of the respondents were involved in the selling of cattle (see table 10.19).[11] This could illustrate a growth in the importance of commercial livestock transactions. For small stock this figure stood at 21 to 64 per cent. Table 10.19 also shows the high reproductive rate of small stock and the net offtake of the herd, taking into account slaughtering and other transactions such as exchanges and gifts.

In table 10.20 the effect of wealth on livestock transaction strategies is highlighted. It can be concluded that the percentage gross offtake from poor rancher's herds and flocks is, in general, higher than that of most of the rich households.[12] Taking purchases into account the net offtake of the middle

[10] In this section we will restrict ourselves mostly to a qualitative analysis of this issue as we were only able to collect information about livestock transactions by Maasai pastoralists concerning a period of one month (December 1989).

[11] Multiplying this monthly figure by 12 to reach the annual offtake is pointless as livestock transfers occur in peaks. Likewise the number of newborn animals is subject to specific periods of the year.

[12] It should be noted that our figures refer to a number of animals without discriminating between the young or the mature. A more detailed analysis considering monetary values will be presented in forthcoming publications.

group is sometimes higher than that of the poorest group.

Table 10.19 Livestock Transactions for December 1989 (abs)

Cattle	Nr of holdings	Nr of cattle#	cattle out	cattle in	% net offtake*	calves born	% natural growth	% hh selling@
Olkinos	97	5,058	227	222	-0.1	479	10.4	35
Embolioi	73	3,433	191	106	-2.6	266	8.2	30
Kiboko	37	3,859	176	213	+1.0	273	7.7	68
Elang'ata W.	74	6,926	270	184	-1.3	574	8.9	68
Lorngosua	99	8,345	500	142	-4.5	735	9.2	74
Meto	104	7,323	399	185	-3.0	472	6.7	67
IR	33	8,542	301	105	-2.3	356	4.2	70
-Kaputiei	14	2,773	131	63	-2.6	106	3.9	64
-Loodokilani	8	3,068	45	14	-1.0	98	3.3	75
-Matapato	11	2,701	125	28	-3.7	152	5.7	82
Sheep and Goats	**Nr of holdings**	**Nr of shoats#**	**shoats out**	**shoats in**	**% net offtake***	**shoats born**	**% natural growth**	
Olkinos	99	10,646	506	481	-0.3	1,614	15.2	29
Embolioi	72	8,681	416	126	-3.7	1,140	14.6	21
Kiboko	38	3,828	186	29	-4.9	763	23.7	39
Elang'ata W.	73	9,832	635	258	-4.4	1,703	17.3	30
Lorngosua	96	8,174	588	252	-5.1	1,930	29.3	46
Meto	104	11,676	788	167	-6.0	1,978	19.2	64
IR	34	8,825	397	102	-3.9	1,490	19.5	47
-Kaputiei	14	4,283	251	48	-5.2	559	14.2	57
-Loodokilani	9	1,922	32	11	-1.1	197	11.3	22
-Matapato	11	2,620	114	43	-3.6	734	37.5	45

Source: author's survey
by February 1990
* compared to November 1989 situation (i.e. - calves/shoats born or bought + numbers sold)
@ excluding exchanges or gifts.

Table 10.20 Livestock Transactions by Wealth Class in December 1989 (as % of animals)

	Olkinos			Embolioi			Kiboko			Elan Wuas			Lorngosua			Meto		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Cattle																		
out	-7.4	-4.1	-4.8	-5.3	-4.6	-6.3	-12.1	-8.4	-3.7	-8.8	-3.9	-3.7	-15.8	-8 9	-3.9	-12.8	-6 5	-2.8
in	2.0	5.0	5.0	4.1	3.0	3.2	7.0	2.5	6.8	1 1	7 1	2.9	3.2	2 5	1.3	3.6	1.9	2.9
net	-5.4	0.9	0.2	-1.2	-1 6	-3.1	-5.1	-5.9	3.1	-7.7	3 2	-1.0	-12.6	-6.4	-2.6	-9.2	-4.6	0.1
Shoats																		
out	-10.1	-9.5	-3.6	-4.9	-4.0	-6.0	-8.9	-9.8	-4.7	-10.7	-5 6	-8.1	-19.4	-7.8	-6.7	-10 7	-8.9	-5.1
in	7.5	3.6	4.1	2.0	0.6	2.0	2 8	0.7	0.8	4.7	3.4	2.5	12 4	4.4	1.4	3.2	1 5	1.1
net	-2.6	-5.9	0 5	-2.9	-3.4	-4.0	-6.1	-9.1	-3.9	-6.0	-2.2	-5.6	-7 0	-3 4	-5.3	-7.5	-7.4	-4.0

	Ind. ranchers			Kaputiei			Loodokilani			Matapato			Buyers	
	I	II	III	I	II	III	I	II	III	I	II	III	I	III
Cattle														
out	-3 3	-6.7	-3 1	-3.3	-5.1	-5.1	n.a	-8.0	-0.4	-3.1	-7.5	-4.1	-7.7	0.0
in	0.0	1.4	1.3	0.0	0 0	2.6	n a	0.9	0.4	0 0	2 5	0.8	0.0	0.0
net	-3.3	-5.3	-1.8	-3.3	-5.1	-2 5	n.a	-7.1	0.0	-3 1	-5.0	-3.3	-7.7	0.0
Shoats														
out	-22 9	-8.7	-3.4	-26.0	-5.9	-4.7	0.0	-5.1	-0.9	-10.0	-12.6	-2.8	0.0	-0.9
in	11.2	1.5	0.7	13.5	2.2	0.3	0.0	2.6	0.1	0.0	0.4	3.0	11.5	0.0
net	-11.7	-7.2	-2.7	-12.5	-3.7	-4.4	0.0	-2.5	-0.8	-10.0	-12.2	0.2	11.5	-0.9

Source: author's survey

White & Meadows 1981 (appendix table 7) found overall cattle offtake (sales) percentages of 13.3, 12.3 and 12.0 for Kiboko, Elang'ata Wuas and Lorngosua, respectively in the August 1980-July 1981 period. Figures for shoats were 8.1, 6.4 and 10.6 per cent. For individual ranchers from Kaputiei, Loodokilani and Matapato they found annual offtake figures for cattle of 18.8, 22.6 and 12.7 per cent and for small stock of 24.5, 1.0 and 4.8 per cent.

For our sample ranches table 10.21 offers a detailed overview of the broad variety and relative importance of livestock transactions such as sales, exchanges, gifts and slaughter. Forms of acquisition are also shown. The data of table 10.21 highlights the importance of taking into account these other forms of acquisition and offtake when valuating the pastoral livestock system. For example, in Olkinos it was found non-sale offtake was responsible for between 17 and 42 per cent of gross cattle offtake, depending on the wealth class. Commercial sales were only enumerated for the richest Olkinos households.

Bekure et al. (1987:306) found that in Olkarkar and Mbirikani sales were responsible for 82 and 76 per cent, respectively, of cattle offtake. For shoats these figures were only 38 and 10 per cent. It was concluded that many sales simply do not go through market channels. Our data underline this statement. It can be seen that the level of sales of shoats in our sample is higher. This could mean a grown importance of commercial sales but could also be due to differences in place (closer to Nairobi) and/or in time (Christmas). In general, the sales of small stock decrease when the level of wealth rises. This seems to be in line with White and Meadows (1981:iv) who reported that rich households mainly depended on the sale of cattle while poorer households mainly relied on the selling of small stock.

Exchange as a form of livestock acquisition offers the advantage of knowing exactly what kind of animal is obtained as the former owner is, in most cases, a relative or a friend. Sometimes the exchange is in part a gift when, for instance, a goat is exchanged for a cow. Gifts are provided for helping a friend or relative in need, for tightening social relations or for conducting a ceremony. Bekure et al. (1987:303) rightly stress that the gifting of small stock in particular is a very important social mechanism among the Maasai. Small stock is also mostly used for home slaughter.

Bekure et al. (1987:318) found that commercial purchases accounted for 58 per cent of the reported cattle acquisition in Olkarkar and only 37 per cent in Mbirikani. Figures for small stock were 47 and 39 per cent, respectively, but thought to be overestimated. Among our group of respondents purchases of cattle are highest among the northern Kaputiei ranchers and less so among the Matapato ranchers. The Meto ranchers in particular obtained most animals via exchange. In contrast purchases and gifts are the most important ways for acquiring small stock. Appendix 10.1 gives more information concerning the sale and purchase of cattle and shoats.

Table 10.21 Relevance of Type of Livestock Transactions by Wealth Class in December 1989

	Olk			Emb			Kib			Ews			Lor			Met			Ind		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Cattle																					
sale	57	53	36	76	55	55	48	48	26	85	51	62	82	63	58	56	64	50	84	55	52
com. sale	0	0	34	0	0	29	21	11	34	0	21	0	0	23	3	0	3	11	0	33	29
slaughter	30	29	23	0	4	5	10	10	11	5	3	14	4	7	18	22	11	0	16	5	10
exchange out	10	0	0	0	4	6	0	0	0	5	5	0	4	2	3	14	6	21	0	0	1
gift out	3	18	6	24	37	5	21	31	29	5	20	24	8	27	18	8	16	18	0	7	10
purchase	63	27	20	0	26	0	0	20	2	60	19	24	19	27	31	3	6	7	-	0	0
com. purchase	0	48	71	68	17	75	54	24	60	0	45	0	25	20	23	30	5	14	-	0	85
exchange in	37	2	0	0	0	19	0	0	34	20	10	66	13	27	23	52	61	52	-	79	0
gift in	0	23	9	32	57	6	46	56	4	20	26	10	44	27	23	15	28	27	-	21	15
Shoats																					
sale	54	31	17	44	56	46	37	28	11	39	25	15	58	37	32	31	56	38	10	38	47
com. sale	4	0	6	8	0	14	0	0	34	0	6	0	2	0	0	9	0	10	49	0	0
slaughter	24	55	51	30	18	30	47	51	30	38	47	33	17	33	32	39	20	22	40	28	38
exchange out	3	0	3	0	0	0	0	0	0	0	2	32	3	9	11	7	8	12	0	13	0
gift out	15	14	23	18	26	10	16	21	25	23	20	20	20	21	25	14	16	18	1	21	15
purchase	73	30	39	10	67	15	0	0	29	93	49	8	28	74	36	53	31	20	0	27	0
com. purchase	3	50	32	0	0	70	0	0	43	0	17	4	35	5	14	0	25	0	100	20	0
exchange in	3	0	2	0	0	0	0	0	0	2	3	64	13	7	14	16	13	0	0	0	1
gift in	21	20	27	90	33	15	100	100	28	5	31	24	24	14	36	31	31	80	0	53	99

Source: author's survey

10.5.2 Selling Hides and Skins

For 1974 Metson found that only 25 per cent of the interviewed households sold hides and skins (see Metson 1974:table 22). We were also interested in the commercial importance of this livestock related activity. Households were asked if they had sold or bartered cow hides, calf skins or shoats skins during the last month. Table 10.22 gives the outcome.

Table 10.22 Selling of Hides & Skins (percentage of households involved by wealth strata)

	Olk			Emb			Kib			Ews			Lor			Met		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Cow hides	38	45	68	33	29	46	33	30	33	13	10	10	24	31	29	2	10	5
Calf skins	16	35	41	13	25	39	11	0	0	9	3	0	9	11	7	7	8	5
Shoats skins	31	48	50	29	50	46	44	50	40	65	60	91	49	53	52	23	26	9

Source: author's survey

Olkinos and Embolioi were mainly involved in the selling of hides and the rich were particularly active sellers. The other ranches were less involved in the selling of hides. The selling of shoats skins is mainly practised among Elang'ata Wuas ranchers.

The nearby presence of the Olkinos tannery and Athi River Leather Industries possibly explains the higher degree of involvement of Olkinos and Embolioi ranchers in the selling of hides and skins.

10.5.3 The Selling of Milk

Metson (1974:table 24) found that only 4.5 per cent of the Maasai households interviewed selling milk in 1974. The early 1990s experienced a similar level of commercial milk offtake. Most sellers, however, seem to have started only recently, i.e. since the 1984/85 drought. Only among the group of individual ranchers and Kiboko group ranch members was some above average interest in the selling of milk recorded. It seems as if it is mainly the group of less wealthy group ranch stratum 1 households and the most wealthy individual ranchers who are involved in this practice. Established ranchers in Kaputiei were particularly active in selling milk. In comparison, the Loodokilani and -even more- the southern Matapato individual ranchers showed only modest interest in the selling of milk. In terms of the amount of milk sold, another picture emerges. Embolioi and Loodokilani ranchers had high average sales per household per week. In contrast, Kiboko members sold only very small amounts. In general, per household between 10 and 20 litres of milk are sold per week.

In addition to the fact that some households had no surplus for sale, marketing and transport problems were the most frequently mentioned reasons for not selling milk. Those who did sell said that town dwellers (41 per cent), restaurants (32 per cent), local residents (e.g teachers, quarry workers - 23 per cent) and a co-operative dairy (4 per cent) were the purchasers.

According to Potter (1989:24) the commercial production of milk on subdivided

farms is hampered by hygiene, transport and marketing difficulties. Only on a few favoured sites close to the small number of population centres does Potter see a potential for milk production to develop into a major commercial activity. Holland (1989:23) has stated that a locally based dairy industry needs a network of small-scale trucks which would pick up the milk locally, particularly during the wet season when milk is a little more abundant. A cost-benefit analysis should be made first. Like Potter he expressed doubts about the viability of a year round milk industry unless using high inputs and operating in favourable areas.

The Kajiado Ministry of Livestock Production actively tries to assist the farmers in the high-potential zones of Ngong but also Kitengela in improving and commercializing the production of milk (e.g. the Kitengela milk cooler).

In addition to milk some households (Elang'ata Wuas and individual ranchers in particular) sell eggs, honey or manure.

Table 10.23 Sample Population Sales of Milk

	Olk n=95	Emb n=72	Kib n=36	Ews n=69	Lor n=98	Met n=104	Ind n=33	Kap n=14	Loo n=8	Mat n=11	Buy n=9
H/hlds selling milk	4.2	5.6	11.1	5.8	5.0	3.8	18.2	28.6	12.5	9.1	0.0
-stratum I	7.7	0.0	11.1	15.0	0.0	7 0	0.0	0.0	n.a	0.0	0.0
-stratum II	3.6	0.0	27.3	0.0	8.3	2.6	18.2	33.3	25.0	0.0	0.0
-stratum III	2.4	15.4	0.0	5.3	6.7	0.0	23.5	42.9	0.0	16.7	0.0
Mean litres/hh/week	10.5	122.5	2.3	10.1	25.4	19 3	60.5	48.8	140 0	28.0	n.a
Selling since											
- < 1979	0.0	0.0	0.0	0.0	0.0	0.0	16.7	25.0	0 0	0.0	n.a
- 1980-84	25.0	0.0	0.0	50.0	0.0	33.3	33.3	25.0	0.0	100.0	n.a
- 1985-89	75.0	100.0	100.0	50.0	100.0	66 7	·50.0	50.0	100.0	0.0	n.a
Reason not selling	n=91	n=64	n=27	n=67	n=94	n=98	n=27	n=10	n=8	n=9	n=9
- *no market/transport*	42.8	34.4	51.9	34.3	41.5	27 5	44 5	50.0	50.0	33.3	22.2
- no surplus	44.0	62.5	40.1	59.7	51.0	68 4	40.7	50.0	37.5	33.3	11.1
- no cows	12.1	3.1	0.0	4.5	1.1	0.0	3.7	0.0	12.5	0.0	66.7
- no labour	1.1	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0.0	0.0	0.0
- no interest	0.0	0.0	0.0	1.5	6.4	4.1	11.1	0.0	0.0	33.3	0.0

Source: author's survey

10.5.4 The Selling of Crops

Finally, information was gathered concerning the number of households involved in the selling of crops. Metson (1974:table 40) reached a figure of 3.5 per cent of those interviewed who claimed to sell crops. We recorded 21 households stating to have sold crops in 1989. This is equivalent to 3.9 per cent of all respondents or 9.1 per cent of all farming households. Buyers (40 per cent) and Olkinos households (25 per cent) are the ones most involved in the selling of crops.

Maize and beans are the crops most frequently sold. These are destined for the neighbouring households or towns in the main. In general, only small quantities are involved and the bulk of the harvest is used for home consumption. The change in dietary habits among the Maasai has been going

on now for some time. The use of foodstuffs other than milk, blood and meat is said to be on the increase. As Njoka (1979:256) reports, non-livestock products like sugar, tea, maize cake, porridge and beans were popular among most of the families even before 1950. Bread and chicken are the most recent introductions. A cultural barrier against the eating of pork and fish still exists.

Another aspect of this change in diet is that it allows the Maasai to obtain a relatively favourable gain in calories when livestock is sold to purchase maize. This is the result of favourable terms of trade of meat to grain products. Following this strategy the livestock requirements for a household can be lowered (see Dietz 1987:127, O'Leary 1987:64, Oba 1987:39).

Finally, we asked the households if they had a bank account as this was thought to be an indication of a more financially-oriented attitude. 66.7 per cent of the buyers stated that they had a bank account. Except for the individual ranchers (62.5 per cent), the Elang'ata Wuas ranchers (24.3), Olkinos (23.5), Embolioi (10.0), Lorngosua (8.0), Kiboko (3.1) and Meto (1.9) were much less involved in this. It should be taken into account that it is only in recent times that financial institutions or banks have been present in Loitokitok (1984) and Magadi (1990). Ngong and Kajiado have had AFC branches since 1963 and 1973.

10.6 Maasai Pastoralism in the 1990s

In the foregoing some of the problems the Maasai face today have been touched upon such as difficulties in obtaining improved breeds, disease threatening their herds and flocks or impossibility of their young people becoming registered group ranch members which could make them squatters in the near future.[13] In the mid-1970s Metson (1974:table 49) recorded that the main problems the Maasai were facing at that time were human health (88.9 per cent), lack of water (88.4 per cent), shortage of schools (72.3 per cent), wildlife (48.8 per cent) and cattle disease (45.3 per cent).

Table 10.24 shows a detailed overview of the major problems as put forward by our group of respondents in early 1990. For each group ranch we indicated the three most frequently mentioned problems in bold type. Lack of water is still the most often mentioned difficulty Maasai households face in Kajiado District. Similarly important are the problems caused by animal disease. The favourable position of the Elang'ata Wuas ranchers is clearly illustrated. Lack of capital comes in third place. Other important problems are the poor infrastructure and the predation of game. These latter are usually

[13] In this last section we will briefly highlight the most important problems in the daily running and improvement of their household economies as seen by the respondents themselves. In our view, this should be a starting point for any local or foreign organization wishing to assist the Maasai in improving their standard of living.

problems on a local scale.

Table 10.24 Major Problems Experienced by the Respondents

Problems	Olk	Emb	Kib	Ews	Lor	Met	Kap	Loo	Mat	Buy
Animal disease	**66.7**	**77.0**	**94.1**	**48.5**	**84.7**	**86.5**	**83.3**	**44.4**	**72.7**	22.2
Lack of water/rainfall	**80.4**	**67.6**	**67.6**	**60.6**	**91.8**	**88.5**	**41.7**	**44.4**	**63.6**	**88.9**
Lack of capital	**69.6**	35.1	35.3	**37.9**	36.7	**67.3**	25.0	33.3	**72.3**	**33.3**
Lack of land/pasture	8.8	4.1	0.0	4.5	1.0	1.0	25.0	11.1	18.2	11.1
Lack of transport	2.0	17.6	23.5	6.1	6.1	2.9	**33.3**	22.2	9.1	0.0
Poor infrastructure	0.0	**39.2**	0.0	30.3	**41.8**	19.2	25.0	**44.4**	9.1	**33.3**
Predation by game	0.0	0.0	**58.8**	12.1	7.1	0.0	25.0	**44.4**	9.1	0.0
Game disease	0.0	25.7	0.0	10.6	1.0	0.0	16.7	22.2	0.0	0.0
Game destruction of crops	10.8	17.6	5.9	1.5	0.0	0.0	8.3	0.0	0.0	22.2
Shortage of labour	24.5	13.5	2.9	1.5	2.0	5.8	0.0	11.1	0.0	22.2
Erosion	1.0	1.4	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0
Shortage of firewood	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1
Poor land quality	0.0	12.2	2.9	3.0	13.3	1.0	8.3	0.0	0.0	0.0
Lack of farming knowledge	6.9	14.9	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0
Lack of seeds	0.0	0.0	0.0	1.5	10.2	3.8	25.0	22.2	0.0	0.0
Lack of dip/spray-pump	4.9	4.1	2.9	4.5	5.1	8.7	8.3	22.2	9.1	0.0
Lack of food/animals	5.9	9.5	5.9	4.5	13.3	13.5	0.0	0.0	0.0	0.0
Human health	2.0	1.4	11.8	3.0	28.6	13.5	0.0	11.1	9.1	0.0
Illiteracy	5.9	1.4	0.0	0.0	3.1	1.9	8.3	0.0	0.0	0.0
Insecurity	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**55.6**

Source: author's survey

In comparison with Metson the significance of human health has become less relevant. This could be due to the period of drought the Maasai were facing at the time. Also problems of the lack of schools seems to have been reduced. This is a good development, although one should keep in mind that the demand for schools is still on the rise, that classes are crowded with pupils and a shortage of trained teachers exists. The Maasai population still has a long way to go in improving its level of education.

It is thought that higher standards of eduction will be necessary for those Maasai who, in the years to come, will not be able to make a living the way their fathers and grandfather did. Besides formal education, training will be needed for those Maasai wanting or needing to remain in the pastoral sector.

In 1988 the Ministry of Livestock Development, in co-operation with the ASAL-Programme, started up the "North Kaputiei Extension Project". It was intended to train farmers of the five subdivided group ranches of Olkinos, Embolioi, Empuyiankat, Kitengela and Kisaju as well as established individual ranchers in this region in "zero grazing" techniques and other methods needed to compensate for the shrinking availability of land.

More specifically, the project aims to assist the ranchers in the procuring

and management of superior breeds, to assist in the organization of the use of dips and boreholes and to enhance the diversification of livestock enterprises, e.g. poultry, apiculture etc. Besides giving demonstrations in the area, seminars and tours to other districts such as Baringo and Machakos have been organized. Initially, former group ranch committee-members were used as contact farmers who were to announce these activities in their area. This did not work well and nowadays every farmer is contacted individually.

One of the results of the project was the creation of dip committees in Empuyiankat, Olkinos and Embolioi. In Embolioi, however, internal struggles arose causing this group to malfunction. Also, in some areas village development committees have been formed who are now in charge of grazing and other development matters.

In respect of the commercialization of the Maasai economy it can be reported that the World Bank has announced plans for a livestock-marketing project. Earlier drafts of this plan have been criticised as it threatens to be a blow to the trading system of many young Maasai livestock traders. Small groups of them are involved in the transporting of cattle and small stock from the interior of Kajiado District to the Nairobi markets.[14]

Fearing the need to import meat in the near future the call for the Maasai to increase their offtake can still be heard. To feed its fast growing population it is realised that shortages of beef might arise, particularly whenever subdivision of group ranches results in the replacement of livestock-keeping on cultivation. The statement made at the second conference on the future of the Maasai in Kajiado District by Mr. John Keen, Assistant Minister within the Office of the President, that land should be used for that for which it is best suited; i.e. livestock-keeping, is an indication that doubt on the soundness of subdivision is widespread.

It was nevertheless realised among the conference participants that the process of the subdivision of group ranches has become irreversible. The latest reports from Kajiado District are that subdivision is moving forward at an accelerating rate. To speed up group ranch dissolution private surveyors are being increasingly involved in this process.

The conference participants considered the future for pastoralism in the present set-up to be bleak (see van Klinken 1992:61). In my view this is not necessarily the case as subdivision has given new impetus to some of the flexibility and mobility of the Maasai pastoral system. Corrupt committee-

[14] Ironically, in its latest World Development Report, the World Bank stated that: 'African pastoralists, such as the Maasai and Samburu of Kenya, are able to exploit apparently marginal savannahs (...) Building on these strengths requires great care, expertise, and patience. But development projects that do not take existing practices into account often fail (World Bank 1992:93).

members can no longer frustrate developments and the misuse of group territory by individual ranchers has been stopped. Informal groups could possibly act as a viable alternative to the former group ranches. This would allow for easier and better management.

I agree, however, that with the dissolution of group ranches and the individualization of landownership a Trojan horse has entered Kajiado District and the registration of individual ranches has resulted in the commoditization of land. What had been predicted by Eliot in the beginning of this century and was restated by Lawrance in the mid-1960s, i.e. that the ultimate infiltration by other groups cannot be stopped by any means -including the registration of land- looks likely to be fulfilled by the end of this century.

The Maasai have a saying that 'non can live like bird, on a branch' (see Peron 1984:71). Nevertheless, non-registered youngsters in Olkinos who wanted to attend a group ranch meeting on subdivision were refused. They were told to go to a tall nearby tree and build their house on top! The ownership of land will result in a profound and structurally altered Maasai society. In the words of a Maasai participant at the "Limuru Conference" 'Ironically, because of the newly acquired value attached to land, and due to the commercialization of this inelastic commodity a new "tribe" of landless Maasai is in the making, swelling the ranks of many other Kenyans who have gone there before' (Polong 1990:105). At the second conference Minister John Keen used the word 'disastrous' and coined the phrase 'the Maasai is, in a way, *his own enemy*' (see van Klinken 1992:11).

The participants of the second conference on the future of the Maasai brought forward the following resolutions in respect of land (see van Klinken 1992):

1. There is great diversity in the land potential of the district and the process of land subdivision should take place based on the economic viability of the units. Alongside the process of subdivision studies should be undertaken to impress upon proper land use for the people based on economic advantages that would be best accrued from the land parcels.
2. The Agricultural Land Acts and Land Control Acts governing the subdivision of parcels to economically viable units, should be firmly adhered to as to the recommended sizes within certain ecological zones. This is so to enable the Land Control Boards to make appropriate recommendations on the economic size of the land parcels. The Ministry of Agriculture and Livestock Development together with other relevant bodies they would like to consult or incorporate should come up with minimum acreages in the district immediately.
3. Group Ranch Accounts auditing unit of the Ministry of Lands under the Registrar of group representatives should be reactivated to ensure proper accounting of funds in Group Ranches.
4. Politicization of group ranch management issues should be discouraged as politicians manipulate the ranch committees to their own benefit.
5. A moratorium on land sales on long term basis of 25 years be imposed immediately to curb indiscriminate land sales.
6 Localize Land Control Boards to place the onus of controlling land sales and transfers on local people by ensuring fair representation by people electing their own people in the Land Control Boards. These will be people of integrity and chiefs and Assistant chiefs should veto and approve transactions.
7. Title Deeds should go to family units rather than to individuals to safeguard the family interests in the land.
8. The Ministry of Lands, Departments of Land Adjudication and Survey should be revamped to ensure smooth subdivision of the group ranches.
9. Co-operative organisations in the pastoral areas should be encouraged, be it under group ranches, individual ranches or family ranches as this is one factor that will ensure success and sustainability.
10. During subdivision provisions must be made to ensure that all members have access to public utilities e.g. watering points, saltlicks, etc.
11. We recommend that the ASAL Programme in the district ensures that a task force be formed to ensure that these recommendations are passed on to the relevant authorities for implementation.
12. Group ranch subdivision alternatives:
    - -The Konza concept: where members are settled on a portion of the ranch and the rest of the land is used as a commercial ranch
    - -The Olkiramatian concept: zoning the ranch into various economic units e.g. agricultural area, tourist attraction zone and ranching.
    - -Embolioi concept: individual ranchers on already subdivided ranches regroup under a co -operative arrangement to manage their resources more effectively.

Although Mr. Keen had stated that the Government would consider the outcome of the conference at length I doubt whether, for instance, a 25 year moratorium on the sale of land could be implemented. Such a step, however, seems to me a necessary step be it only for 5-10 years or so. In addition, consciousness raising, the provision of soft loans, the imposition of land ceilings and the taxation of landownership to reduce land speculation, are all believed to be necessary instruments to stop the indiscriminate selling of land in Kajiado District. If this process is not halted future Maasai generations will be the ones left holding "the grapes of wrath". Being aware of this risk young Maasai nowadays blame their fathers for "selling wealth to buy poverty".

10.7 Summary and Conclusion

In this chapter an overview has been presented of the diversification, intensification and commercialization of the Maasai economy as recorded among our group of respondents by early 1990. In the previous chapters we have already reported on the growing involvement of Maasai households in cultivation. Poor households in particular, but also the rich concentrate on this activity. Those who had shown no interest indicated climatological reasons or the lack of labour as the reasons for this.

We concluded that, increasingly, Maasai heads of household have their main occupation outside the livestock sector. In particular, wage labour either in public institutions or in private enterprises has become a major way of earning a living (some 20-30 per cent of the respondents). Others mentioned running their own business. In general, some 90 per cent of the heads of households remained at the household's home for most of the year. The exception being Olkinos, where 25 per cent were staying elsewhere. Still,

residence outside the district was recorded for only 6.4 per cent of the group of Olkinos heads of households whereas, for other ranches, this was not above 3.0 per cent.

Diversification also includes the change in the composition of the Maasai herds. A remarkable development has been the increase in the importance of small stock. Recently camels have been introduced into the district. It is still too early to judge the wisdom and the potential of this move.

The intensification of the Maasai economy is another option implemented by many Maasai. One of the opportunities is the raising of the production of milk through the introduction of or the increase in the number of improved breeds. Obstacles to this were said to be high purchase prices, non-availability and vulnerability to disease and drought. Huge differences were recorded with respect to the importance of upgraded stock in both herds and flocks. In general, the percentage of ranchers having upgraded small stock is higher than for improved cattle.

Finally, we looked into the commercialization of the Maasai economy. We tried to get an idea of the relative importance of commercial sales and purchases. In particular it was the rich who were among those mentioned as having sold animals for commercial reasons. We also highlighted other sales, slaughtering, exchanges, loans and gifts as these actions should also be taken into account when considering livestock offtake figures. It was estimated that an additional 30 per cent of stock are removed from the herds because of these afore-mentioned reasons. The sale of hides and skins was mentioned by half of our group of households. In contrast, the selling of milk was recorded for a mere 5 per cent of the respondents. The sale of crops was also negligible.

In 1962 Fallon wisely prophesied that 'The future of the Kajiado Masai largely depends on what happens to their land' (see Fallon 1962:46). The Maasai of Kajiado District still have the future in their own hands. This is true for those Maasai having a large enough individual ranch or who are members of a group ranch. The younger generation, however, will in the near future be confronted with a reduced access to land as a result of the process of group ranch dissolution into individually owned parcels. It is expected that this will result in a process of stratification and marginalization within Maasai society. The integration of different forms of land use and the creation of alternative employment opportunities should be given the highest priority. Education is of major importance in this respect. In the short term attention should be primarily directed at curtailing the selling out of land. Consciousness raising and training in methods of increasing the output of livestock herding is required on the small parcels. First of all a moratorium on the sale of land could be of major help in preventing the Maasai selling their land to outsiders. To stop this practice would be a difficult a but necessary step to benefit the Maasai, their children, the district's wildlife population and the Kenyan economy.

Appendix 10.1

Table 10.25 Livestock Transactions by Wealth Class in December 1989 (as percentage of households involved)

	Olkinos			Embolioi			Kiboko			Elang'ata Wuas			Lorngosua			Meto		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Cattle																		
sale	18.5	39.3	35.7	13.0	29.2	42.3	33.3	63.6	50.0	56.5	66.7	76.2	65.6	69 4	83.9	67.4	69.2	59.1
com. sale	0.0	0.0	7.1	0 0	0.0	15 4	11.1	9.1	16 7	0.0	6.7	0.0	3.1	5.6	6.5	0.0	5.1	13.6
purchase	11.1	17.9	11.9	0.0	8.3	0.0	0.0	9.1	5.6	8.7	16.7	33.3	9.4	13.9	19.4	2.3	7.7	9.1
com. purch.	0.0	7.1	14.3	4.3	4.2	23.1	11 1	9.1	16.7	0.0	13.3	0.0	6.3	5.6	6.5	2.3	7.7	9.1
slaughter	14.8	21 4	28.6	0.0	4.2	3.8	22.2	27.3	44.4	8.7	6.7	33.3	9.4	19.4	19.4	14.0	10.3	9.1
Shoats																		
sale	35.7	27.6	23 8	18.2	20.8	15.4	33.3	54 4	16 7	16.7	32.1	42 9	44.8	47.2	38.7	34.9	53.8	45.5
com. sale	3.6	0 0	2 4	4.5	0.0	7.7	0.0	0.0	5 6	0 0	3.6	0.0	3.4	0.0	0.0	4.7	0.0	9.1
purchase	17.9	13.8	9.5	4 5	8.3	7 7	0.0	0.0	16 7	25.0	32.1	14.3	31.0	30.6	19.4	16.3	15.4	13.6
com purch	3.6	6.9	4.8	0.0	0.0	7.7	0.0	0.0	5.6	0.0	7.1	47.6	3.4	2.8	9.7	0.0	2.6	0.0
slaughter	42.9	62.1	69.0	27.3	45.8	61 5	55.6	90.1	50 0	66.7	64.3	85.7	34.5	72.2	77 4	58.1	76.9	72.7

	Ind. ranchers			Kaputiei			Loodokilani			Matapato			Buyers	
	I	II	III	I	II	III	I	II	III	I	II	III	I	III
Cattle														
sale	60 0	72.3	64 7	50.0	33.3	71.4	n a	75.0	25.0	100.0	100.0	83.3	100.0	0.0
com. sale	0 0	9.1	5 9	0.0	0 0	14 3	n a	25.0	0 0	0.0	0.0	0.0	0 0	0.0
purchase	0.0	0.0	0.0	0.0	0 0	0.0	n.a	0.0	0 0	0 0	0.0	0.0	0.0	0.0
com. purch.	0 0	0.0	11.8	0 0	0.0	14.3	n a	0.0	0.0	0 0	0 0	16.7	0.0	0.0
slaughter	20 0	18.2	29.4	0.0	33 3	28.6	n.a.	25.0	25 0	100.0	0.0	33.3	0.0	0.0
Shoats														
sale	50.0	54.5	29.4	50 0	33.3	42.9	0 0	50 0	0.0	100.0	75.0	16 7	0.0	0.0
com. sale	16.7	0.0	0 0	25.0	0 0	0.0	0 0	0 0	0 0	0 0	0.0	0.0	0 0	0.0
purchase	0 0	9 1	0 0	0 0	33 3	0.0	0.0	0.0	0.0	0 0	0.0	0.0	0 0	0.0
com. purch.	16 7	9.1	0 0	25.0	0 0	0 0	0 0	25.0	0.0	0.0	0 0	0.0	0 0	0.0
slaughter	33 3	81.8	94.1	25 0	66 7	100 0	0 0	100 0	75.0	100 0	75.0	100.0	0.0	50.0

Source: author's survey

Table 10.26 Types of Livestock Transactions by Wealth Class in December 1989 (as percentage of total herd owned by wealth class)

	Olkinos			Embolioi			Kiboko			Elang'ata W.			Lomgosua			Meto		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Cattle																		
sale	4.2	2.0	1.7	1.9	2.5	3.5	5.7	3.9	1.0	7.5	2.0	2.3	11.3	5.4	2.0	7.5	4.2	1.4
com. sale	0.0	0.0	1.6	0.0	0.0	1.8	2.5	0.9	1.3	0.0	0.8	0.0	0.1	0.2	0.1	0.0	0.2	0.3
purchase	1.2	1.2	1.0	0.0	0.8	0.0	0.0	0.5	0.1	0.6	0.6	0.7	0.6	0.8	0.4	0.1	0.1	0.2
com. purch.	0.0	2.1	3.5	2.8	0.5	2.4	3.8	0.6	4.1	0.0	1.4	0.0	0.8	0.6	0.3	1.0	0.1	0.4
slaughter	2.2	1.1	1.1	0.0	0.2	0.3	1.3	0.8	0.4	0.4	0.1	0.5	0.6	0.6	0.6	3.0	0.7	(1)
exchange in	0.7	0.1	(1)	0.0	0.0	0.6	0.0	0.0	2.3	0.2	0.3	1.9	0.4	0.8	0.3	1.7	1.1	1.5
exchange out	0.7	0.0	(1)	0.0	0.2	0.4	0.0	0.0	0.0	0.4	0.2	(1)	0.6	0.2	0.1	1.9	0.4	0.6
gift/loan in	0.0	1.0	0.4	1.3	1.7	0.2	3.2	1.4	0.3	0.2	0.8	0.3	1.4	0.8	0.3	0.5	0.5	0.8
gift/loan out	0.2	0.7	0.3	0.6	1.7	0.3	2.5	2.5	1.1	0.4	0.8	0.9	1.1	2.3	0.6	1.1	1.1	0.5
Shoats																		
sale	6.1	2.7	0.6	2.2	2.2	2.7	3.3	2.7	0.5	4.2	1.3	1.2	11.0	2.6	2.1	3.1	4.8	1.9
com. sale	0.5	0.0	0.2	0.4	0.0	0.8	0.0	0.0	1.6	0.0	0.3	0.0	0.4	0.0	0.0	0.9	0.0	0.5
purchase	6.5	2.2	1.6	0.2	0.4	0.3	0.0	0.0	0.2	4.3	1.7	0.2	3.4	3.2	0.5	1.7	0.5	0.2
com. purch.	0.3	3.7	1.3	0.0	0.0	1.4	0.0	0.0	0.3	0.0	0.6	0.1	4.3	0.2	0.2	0.0	0.4	0.0
slaughter	2.7	4.7	1.8	1.5	0.7	1.8	4.2	4.9	1.4	4.0	2.4	2.7	3.3	2.3	2.1	3.9	1.7	1.1
exchange in	0.3	0.0	0.1	0.0	(1)	0.0	0.0	0.0	0.0	0.1	0.1	1.6	1.6	0.3	0.2	0.5	0.2	(2)
exchange out	0.3	0.0	0.1	0.0	(2)	0.0	0.0	0.0	0.0	0.0	0.1	2.6	0.6	0.6	0.7	0.7	0.7	0.6
gift/loan in	1.9	1.5	1.1	1.8	0.2	0.3	2.8	0.7	0.2	0.2	1.1	0.6	3.0	0.6	0.5	1.0	0.5	0.8
gift/loan out	1.7	1.2	0.8	0.9	1.0	0.6	1.4	1.9	1.2	2.5	1.0	1.7	3.7	1.5	1.6	1.4	1.3	0.9

	Ind. ranchers			Kaputiei			Loodokilani			Matapato			Buyers	
	I	II	III	I	II	III	I	II	III	I	II	III	I	III
Cattle														
sale	2.7	3.6	1.6	3.3	0.9	1.6	n.a.	1.3	0.3	0.2	7.3	3.3	7.7	0.0
com. sale	0.0	2.2	0.9	0 0	0.0	2.5	n.a	5.8	0.0	0.0	0.0	0.0	0.0	0.0
purchase	0.0	0.0	0.0	0.0	0.0	0.0	n.a.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
com. purch.	0.0	0.0	1.1	0.0	0.0	2.6	n.a.	0.0	0.0	0.0	0.0	0.7	0.0	0.0
slaughter	0.5	0.3	0.3	0.0	2.6	0.7	n.a.	0.2	(1)	0.2	0.0	0.1	0.0	0.0
exchange in	0.0	1.1	(2)	0.0	0.0	0.0	n.a	0.4	0.0	0.0	2.3	0.1	0.0	0.0
exchange out	0.0	0.0	(2)	0.0	0.0	0.0	n.a.	0.0	0.0	0.0	0.0	0.1	0.0	0.0
gift/loan in	0.0	0.3	0.2	0.0	0.0	(1)	n.a.	0.4	0.4	0.0	0.2	0.0	0.0	0.0
gift/loan out	0.0	0.5	0.3	0.0	1.2	0.3	n.a.	0.7	0.0	0.0	0.2	0.6	0.0	0.0
Shoats														
sale	2.2	3.1	1.6	2.4	3.1	2.7	0.0	0.8	0.0	2.0	4.6	0.5	0.0	0.0
com. sale	11.2	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
purchase	0.0	0.4	0.0	0 0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
com. purch.	11.2	0.3	0.0	13.5	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
slaughter	9.2	2.3	1.3	10.1	2.5	1.4	0.0	3.1	0.7	6.0	2.5	0.1	0.0	0.9
exchange in	0.0	0.0	(3)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
exchange out	0.0	1.1	(2)	0.0	0.0	0.0	0 0	0.5	0.1	0.0	2.1	0.1	0.0	0.0
gift/loan in	0.0	0.8	0.6	0.0	0.6	(1)	0.0	1.5	0.0	0.0	0.4	2.5	2.7	0.0
gift/loan out	0.3	1.7	0.5	0.0	0.3	0.6	0.0	0.8	0.7	2.0	3.0	0.5	0.0	0.0

Source: author's survey (category other out/in not included)

SUMMARY AND CONCLUSIONS

In 1982 Anders Hjort expressed his astonishment about the fact that so little systematic research had been carried out on losses of land and on the effects of such losses among pastoral societies. He called for the need for co-operation between geographers and anthropologists on studying the specific peculiarities of pastoral land use:

> 'Certainly, it would lead to a better appreciation of the local relations to the macro-society if present-day local conflicts over grazing are not analyzed in the ethnic terms which govern the contestants' perceptions, but rather in terms of a competition between different economic systems over productive land which pushes its victims against each other. (...) The immensity of the problem of pastoral land loss seems to fail to impress planners and public opinion alike. Perhaps harsh figures on the rate of resource shrinking is the only way we can communicate it? This is an example of research anthropologists as well as ecologists should do if we want to be of any practical use to those whom we study' (Hjort 1982:22).

This study has been an attempt to review the Maasai pastoralists use and ownership of land from a geographer's perspective, while taking into account ecological, economical, and socio-cultural aspects. Special attention has been paid to the process and consequences of the individualization of land ownership in the Maasai area as it developed over the last century. In the following pages, we will present a review of this evolution chronologically, whilst distinguishing four major periods. Referring to the model for analysis presented in chapter 1 we will draw conclusions concerning the causes and the consequences of these changes in the use and ownership of land for each specific period.

A. 1890-1920: Arrival of the Europeans and the Formation of Maasai Reserves

Since the mid-19th century neighbouring agricultural and pastoral groups such as the Kikuyu, Kamba, Kalenjin, Pokot and Turkana had started to occupy certain patches of a vast area of some 160,000 km^2 which had once been firmly controlled by the pastoral Maasai. Approximately 60,000-70,000 km^2 of this territory was located in present day Kenya. Internecine wars amongst the Maasai and human and livestock diseases had resulted in the death of some 90 per cent of all livestock and half of the human population. This had weakened the Maasai's once very powerful position while that of the group of agriculturalists had grown in strength. Actually, the picture outlined above of the changing fortunes and base of power was nothing new. Spheres of influence and control over land in the African continent had always been a dynamic feature like an ebb and flow.

The arrival of the European colonizers in the heart of what later was to be called the East African Protectorate in the late 19th century put an end to this.

After the arrival of the British colonizers the pace by which the Maasai were losing their pastures was accelerated.

In 1895 the Maasai people were separated after a straight boundary was drawn from the Indian coast to Lake Victoria in the interior. This meant the creation of Tanganyika, governed by the Germans, the East African Protectorate and the Ugandan Protectorate, both in the hands of the British. For mainly strategic and commercial reasons British interest was foremostly directed towards the latter territory. The East Africa Protectorate was more an obstacle than an asset to the colonizers. To recover part of the high costs involved in the construction of the "Uganda Railway" linking the port of Mombasa with Lake Victoria settlers were invited to come to the East Africa Protectorate by offering large grants of land at extremely low prices. Arriving settlers simply went out and chose whatever area they liked. The Administration offered Jewish refugees from Eastern Europe the Maasai held Uasin Gishu plateau as their new homeland. The proposal was ultimately rejected as it was decided to establish an autonomous Jewish state in Palestine.

As non-Europeans were prevented from buying land the high-potential areas north of Nairobi became known as the "White Highlands". African land rights were violated in every respect. Of the 31,000 km^2 of European maximum settled land area (excluding forest reserves) 18,000 km^2 were former Maasai lands.

In 1904 a treaty was signed between the British and Maasai which meant a renewed division of Maasai into a northern and southern reserve totalling some 24,000 km^2. This was a reduction to some 35-40 per cent of their former territory. In this way the Maasai were deprived of their best pastures as the assigned reserves had been traditional Maasai pastoral lands.

The treaty was slightly adjusted in the following years as an extension was needed for the too small northern reserve. In 1911 the "Second Maasai Treaty" was signed making it possible to remove the Maasai from the north to an extended Southern Reserve gazetted as the Maasai Reserve District by 1918 (some 38,000 km^2).

Referring to our framework for analysis presented in figure 1.2, each of the contexts mentioned (from local to international) can be seen to have played a role in the loss of access to land by the Maasai pastoralists. The international context (i.e. the establishment of colonial power in Kenya to serve the interest of European nations for strategic reasons mostly) overruled the local tensions among the Maasai and towards agricultural groups. The arrival of the British resulted initially in a stabilization of the Maasai's already weakened powers and control over land and stopped the incursion of other groups into their territory. The British, fearing the Maasai, joined a pact which enabled the latter to regain some strength by the means of punitive expeditions against other groups. With numbers of both livestock and human beings growing worries were expressed by the local administration (i.e. national context).

At the turn of the century plans were made by administrators (Eliot) in a close though unofficial alliance with influential settlers (e g. Delamere) to remove the Maasai from their best grazing areas. In later years a settler-dominated Land Board even gained legal influence in directing the local governors to serve the settler interests at the cost of those of the Maasai and other African groups.

Lucrative land legislation was enforced. The "First Crown Lands Ordinance" of 1902 proclaimed that all public land was Crown land under the control of the Administration. African land rules were simply overruled by the issue of a single paper. Non-Europeans were excluded from acquiring land, ultimately resulting in a segregation of the population along racial lines. Amendments made in later years allowed settlers to lease pastoral land of up to 10,000 acres at exceedingly low prices. Some settlers and European land-buying companies, however, were able to obtain over 100,000 acres, mostly in the heart of the Maasai country. As these arrangements were in conflict with the London guidelines, problems arose over this state-enforced legislation and development policy supported at the national level.

The somewhat unconventional move of endorsing two treaties (1904, 1911) was made to "safeguard" Maasai interests. Actually these agreements served settler's interests and resulted in the removal of the Maasai from their best grazing areas near Naivasha and Laikipia. In return the Maasai were restricted to newly created reserves of much lower carrying capacity. Most of this "reserved territory" was traditional Maasai land, anyway. Large parts of the new pastures, however, suffered from infestation with tsetse fly, lacked water and had an overall lower grazing capacity. In combination with the huge reduction in land quantity the final consequence was the stress placed upon the Maasai's ability to herd their livestock. Moreover, a huge land concession of some 900 km^2 was granted to the Magadi Soda Company to exploit the soda deposits at Lake Magadi. The 1915 Crown Lands Ordinance allowed the extension of leases from 99 to 999 years, removed restrictions on the accumulation of land and extended the definition of Crown land to 'all lands occupied by the native tribes and all lands reserved for the use of any members of any native tribes.' This last clause still allowed the Governor to extract reserve land for lease or sale to white settlers while Africans and Asians were still excluded from purchasing land outside the reserves.

Maasai loyalty to British and settler interests had been rewarded with the loss of their best pastures and the prohibition of selling and improving their cattle. This led the Maasai to opt for an attitude of nonchalance, distrust and eventual resistance. Possibly, the internal tensions between the Maasai and their experience of the colonizers' powers were responsible for the seemingly rather modest protest made by the Maasai. Support in their claims for land and requests for development only came from individual administrators. As a consequence some of them were removed from their posts. Support from churches was virtually non-existent and sometimes they were even opposed to

the Maasai. Just like the Colonial Government, missionaries mainly concentrated on "civilizing" the Maasai.

B. 1921-1945: The Period of Neglect

In the inter-war period an increase in the number of settlers was seen. In following the Maasai other African groups were also restricted to too small reserves. They eventually became a source of cheap labour for the settler-owned farms and plantations. White settlers engaged in livestock keeping, feared the competition from African herders and opposed any real development of African livestock husbandry. Quarantine regulations and heavy taxation were imposed. The former hindered traditional African access to livestock markets or the obtaining of bulls for interbreeding. More quarantine stations were constructed only after newly arriving settlers had raised the demand for (African) cattle.

In the words of Zwanenberg and King (1975:97) 'The restrictions on African pastoral development in Kenya can only be understood in relation to the positive emphasis that was placed on European stock development. African pastoralists in Kenya were sacrificed on the altar of white settlement'. One of the draw backs of the restrictions imposed was the apparent overstocking of the reserves. During times of drought the reduced mobility and lost access to dry season grazing pastures was felt. The Maasai repeatedly showed their interest in water development and inoculations to raise the carrying capacity and prevent livestock diseases, providing funds for these actions themselves. Within the Local Administration opinions differed concerning the economic development policy within the Maasai reserves. The final outcome was a policy favouring only the development of the ghee and hides business.

The history of livestock marketing has also made clear that the often aired criticism concerning pastoralists' interest in large herds of low quality stock resulting in overgrazing is questionable at the very least. Quarantine prohibited the sale of livestock. Prices offered by private traders and illegal sales flourished to the detriment of official ones. At the same time the administrators blamed the Maasai for not wanting to sell their animals! Moreover, repeated periods of drought and livestock diseases diminished the size of the herds considerably Part of the "surplus" was in reality an insurance against these disasters.

The Maasai repeated their protest against their loss of land, including some minor disputed areas along the Chyulu triangle and the Uganda Railway and its Magadi branch, totalling some 720 km^2 to the Kenya (or Carter) Land Commission installed to review African land grievances. The Maasai furthermore requested the removal of the artificial boundary between them and the Tanganyika Maasai and aired their wish to be reunited.

The Native Land Trust Ordinance introduced in 1930 prohibited the lease of land by non-natives if occupied or needed by Africans. Non-Maasai who infiltrated Kajiado District were nevertheless not ejected by the Kajiado Local

Administration. Some individual Maasai also favoured the coming of these agriculturalists to cultivate Maasai owned plots. As a group, however, the Maasai disliked this massive influx.

The final report of the Kenya Land Commission reaffirmed the policy of the Administration towards pastoralists in totally opposing any extension of their land. In fact, the Commission, which had not given serious consideration to the Maasai grievances, blamed them for having so much land to the detriment of Europeans and other African groups.

As the result of the Land Commission's work new land legislation came into force by the end of the 1930s: Native Lands Trust Ordinance (1938), Crown Lands (amendment) Ordinance (1938). The latter redefined the various land categories: 1) 'Native' instead of 'Crown' land for the original reserves; 2) Temporary Native Reserves and 3) Native Leasehold Areas.

Though some of the African groups may have profited somehow from these new arrangements it was noted by the late 1930s that the settlers, comprising less than 0.2 per cent of the total estimated population, owned 5.5 per cent of all and 18 per cent of Kenya's good agricultural land area. This was the real cause of the economic crisis in the African Reserves and the influx of non-Maasai to Kajiado District. Still, due to their low numbers cultivation was of minor importance. In 1931 less than 1,000 acres was under cultivation in the whole of the Maasai Reserve. During the 1930s and 1940s it remained an activity mainly performed by drought-stricken Maasai and immigrants.

From the foregoing review it becomes clear that, in general, British colonial administrators simply disregarded any genuine development efforts in favour of the Maasai Reserve. With white settlers gaining influence and the British Government sending commissions (not all of them deserving the label "knowledgeable" and "impartial") no group was willing or able to protect Maasai interests. Moreover, the Maasai themselves, feeling betrayed and coming to realize the consequences of the loss of their high potential pastures north of Nairobi during the early 1930s drought in particular, simply ignored most of the programmes started (specifically the education programmes). Several state-imposed regulations concerning livestock quarantines, market outlets and taxation mostly favoured the settler community. The Maasai overcame some of these problems by setting up their own system of (illegal) livestock trade which earned them much higher returns. The opening of the Liebig's meat factory at Athi River in 1937 could not change this practice as the company, though begun under favourable conditions, was unable to compete with individual traders. Prices offered fell by some 25 to 50 per cent. During the war Kajiado District supplied between 10,000 to 13,000 head of cattle annually, or almost 60,000 in total to the specially installed Meat Marketing Board. This, however, was a more or less obligatory provision as, after the war, this figure dropped considerably.

Estimates in 1930 for the Kenyan Maasai and their livestock reached some

48,400 people, 720,000 cattle and 820,000 shoats residing in a Maasai Reserve comprising some 39,000 km^2. In other words, the Maasai of those days owned on average 16.8 LE/AAME. Potential mean availability of land was 100.0 ha per AAME. Stocking densities were therefore 6.0 ha/LE. This means that, overall, the availability of land and livestock during those days (shortly before the 1933 drought) allowed the Maasai to subsist entirely on a diet of milk, blood and meat, while the size of herds stayed within the potential carrying capacity of the Maasai Reserve.

The actual capacity will have been lower due to the huge numbers of wildlife sharing the Kajiado pastures at that time. Also, some localities within the Reserve were heavily infested with tsetse flies or lacked sufficient water. The latter was (partly) the result of the Maasai Treaties and the consequent loss of watering points for the benefit of white settlers along the Maasai Reserve's northern boundary. Approximately 40 per cent of the Reserve was, as a result of these problems, considered to be useless or, at best, of low value. The migration of the Uasinkishu Maasai towards other section's land in the western Narok region also caused some local congestion and hardship.

Still, Colonial Administration and special committee's reports concerning overstocked Maasai rangelands should be seen as being at least slightly exaggerated. Possibly, economic-political reasons and the fact that most reviews were made in a post-drought situation have been responsible for this conclusion about overstocking.

Land legislation, favouring white settler's interests created an artificial scarcity of land in the African Reserves. As a result infiltration towards the high-potential zones of the less populated semi-arid regions occurred. No firm policy was conducted to stop this practice. Competition for land in these regions was therefore indirectly caused by the development policy favouring and protecting the interests of the white settlers. Their powerful position was only stopped by the British Colonial Office the moment the settlers tried to gain self-government, otherwise the whole Administrative apparatus had served the white farmer's activities.

C. 1946-1963: Grazing Scheme Experiments in Land Management and Development

Forced migration of squatters residing on the European-owned farms back to the African reserves started after World War II. Demand for land was further extended as 90,000 ex-military recruits needed to be taken care of. These developments augmented the natural growth in the too small African territories (between 1945 and 1962 the African population of Kenya increased from 5.0 to 8.4 million people). The authorities, however, mainly kept on pointing to the legal and the poor ecological condition of the African Reserves. Rather than expanding the African Reserves at the cost of the "White Highlands" the strengthening of communal control over land was seen as a device to stop environmental degradation. For this purpose the African Settlement Board was

created in 1945. This Board (after 1953 named the African Land Development Board (ALDEV)) constructed over 1,600 dams, over 200 wells, a mere 50 boreholes and other water availability improving measures in the rangeland areas of Kenya.

Substantial economic progression, however, did not occur. Ultimately, by 1952 some African groups (Kikuyu in particular) took up an armed struggle against the British colonial administration. Disagreement among the settlers concerning the best approach to dealing with this uprising weakened their position at the cost of London influence. As in the twenties and thirties several commissions were sent to review the situation and to advise on the reforms needed. The most important reform document was the "Swynnerton Plan" of 1954. The main aim of this plan was to intensify the development of African agriculture. One of the prerequisites was said to be conducting a programme of land consolidation and registration in the high-potential zones. Because financial institutions had not been willing to provide funds to farmers without privately owned land, the idea of communal landownership had been dropped as early as the beginning of the 1950s. In addition, the economic potential of the pastoral areas was underlined by the "Swynnerton Plan". Measures were considered necessary to improve productivity. Marketing (outlets) and grazing management (de-stocking, range management, water improvement, tsetse eradication) was the main concern.

In addition, the Local Native Councils had become involved in development oriented projects (water, education, health and infrastructural developments mainly). Finances were derived from a Local Native Council tax, fees, fines, grants and the proceeds of sand, wood and limestone royalties. The Maasai continued to be the highest taxed group in Kenya. Missionary activities had also gained in importance by the end of the 1950s. Most of their efforts were in the field of education, health care and water development.

In Kajiado District, grazing control was a first priority in the eyes of the local administration. Again, no firm evidence of the need to pursue this policy was available. On the contrary, reports for the year 1948 (semi-drought) stated that the rangelands of Kajiado District were in good condition. Possibly the Maasai decision of 1946 to abolish the section boundaries allowing free grazing for all Maasai in every part of the district had helped to rationalize the use of the Kajiado pastures. Still, with drought conditions worsening, tensions between sections grew and section boundaries were re-introduced. In practice, however, throughout the 1950s massive movements by all sections were made and relations between them were good in general.

The Administration tried to persuade the Maasai to accept some form of grazing control. By allowing a maximum number of stock in the vicinity of a borehole it was attempted to gradually form some kind of ranch unit. A pilot experiment had started at Konza in 1949 as part of the ALDEV programme. Twelve families, 1,285 disease-free cattle, 9,325 completely fenced hectares, 2 boreholes, a cattle dip, rotational grazing, a manager and veterinary assistant

were the ingredients that were to provide the Maasai with a bright example of western superiority in livestock improvement. The initial success, except for the frequently broken fencing, was said to have generated much enthusiasm among the local Kaputiei Maasai. Their eagerness, however, was mainly for dipping as this was the main reason for the comparatively better condition of Konza stock during a favourable year. Fencing and rotational grazing played either only a minor role or no role at all. Frictions developed between the manager and the Konza ranch Maasai, particularly concerning de-stocking. The latter was a government objective which had not been mentioned at the start of the scheme.

Plans to divide the whole of the district into ranch units were dropped after investigation showed that, with the exception of the Kaputiei area, most of the district was unsuited for a static form of ranching because of climatic and geological conditions. The Konza experiment was continued under more strict conditions until 1959. Some participants withdrew. The scheme was completely abandoned at the height of the 1960/61 drought and ultimately was turned into individual ranches.

In Kisonko (1954), Matapato (1957) and Loodokilani (1959) "Sectional Grazing Schemes" were started by the mid and late 1950s. Here the Maasai were also mainly interested in modern methods of husbandry such as dipping and inoculation and water provision improvement. The Schemes again tried to enforce strict grazing control in addition to traditional range use. On the other hand the Administration stated that it realized that, owing to the vagaries of the rains, an even pattern for grazing control would never be achieved. Indeed by 1959 every control in the Kisonko scheme had had to be abandoned due to the drought and the Maasai trespassing to other districts. The main advantage of the Scheme had mainly been the construction of water improvement works.

Individual ranches were another new phenomenon of the 1950s. The first individual ranch was started up in 1954 by Reverend Daudi Mokinyo in the Elang'ata Wuas area. In 1956, after failing to find water, another location near the Toroka river was chosen where borehole drilling turned out to be more successful. By the end of the 1950s more Maasai (chiefs and teachers mainly) had opted for individual ranches. The Colonial Administration of those days feared that land-grabbing for speculative reasons was the main reason behind the applications for individual ranches. A maximum ranch size of 2,000 acres was introduced.

After having purchased the ranch it needed to be developed. This was a very costly business which was severely hampered by high rates of interest. Still, by 1963, Kajiado District had a total of 24 individual ranches located in several parts of the district. In addition, a programme of land consolidation was begun in the Ngong area by 1961. Although opposed by Maasai elders this move was encouraged by the young and educated and backed by the Kajiado County Council.

One of the reasons mentioned for this action was that it was said to stop

infiltration by non-Maasai (mainly Kikuyu) agriculturalists. After the war, increasing numbers of them had come to Kajiado looking for land to be cultivated. Their eyes had fallen on the high-potential areas such as Ngong, Namanga and Loitokitok. These areas had suffered from charcoal burning and forest clearing for agricultural purposes in particular. At times the alien squatters were removed and the areas closed for cultivation. The Kajiado Local Native Council installed a special committee for appraising every applicant before consent for residence was provided in order to check the influx. In 1951 more comprehensive and effective legislation (i.e. Land Usage By-Laws) was introduced empowering section councils to control the spread of cultivation in their territories. Irrigated agriculture was started in Loitokitok locations such as Kimana, Sinnet and Rombo. In the Ngong area some cash crops (coffee, pyrethrum) were introduced.

The land legislation and the declaration of the Emergency which enabled Kikuyu thought to be involved with Mau Mau activities to be evicted, at times reduced the area under cultivation. Special villages had been created in the Ngong area to control Kikuyu immigrants. The number of non-Maasai increased during the 1950s. This increase had accelerated by the end of the Emergency in 1959. Between 1948 and 1962 the number of Kajiado District non-Maasai had risen from some 2,500 to 15,200 or, in other words, from a mere 9.0 per cent to over 22.0 per cent. Approximately 40 per cent of these non-Maasai were Kikuyu, mostly residing in the Ngong area.

Tourism also gained importance. Within a decade the number of visitors to the Amboseli Game Reserve had increased tenfold, making tourism the main source of revenue for the Kajiado District Council. After the war a strong international lobby for conservation had developed. More protection for wildlife was also sought in the Maasai areas By December 1946 the Nairobi National Park (117 km^2) was proclaimed which meant the loss of this grazing area for Maasai cattle. In 1947 Amboseli National Reserve (3,260 km^2) was gazetted. The Maasai did not lose access this time, although, over the years, the Administration had tried several times to force the Maasai to restrict livestock numbers near the Ol Tukai swamps which had become a tourist rest camp. By 1961 negotiations had started between the Maasai and the Kajiado County Council to set aside a 78 km^2 stock-free area to be leased to a tourist industry corporation.

The Maasai pastoral economy in the post-war period was characterized by an initial drop in livestock numbers to some 335,000 head of cattle on the one hand and an increased (*official*) offtake, partly in response to increased livestock prices, on the other. Until the mid-1950s the number of black-market sales (to Nairobi, Central Province and Tanganyika in particular) were double the official sales. This was the result of the revenues of the former being some 20 per cent higher than of the latter. Auctions organized on a voluntary basis were a failure, even after raising official livestock prices. Liebig's had run into trouble and had to close down as early as 1949. The following year the Kenya

Meat Commission (KMC) took over the Liebig's factory. Now official producer prices became even less lucrative, with private traders paying more than double the KMC prices. Illegal trade with Tanganyika via Illasit became very popular. Kajiado Administrators deliberately allowed this practice to continue as it was an important source of revenue for the Maasai and, through taxation, for the Administration as well. By 1955 Illasit was made an official outlet and official sales increased dramatically to some 25,000 annually.

By 1960 the Maasai livestock economy collapsed once more as the result of a severe drought. Livestock numbers decreased by some 65-80 per cent. Food aid had to be provided to some half of the Kajiado District population. The KMC was paying very low prices and could not handle the huge numbers of cattle offered. Outside assistance from Tanganyika was refused for commercial and strategic reasons. It was feared that this competitor would take over part of the corned-beef export market.

Reviewing the post-war period up till Independence African protests could be seen growing louder in response to the Colonial Administration's policy of sending squatters back to the too-small reserves. This action was foremost a political and economic move to safeguard settler interests. The raised consciousness and increased self-confidence among the African population, mainly Kikuyu, started an active opposition which ultimately resulted in a struggle for freedom. The winds of change had also swept through British Colonial policy resulting in less sympathy for the dominance of Kenyan affairs by settlers. These developments at the local, national and international levels resulted in an erosion of the influence of settlers by the beginning of the 1950s. Africans began to gain some influence in the National parliament. Economic reform programmes were proposed for the African Reserves, including the semi-arid rangelands to develop the economic potential they were "discovered" to possess. Much attention was given to the question of land consolidation and the change of land tenure in the high-potential zones. Initial ideas of strengthening communal tenure were dropped and individual ownership propagated instead by way of the adjudication and registration of land.

For the rangelands opinions differed as to the right approach. Local level Maasai politicians in Kajiado District had started acquiring large individual ranches without the legal means to do so. Support for these individuals was, however, provided by the Local County Council, not infrequently because of private interests. The Colonial Administrators expressed their concerns, but did not actively oppose this development. Instead they tried to introduce once again a means of destocking the Maasai pastures by proposing the creation of grazing schemes. These were accepted by the Maasai for economic reasons (i.e. the improvement of livestock and the availability of water sources) mainly. The effect on herd movements and destocking, however, was very modest. Only in the Loitokitok region was some form of rotational grazing

achieved. Times of stress disrupted this range management practice. The Konza grazing experiment and other surveys had also made clear that an idea to divide the district into a specific number of ranches was unsound from an ecological point of view.

Moreover, the land resource base available for Maasai livestock herding started to dwindle as more agriculturalists started to infiltrate and occupy the high-potential dry season grazing pastures. This and the instalment of the Amboseli Game Reserve and Nairobi National Park, partly in response to an international conservationist lobby, put a further strain on the availability of land for livestock.

Worried Maasai repeatedly asked that the reasons for these tensions be removed or they fought their own battle with the intruders. Moreover, with negotiations begun to handover power to the African population in an independent Kenya, the Maasai feared that this influx of outsiders into their area would grow into enormous proportions. Indeed, spokesmen of the agricultural Kikuyu, the most powerful African group at the time, repeatedly said that an Independent Kenya should be a country where every person was free to live. In other words, the safety provided by the Maasai Treaties of 1904 and 1911 was under threat After organizing themselves into their own political party the Maasai went as far as to request the United Nations to recognize a Maasailand which comprised of Tanzanian and Kenyan Maasai. This proposal was as much condemned to fail, as the Maasai request to the British Government to hand back the former "White Highlands" the pastures of Laikipia, Uasin Gishu and suchlike.

D. 1963-1980: The Formation of Group Ranches

We placed the birth of the group ranch concept at somewhere between the 1955 report of the East African Royal Commission favouring individual land tenure for the whole of Kenya and the Lawrance Mission of 1965 which favoured the establishment of large ranches with ownership vested in the name of a group in Kenya's semi-arid regions. As the Mission reported:

> 'we are conscious of the limitations imposed by the fact that the Kenya Government has for several years been widely committed to a policy of individual absolute ownership. (...) sometimes individual absolute ownership can be an impediment to development [though] in some of the semi-arid areas of the country it would be wasteful and even harmful to register in individual ownership land which is badly eroded or denuded of grass cover, for the owners may be unable to assist, let alone derive a cash income, from holdings until remedial action has been taken to restore the land to productive capacity' (Lawrance 1966:34-5).

The Lawrance Mission argued that group ownership would be a much more suited form of land tenure to deal with the fragile conditions of the Maasai

lands.

In short the idea of a group ranch meant the setting aside of a certain piece of land to be communally owned by a group of people who were recorded and registered as the legal owners through membership of the particular ranch. Unlike in the past, livestock movements would be restricted within the group ranch's specific boundaries and non-members would be forbidden to bring their animals to graze. Through the provision of loans for infrastructural development and steer fattening an attempt was made to radically transform the nomadic subsistence-oriented production of the Maasai pastoralists into a sedentary, more commercial system. This market-oriented production was to bring about a destocking of the Maasai pastures while at the same time providing meat for the national market and international market.

The Maasai were reasonably favourable about this proposal. Besides welcoming the idea of water provision, veterinary care, improved livestock breeds and the like, a major rationale for accepting the group ranch proposal was the increase in the number of Maasai acquiring individual ranches and the fears of the encroachment of non-Maasai into the District. Also the fear that even more land could be lost to game Reserves or National Parks played a role.

Discussions concerning the status of Maasailand reached a height in the early 1960s. The Maasai feared that Independence would end the Maasai Treaties which gave them exclusive rights to occupy Kajiado and Narok Districts. Among the Kaputiei Maasai, in particular, the land tenure debate was significant. A wide variety of propositions such as the registration of the section under one title deed or the creation of a fringe of individual ranches near the northern boundary to stop illegal infiltration were discussed. The Colonial Authorities disagreed with the one title deed option. Young and formally educated Maasai supported by the Kajiado County Council suggested the idea of individual ranches. Elderly Maasai opposed the move to individualization. Support for the latter was given by the Lawrance Mission that criticized the haphazard approach of the government to the Maasai land question and the illegal approval of the creation of individual ranches.

In the end, all of the Maasai sections accepted the group ranch concept, although in some regions of northern Kaputiei and the better-watered parts of the Ngong area individualization was preferred and opposition to the formation of a group ranch persisted. In these ranches the group ranches, though officially registered, never functioned as such.

The actual establishment of group ranches followed a phased programme. After declaring an "Adjudication Section" any person claiming to have an interest in a particular section had to bring his claim before the Adjudication Committee which was comprised of not less than ten people. Most of these were recruited from the group of educated Maasai, politicians and government officials. Further subdivision into individual and group ranches followed after 60 days. Finally, a group ranch committee was installed and a certificate of

incorporation issued by the Land Registrar of Kajiado District and the group was officially registered under a specific name.

In 1964 the pilot Poka group ranch had already been started in the south Kaputiei location. In 1969 phase one of the Kenya Livestock Development Project (KLDP I) was officially started. By 1970, 14 group ranches, covering over 10 per cent of the district's area were recorded in the Kaputiei area. KLDP II, which had started in late 1974 had added 16 ranches comprising another 25 per cent of the Kajiado District area. Finally, by 1980, 20 more ranches had been incorporated. These are often referred to as "phase three group ranches" but no World Bank funds were provided for them. This brought the total number of group ranches to 51 covering some 15,200 km^2 or some 75 per cent of the Kajiado District area.

The Kajiado District group ranches were effective in stopping an educated elite of Maasai allocating huge chunks of former communal land to themselves that had been set aside as individual ranches. Secondly, the group ranches initiated livestock management techniques and the construction of facilities such as boreholes, dams, troughs, tanks, pipelines and cattle dips. Thirdly, group ranches stimulated the building of schools, shops and health centres. A last achievement of the group ranch development is said to have been to allow wildlife to continue roaming freely over large parts of Kajiado District.

Besides these accomplishments the problems and failures of the group ranch project have also been mentioned; delays and problems in project implementation; disappointing rates of investment and difficulties in loan repayment; continuing trespassing of group ranch boundaries; refusal to de-stock ranches; no real transformation to a market-oriented livestock production and corruption among several group ranch committees.

The final outcome of these problems and the resulting frustrations was a growing wish among many Maasai for the subdivision of the group ranch into individually owned shares.

When reviewing the creation and performance of Kajiado District group ranches it can be concluded that in many respects, the group ranch concept as proposed by outsiders was an artificial creation which lacked a firm traditional sociological as well as an ecological basis. The Kenya Livestock Development Project responsible for the implementation of this change in land tenure was moreover overambitious in aiming at the destocking of the pastures and the commercializing of production, while they took hardly any account of pastoralists strategies and household needs.

Still, the introduction of the group ranch had organizational, juridical and economical consequences. At local level group ranch committees meant that a new instrument for land use regulation had appeared. Its effectiveness in terms of the initially target set of boundary maintenance was, however, rather modest. Of more importance was the juridical consequence of group ranch membership. By the late 1960s the status of closed district was removed. From

now on non-Maasai, very well represented at the national level, were able to enter the Maasai districts much more easily. The installation of group ranches, however, excluded outsiders from legally buying land. Only land from individual ranchers could be acquired, as in the Ngong and Loitokitok areas.

It should be borne in mind that, whereas in the mid-1960s the Lawrance Mission had pleaded for communal tenure, a decade later the World Bank openly condemned the Maasai's capacity to stop other Kenyan groups acquiring land in Maasai districts. Narok District was particularly criticised for having large tracts of high-potential land suitable for farming close to those who were virtually landless and living in the densely populated neighbouring districts.

The group ranch also gave an opportunity to the young and educated Maasai to gain influence in Maasai society at the expense of the traditional Council of elders. International donors also had a say in the livestock enterprise of the Maasai by supplying technical personnel and providing funds.

The finances donated by international organizations as "soft loans" ultimately reached the group ranches at high interest rates. Channelling the money through the Kenyan Agricultural Finance Corporation (AFC) was said to have been the main reason for this. It was frequently a problem to repay loans. Not seldom was repayment of the loans problematic. This was either the result of corrupt group ranch committees or because of natural causes such as droughts or disease killing the steers bought for fattening. For group members that had failed to benefit from these loans it was hard to understand and to accept the reasons for repaying them.

In addition, the use of the group's pastures by herds belonging to neighbouring individual ranchers and the massive rise in the number of young Maasai calling for registration contributed to growing negative feelings towards the group ranch and fuelled the ultimate call for subdivision.

E. 1981-1990: The Dissolution of Group Ranches and the Individualization of Land Ownership

In the early 1980s no clear position was taken by Government in response to the call for the subdivision of group ranches -apparently because the Administration itself had doubts and individual departments were in dispute with each other.

In general, those opposing subdivision claimed that the ultimate result would be the alienation of land to the non-Maasai, the creation of severe erosion in areas where cultivation was to start, the loss of Maasai culture and the restriction of the movement of wildlife and livestock to the detriment of the meat producing and tourist attracting functions of the district.

Supporters of group ranch subdivision said that it would help self advancement and raise standards of living, boost the ability to procure a loan using the freehold title deed as collateral, minimize the exploitation of the poor by rich households, promote Maasai engagement in agricultural and industrial

enterprises and facilitate better maintenance of the existing infrastructure.

By 1990 a total of 40 group ranches had made the decision to dissolve their ranches. Seven had already gone through the procedure and the members had obtained their private titles. Only the 4 Magadi Division group ranches opposed the idea of subdivision, while another 7 ranches, mostly from Loitokitok, had not yet decided. In other words, at that time the whole of Ngong and Central Division, which included 78 per cent of the ranches, had ceased existing or were soon about to do so. Alongside this process a whole range of other difficulties arose including disputes over ranch boundaries, corruption in plot allocation and conflicts between registered and non-registered group members.

The effects of the group ranch process of subdivision into individually owned parcels were investigated in this study. Attention was given to the ecological and economic viability of the new, individual ranches. Aspects of land use, including patterns of residence, fencing, livestock movements, cultivation and wildlife habitats were also considered. This analysis was based on the post-subdivision developments as they occurred in Olkinos and Embolioi group ranches since late 1986 until the beginning of 1990 (see chapter 8). For cross reference purposes, developments in other, not yet divided, group ranches (i.e. Kiboko, Elang'ata Wuas, Lorngosua, Meto) as well as buyers and established individual ranchers were provided.

In the first place we presented some characteristics of our sample population and concluded that the declining trend of cattle ownership per person as demonstrated over the 1950-85 period had halted. In our sample population we counted an ownership of 9 1 heads of cattle per person with the addition of 12.9 shoats per person. The resulting 1:1.42 ratio for cattle/small stock was significantly different from the ratio of 1:0.77 found in these ranches (excluding Lorngosua and Meto) in 1977 (see ILCA 1979:10).

In contrast, hardly any or only a modest change had occurred with respect to the percentage of female cattle within the Maasai herds. For Embolioi this proportion reduced from 69 per cent in 1968 to 54 per cent in 1990. The overall 1990 percentage of female cattle within the Maasai herds stood at 68 per cent for group and 67 per cent for individual ranchers. A structural switch to a market and meat-oriented economy for cattle does not seem to have occurred.

Wealth classes among our group of respondents are based on livestock equivalents owned by active adult male equivalents (LE/AAME). A fairly even distribution along three strata was found. The same cut-off points had been used as defined by the ILCA for their 1980 population. Their stratification showed a larger group of respondents in the middle stratum and less in the lower one.

The remainder of chapters 8 and 9 dealt in particular with the outcome of the

group ranch subdivision process in Olkinos and Embolioi. An overall positive attitude towards the process of subdivision and allocated plots was recorded among the Olkinos and Embolioi ranchers. Approximately 1 out of 5 households, however, had mixed to negative feelings concerning the size of the plots allocated.

After subdivision the former Olkinos members possessed a 46.71 ha mean size ranch within a range from 11.00 to 132.00 ha per parcel. In Embolioi the average plot size was 93.37 ha varying from 30.0 to 225.0 ha. The process of subdivision had been most favourable to the most powerful within the Maasai group ranch constellation. In both ranches former committee members had obtained above average plot sizes (Olkinos: 81.80 ha as compared to 42.53 for non-members and Embolioi 130.74 ha versus 86.84 ha).

Landownership per person decreased over the 1986-90 period due to natural population growth and the sale of land. The average availability of land for Olkinos ranchers was reduced from 8.43 ha/person in 1986 to 7.06 ha/person in 1990, a 16 per cent fall. Embolioi figures for these years are 15.53 ha/person and 14.29 ha/person, respectively. The Olkinos gini-coefficient, expressing the inequality of the distribution of plot sizes, increased from 0.26 to 0.33.

One of the main questions concerning the subdivision of group ranches deals with the economic and ecological viability of the allocated plots. For an estimation of the economic viability we started considering the number of animals owned per AAME. It was concluded that overall livestock ownership was 11.4 LE/AAME or some 30 per cent above the 8.6 LE/AAME requirement for self-sufficiency from pure pastoralism. However, livestock and population numbers are not uniformly distributed over all households. All of the stratum I households and a large part of those in stratum II live below the level enabling them to practise pure pastoralism. In other words, within our survey area approximately 40 per cent (Kiboko) to 65 per cent (Meto) of the Maasai households are considered to be no longer able to depend solely on their animals for food requirements. For Olkinos and Embolioi percentages found were 48 and 51, respectively.

Herd sizes needed by each household imply certain demands in the amount of land required. In the past several authors have mentioned minimum land requirements for individual ranches of some 80 ha per adult male or 467 ha per household which is far from the Olkinos plot sizes. Starting from a minimal land requirement needed for self-suffiency it was concluded for Olkinos and Embolioi that only a mere 10 per cent or less of the households had a sufficient large parcel during the dry season period. The other parcels would be severely overstocked. Moreover, since the time of subdivision, this capacity has been eroded by another 1-2 per cent.

Starting from four different categories of landownership based on a situation of deficit or surplus for the wet season or dry season situation, it was estimated

that for those Olkinos households lacking sufficient land in both seasons still 40.3 per cent owned a large enough number of animals for complete self-sufficiency. In the reverse situation of having enough land for both seasons 75 per cent of these parcel owners were self-sufficient in livestock. For Embolioi these figures were 28.6 per cent and 100 per cent, respectively. We also concluded that, for Embolioi large numbers of households held a reasonable amount of land although they lacked the animals to make use of it.

Asked for their opinion on the economic viability of their individual ranch a large majority (84.9 per cent) of the Embolioi considered it to be highly viable. Olkinos households, with generally much smaller parcels, showed more mixed feelings in this respect and only 43.5 per cent believed their parcel to be viable or highly viable.

The imbalance between livestock and land raises questions about the ecological viability of the allocated parcels. Information provided by the Kajiado District 1988 Livestock Census was presented, showing the recommended stocking rate, actual stocking density, estimated range condition and trends and the availability and condition of water sources for our sample group ranches. According to these figures the overstocking of most ranches (except Embolioi) was established at ratios of 1.7 to 2.9 times the densities allowed. However, overall range condition was stated to be fair or even good, as in the case of Kiboko.

Pans and tanks turned out to be the most important sources of water in our study area. Boreholes were also available, particularly among the group of individual ranchers. Most striking was how individual ranchers to rely on boreholes for watering their animals during the dry season. In general the northern group ranches made use of rivers while those in the south relied on wells and pans during the dry season period.

The availability of pasture in the dry season showed the opposite picture with Olkinos and Embolioi ranchers mainly complaining of an inadequate quantity of dry season reserves on their privately-owned parcels. Half of the established individual ranchers (mainly Matapato ranchers) were also of this opinion. Short and long-term thresholds were applied and revealed that, for both Olkinos and Embolioi, the livestock densities had increased resulting in a theoretically unviable ranch size in Olkinos for 72.0 per cent of the households in the short term and as high as 93.0 per cent in the long term. For Embolioi these figures were 36.5 and 63.5 per cent, respectively.

This outcome has led us to question the postulation that the individualization of land tenure will result in a reduction of the stocking rate at carrying capacity levels. In fact, those ranchers that actively changed the number of animals on their ranch did so by increasing rather than decreasing their total number of animals, irrespective of whether or not they possessed an over or understocked ranch. Established individual ranchers behaved similarly.

Besides the level of stocking we looked at the changes in grazing management practices after the subdivision of Olkinos and Embolioi group ranches. It was found that some 20-25 per cent of households interviewed had located part of their herd in other *bomas* at the time of the survey. Kaputiei established individual ranchers mentioned a total of 21.4 per cent. Overall a total of 32.4 established ranchers' households mentioned they that had transferred part of their livestock away from the ranch. Therefore, among the group of Matapato and Loodokilani individual ranchers a similar number of households had animals located elsewhere when compared to their neighbouring group ranch members.

Detailed information for 1989 medium and long-term herd movements of cattle and small stock revealed that it was not so much the legal status but rather the ecological condition of the ranch which was the driving force behind transferring animals to other places for medium to long periods of time. Also, no firm evidence could be found for a trend towards the commoditization of grazing. Only two households mentioned that they had paid money to gain access to pastures elsewhere.

The fencing of complete ranches has not yet occurred among the group of respondents. Huge fences could only be seen in the "Presidential Area" of Kisaju which was mainly owned by wealthy immigrants. In the Olkinos and Embolioi areas small enclosures protecting *shambas* and *ol-okeri* from both domestic and wild animals were increasingly being erected. This increase is faster than the increase in the number of *shambas* over this same period. Enclosures made in the not yet subdivided group ranch areas show even higher percentages of households involved in this practice. The increase in this is not as fast.

In our view it is the fencing of the *shambas* and ranches by non-Maasai which will pose the major threat to the mobility of Maasai livestock. Their need to defend their major economic activity of cultivation and the small, and less costly to fence parcels will result in the fast growth of small enclosures scattered over the former group ranch territory. In contrast, the non-appearance of fenced ranches among the Maasai respondents was attributed to the fact that Maasai ranchers are less accustomed to fencing practices, that they face higher costs and that they are less willing to fence as they realize that, due to the climatic conditions, to fence ranches will ultimately lead to severe problems.

Since the early 1980s a huge increase has been seen in the total number of *ol-okeri* and *shambas* either fenced or unfenced. Of the total sample population 42.3 per cent claimed to be cultivating a *shamba* in 1990 as compared to 10-15 per cent before the 1984/5 drought. Both the number of *shambas* and the acreage covered has increased rapidly. We estimated that the area under cultivation had increased over this period from 0.1-0.2 to 0.53 per cent of the total area available to our sample population (i.e. including the non-cultivators).

We also tried to highlight the competition for pastures by game in our study area. According to official wildlife estimates based on aerial counting, a decline in the number of wild animals was recorded. This trend was confirmed by our respondents. A doubling of the human population and increased fencing is expected to further reduce competition from wildlife, particularly in the north-Kaputiei area. Overall, these new developments in land use and land tenure will contribute to a further reduction in the accessibility of grazing areas to Maasai herds.

Chapter 9 dealt exclusively with the outcome of the group ranch subdivision in Kajiado District with respect to transfers of land and improvements made. An analysis was made of the fragmentation, sale or mortgage of the subdivided lands of Olkinos, Embolioi, Empuyiankat, Kitengela and Poka group ranches by February 1990. A total of 757 Maasai had received their privately owned parcel of land by this time. By February 1990 36.7 per cent of these ranchers had applied already for further subdivision of their newly acquired parcels. Of this group 78 Maasai or 10.3 per cent of all former group members had obtained authority to transfer 1,728 ha of land. This is 2.4 per cent of the five former group ranch territories.

No specific set of characteristics could be disentangled for the group of sellers. Nonetheless, the group of Olkinos former committee-members turned out to be foremost among the group of non-sellers. Those committee-members who *did* sell land had previously bought this from a neighbouring rancher - apparently for speculative reasons.

The often-stated premise about the possibility of and incentive for the offering of land as a collateral once land is in single private hands could not be confirmed. Only 17 applicants (2.2 per cent) of all former group members, intended to or actually mortgaged 1,195 ha or 1.6 per cent of the former group ranch territory. It was stated by the Maasai that the selling of land is a much faster, less obstructive and more comprehensive way of acquiring money than is mortgaging. Financial institutions also seem to be somewhat reluctant to provide loans, except when the prospective borrower has been well educated and has other more important sources of income.

The group of land buyers in Olkinos group ranch was also analyzed in order to obtain information concerning their area of origin, main occupation, residence, education, age and the like. This revealed that, out of a total of 37 plots sold in Olkinos area, all but 6 were acquired by non-Maasai. Rich business men, civil servants and less wealthy people comprised the group of Kikuyu buyers. Maasai buyers were mainly former Olkinos committee-members, individual ranchers, civil servants and politicians.

Evaluating the actions both pending and confirmed taken by the buyers of land so far showed that, in contrast with the Maasai, there was an equal

preference for mortgaging and for reselling of land.

We were mainly interested in the use made of the proceeds of the sale of land and loans taken. For Olkinos and Embolioi detailed information in this respect had been collected.

In Olkinos the percentage of people who made infrastructural improvements rose from 21, before subdivision, to 56 of all Olkinos ranchers afterwards. The Embolioi group ranch percentage increased from a mere 8 to 45, respectively. Lack of funds or not being settled were among the most frequently mentioned reasons for not conducting an improvement. A comparison of Olkinos sellers versus non-sellers and borrowers versus non-borrowers showed that both groups were increasingly engaging in infrastructural improvements. However, the rise amongst the group of sellers is significantly higher. No clear picture emerged. Embolioi ranchers also seemed to be as much development oriented in either selling or non-selling, mortgaging or non-mortgaging of land. Olkinos ranchers mentioned the sale of land 33 times and loans in 10 cases as being the source of finance for constructing infrastructural innovations. For Embolioi this was 5 and 0, respectively.

Attention was also given to the kind of improvement made. The building of a modern house was most popular improvement. Fences (mainly for *shambas*), sprayraces and pans followed though at a distance. The group of buyers are mostly investing in fences and watertanks.

In other words, most of the infrastructural improvements made seem to have occurred in non-productive investments such as the building of a modern house. People will need to sell another part of their parcel to start real development. Those Maasai having had previous no involvement in the group ranches seem to be the most willing to sell part of their ranch and earn a lifetime's salary all at once. Some excesses have apparently, followed like the drinking of beer and the buying of cars. Attention was also paid to the less capital intensive improvements made in range management. Hardly any innovations were accomplished since the time of subdivision. Potter (1989) has stressed the common sense of this attitude as these adjustments would be economically unviable anyway.

In the last chapter we concentrated on the processes and the degrees of diversification, intensification and commercialization of the Maasai economy among our group of respondents in early 1990. To balance the reduction of land available for livestock-keeping and the growth of the human population alternative ways of making a living need to be sought. We tried to gain information about Maasai initiatives in this respect. Our main conclusion was that, besides the grown relevance of cultivation, a significant number of heads of household nowadays find their main occupation outside the primary sector. Wage labour has become a major source of income varying over the surveyed

locations from 7 to almost 30 per cent of the interviewed heads of household. Moreover, a majority of these ranchers were involved in more than one activity.

Diversification of the livestock economy includes a change in the composition of the Maasai herds. Besides the growing importance of small stock, other kinds of animals, including camels, can be found nowadays in Kajiado District.

The intensification of the Maasai economy mainly refers to raising the production of milk and meat through the keeping of improved breeds. Among the major obstacles to this the ranchers mentioned the high prices of purchase, the scarcity of these breeds and their vulnerability to disease and drought. Overall the attitude of the Maasai is positive and most ranchers are willing to increase the number of these breeds in their herd.

Finally, we looked into different forms of commercialization of the Maasai economy. We tried to value the importance of commercial sales and purchases, in particular. Among those ranchers who claimed to sell for commercial reasons the rich were most prominent. Non-commercial sales, slaughterings, exchanges, loans and gifts were also found as forms of livestock offtake. We estimated that sales make up some 70 per cent of herd offtake.

Approximately half of our group of respondents had sold a hide or skin in the preceding month of the survey. In contrast, only a mere 5 per cent mentioned the selling of milk. Also the sale of crops was negligible.

Reviewing the developments in Kajiado District in the last decade leaves one with the impression of a people under increasing pressure on their way of life. A shrinking land resource because of increasing numbers of Maasai people and the even faster-growing numbers of migrant settlers in the district, malfunctioning group ranches and the call for subdivision of these, a lack of a clear Governmental land policy and corrupt land practices threatening large groups of Maasai off the rangelands they used to control exclusively until very recently all contribute to this.

In my opinion, there is no single cause of the Maasai problems of today. Rather there is a combination of factors, as mentioned above which are at the heart of the matter. Still, we would like to stress that the situation the Maasai face today cannot be understood without understanding the history of their ownership of the land. Likewise the invasion of non-Maasai in the district is mainly caused by an imbalance of the distribution of land in other parts of Kenya.

Furthermore the role of the Kenyan Government should be stressed. Central Government's initial opposition to the subdivision of group ranches seems to have changed towards a standpoint of modest support for this process. Once the dissolution of group ranches was no longer opposed by (part) of the Administration the process of subdivision began at full speed. In my opinion, none of those who allowed this process to start fully realised the possible

negative side effects it could have for a large number of Maasai people, their children, the district's ecology, the livestock economy, wildlife and the tourism sector. If they were aware, however, then it is they who should be blamed would they should be blamed for allowing it to happen without clear guidelines and amongst a group of people who were not yet ready to withstand the clamour for land within modern day Kenya. Nowadays, Government officials judge the initial outcome of group ranch subdivision to be disastrous. The best the Maasai youngsters can hope for is that their parents will value the wealth they still own as a non-renewable resource and that the Government's apparent recognition of the seriousness of the current situation will not be remain mere words but will result in the action required.

REFERENCES

ABDUBA, J.A. (1988) *Adult literacy - problem posed by men in accepting this literacy in Kajiado district*, Kenya Institute of Administration, Lower Kabete Nairobi.

ALDINGTON, T.J. & T.A. WILSON (1968) *The marketing of beef in Kenya*, Occasional Paper No. 3, Institute for Development Studies, Nairobi.

AMIN, M, D. WILLETTS & J. EAMES (1987) *The Last of the Maasai*, Westlands Sundries Ltd, Nairobi.

AMREF (1989) *AMREF-Nomadic Health Unit Annual Report 1988*, African Medical and Research Foundation, Nairobi.

ÅRHEM, K. (1985) *Pastoral Man in the Garden of Eden: The Maasai of the Ngorongoro Conservation Area, Tanzania*, Uppsala Research Reports in Cultural Anthropology.

ASAL (several years) *Quarterly Progress Reports*, Arid and Semi-Arid Lands Programme Kajiado District, Kajiado.

ASAL/EV (1989) *Report of Evaluation Mission-comments*, ASAL Kajiado Programme, Kajiado.

ASAL/PO (1989) *Arid and Semi Arid Lands (ASAL) Programme Kajiado District: Plan of Operations - Phase Two: 1989-1994*, Ministry for Reclamation and Development of Arid, Semi Arid and Wastelands/SNV Kenya, Nairobi.

BAXTER, P.W.T. (1987) 'Introduction' In: Baxter, P.W.T. & R. Hogg (eds) *Property, Poverty and People: Changing Rights in Property and Problems of Pastoral Development*, Department of Social Anthropology and International Development Centre, University of Manchester, pp. i-vii.

BEECHER, L.J., F.E. FIRMINGER, W. SCOTT DICKSON, E.W. MATHU, D. O'HAGAN, W. PADLEY, A.S. ROWLANDS & D.J. SHAW (1949) *African Education in Kenya: Report of a Committee Appointed to Inquire into the Scope, Content, and Methods of African Education, its Administration and Finance, and to make Recommendations*, Nairobi, the Government Printer.

BEHNKE, R.H. (1983) 'Production Rationales: The Commercialization of Subsistence Pastoralism.' In: *Nomadic Peoples*, No. 14, pp. 3-27.

BEHNKE, R.H. (1984) 'Fenced and Open-Range Ranching: The Commercialization of Pastoral Land and Livestock in Africa.' In: Simpson, J.R. & P. Evangelou (eds) *Livestock Development in Subsaharan Africa: Constraints, Prospects, Policy*, pp. 261-284.

BEHNKE, R.H. (1985) 'Measuring the Benefits of Subsistence Versus Commercial Livestock Production in Africa.' In: *Agricultural Systems*, 16, pp. 109-135.

BEKURE, S., P.N. DE LEEUW & B.E. GRANDIN (1987) *Maasai Herding. An Investigation of Pastoral Production on Group Ranches in Kenya*, International Livestock Centre for Africa/Kenya, Nairobi.

BEKURE, S., P.N. DE LEEUW, B.E. GRANDIN & P.J.H. NEATE (1991) *Maasai Herding. An analysis of the livestock production system of Maasai pastoralists in eastern Kajiado District, Kenya*, International Livestock Centre for Africa, ILCA Systems Study 4, Addis Ababa.

BENNETT, G. & A. SMITH (1976) 'Kenya: From 'White Man's Country' to Kenyatta's State 1945-1963.' In: Low, D.A. & A. Smith (eds), *History of East Africa*, Volume III, Clarendon Press, Oxford, pp. 109-155.

BENNETT, J.W., S.W. LAWRY & J.C. RIDDELL (1986) *Land Tenure and Livestock Development in Sub-Saharan Africa*, AID Evaluation Special Study No. 39, Land Tenure Center, University of Wisconsin-Madison, USAID, Washington, D.C.

BERGER, D.J. (1987) *Evaluation and Planning Workshop on Wildlife Extension Project in Loitokitok. Notes on Workshop Deliberations*, WEP Report No. 8, Kimana Lodge/Chyulu Tented Camp.

BERNARD, F.E. (1982) 'Rural Population Pressure and Redistribution in Kenya.' In: Clarke, J.I. & L.A. Kosinski (eds) *Redistribution of Population in Africa*, Heinemann, London, pp. 150-156.

BERNARD, F.E. & D.J. THOM (1981) 'Population Pressure and Human Carrying Capacity in Selected Locations of Machakos and Kitui Districts.' In: *The Journal of Developing Areas*, 15, pp. 381-406.

BERNTSEN, J.L. (1979) 'Economic variations among Maa-speaking peoples.' In: Ogot, B.A. (ed) *Ecology and History in East Africa (Hadith 7)*, Kenya Literature Bureau, Nairobi, pp. 108-127.

BEST, A.C.G. & H.J. DE BLIJ (1977) *African Survey;* London, John Wiley & Sons.

BILLE, J.C. & F.M. ANDERSON (1980) *Observations from Elang'ata Wuas group ranch in Kajiado District*, International Livestock Centre for Africa/Kenya, Working Document 20, Nairobi.

BILLE, J.C. & H.H. HEEMSTRA (1979) *An Illustrated Introduction to the Rainfall Patterns of Kenya*, International Livestock Centre for Africa/Kenya, Working Document 12.

BLAIKIE, P. & H. BROOKFIELD (1987) *Land degradation and society*, Methuen, London and New York.

BOS, B. & G. PEPERKAMP (1989) 'Pastoralists and their struggle for land: examples from Africa south of the Sahara.' In: G. Peperkamp & C.H.W. Remie (eds) *The Struggle for Land World-wide*, NICCOS, Nijmegen, Verlag breitenbach Publishers Saarbrucken-Fort Lauderdale, pp. 31-47.

BRONKHORST, R.C. (1991) *Pastoralisten in de "(semi) aride" gebieden in Afrika*, unpublished paper, Ministry of Foreign Affairs, the Netherlands, DGIS-DST/PLa, the Hague.

BROWN, B. (1977) *Political Administration and Rural Development in Kenya--Lessons from Settlement and Other Rural Development Programs*, Ph. D. thesis, Syracuse University.

BROWN, L.H. (1963) *The Development of the semi-arid areas of Kenya*, Ministry of Agriculture, Nairobi.

BUIJTENHUIS, R. (1973) *Mau Mau Twenty Years After: The Myth and Survivors*, Mouton, The Hague-Paris.

BULLOCK, R.A. (1975 - repr. 1978) *Ndeiya, Kikuyu Frontier. The Kenya Land Problem in Microcosm*, Department of Geography Publication Series, No. 6, University of Waterloo.

CAMPBELL, D.J. (1978) 'Coping with drought in Kenya Maasailand: pastoralists and farmers of the Loitokitok area, Kajiado District.' Institute for Development Studies, Nairobi, *Working Paper no. 337.*

CAMPBELL, D.J. (1979a) 'Development or decline: resources, land use and population growth in Kajiado District.' Institute for Development Studies, Nairobi, *Working Paper no. 352.*

CAMPBELL, D.J. (1979b) 'Response to drought in Kenya Maasailand: pastoralists and farmers of the Loitokitok area, Kajiado District.' Institute for Development Studies, Nairobi, *Discussion Paper no. 267.*

CAMPBELL D.J. (1981a) 'Kajiado District.' In: Campbell, D.J. & S.E. Migot-Adholla (eds) *The Development of Kenya's Semi-Arid Lands*, Institute for Development Studies, Nairobi, Occasional Paper No. 36, pp. 212-242.

CAMPBELL, D.J. (1981b) 'Land-use competition at the margins of the rangelands: an issue in development strategies for semi-arid areas.' In: Norcliffe, G. & T. Pinfold (eds) *Planning African Development*, Westview Press, Boulder, pp. 39-62.

CAMPBELL, D.J. (1986) 'The prospect for desertification in Kajiado District.' In: *The Geographical Journal*, Vol. 152, No. 1, pp. 44-56.

CAMPBELL, D.J. & E.S. MBUGUA (1978) 'Survey of land use problems in Kajiado District. A review of methodology.' Institute for Development Studies, Nairobi, *Working Paper no. 334.*

CAREY JONES, N.S. (1972) 'The Decolonization of the White Highlands of Kenya.' In: Mansell Prothero, R. (ed) *People and Land in Africa South of the Sahara*, Readings in Social Geography, Oxford University Press, London, pp. 268-284.

CARLISLE, K.R.M. & A.G. RANDAG (1970) 'Analysis of the factors affecting meat packing developments.' In: Bunting, A.H. (ed) *Change in Agriculture*, Duckworth, London, pp. 229-235.

CARR, C.J. (1977) *Pastoralism in crisis. The Dasanetch and their Ethiopian lands*, University of Chicago, Department of Geography, Research Paper No. 180.

CARTER, J.M. SIR (1934) *The Kenya Land Commission Report*, London.

COHEN, J.M. (1980) 'Land tenure and rural development in Africa.' In: Bates, R.H. & M.F. Lofchie (eds) *Agricultural Development in Africa. Issues of Public Policy*, Praeger, New York, pp. 349-400.

COLDHAM, S. (1982) 'Registration of group ranches among the Maasai of Kenya some legal problems.' In: *Journal of legal pluralism and unofficial law*, no. 20, pp. 1-16.

COLLIER, P. & D. LAL (1980) *Poverty and Growth in Kenya*, World Bank Staff Working Paper No. 389.

COLLIER, P. & D. LAL (1986) *Labour and poverty in Kenya 1900-1980*, Oxford, Clarendon Press.

COSSINS, N. (1983) 'Production strategies and pastoral man.' In: *Pastoral Systems Research in Sub-Saharan Africa. Proceedings of the IRDC/ILCA Workshop Held at ILCA, Addis Ababa, Ethiopia, 21 to 24 March, 1983*, International Livestock Centre for Africa, pp. 213-231.

CROZE, H., P.W. MUMIUKHA, H.T.M. MBAI & M.L. OWAGA (1978) *Estimates of Grazer Food Supply and Demand in the Athi-Kaputi Ecosystem of Kajiado District, Kenya*, UNDP/FAO Wildlife Management Project, Working Document No. 17, Nairobi.

DAHL, G. (1979) *Suffering Grass: Subsistence and Society of Waso Borana*, Stockholm Studies in Social Anthropology 8, University of Stockholm.

DAHL, G. & A. HJORT (1976) *Having Herds: Pastoral Herd Growth and Household Economy*, Stockholm Studies in Anthropology 2, University of Stockholm.

DARYLL FORDE, C. (1934 - repr. 1971) *Habitat, Economy and Society*, Aberystwyth, Methuen & Co.

DAVIS, R.K. (1970) 'Some issues in the evolution, organization and operation of group ranches in Kenya.' Institute for Development Studies, Nairobi, *Discussion Paper no. 93.*

DAVISON, J. (1987) "Without land we are nothing": the effect of land tenure policies and practices upon rural women in Kenya.' In: *Rural Africana*, 27, pp. 19-33.

DIETZ, A.J. (1986) Migration to and from dry areas in Kenya. In: *Tijdschrift voor Economische en Sociale Geografie/Journal of Economic and Social Geography*, 77, 1, pp. 18-24.

DIETZ, A.J. (1987) *Pastoralists in dire straits : survival strategies and external interventions in a semi-arid region at the Kenya/Uganda border: Western Pokot, 1900-1986*, Ph.D. thesis, Department of Human Geography, University of Amsterdam.

DIETZ, A.J. & J. KONINX (1984) *Regionale ongelijkheid in Kenia en de lokatie van de Nederlandse ontwikkelingsprojekten*, University of Amsterdam, Department of Human Geography.

DIETZ, A.J. & M.M.E.M. RUTTEN (eds) (1989) *The Future of Maasai Pastoralists in Kajiado District, Kenya*, Integrated Proceedings of a Conference in Brackenhurst Baptist International Conference Centre, Limuru, May 28-31, 1989, Arid and Semi-Arid Lands Programme Kajiado District.

DIETZ, A.J., A.P. OWITI, J. BRANDT & J.O. ATINGA (1986) *Report of the Identification Mission for an Arid and Semi-Arid Lands (ASAL) Programme in Kajiado District*, Prepared for SNV/Netherlands Development Organization, Nairobi.

DN *Daily Nation*, Kenyan newspaper, several dates.

DOHERTY, D.A. (1979a) 'A Preliminary Report on Group Ranching in Narok District.' Institute for Development Studies, *Working Paper No. 350*, Nairobi.

DOHERTY, D.A. (1979b) 'Factors Inhibiting Economic Development on Rotian Olmakongo Group Ranch.' Institute for Development Studies, *Working Paper No. 356*, Nairobi.

DOORNBOS, M.R. & M.F. LOFCHIE (1971) 'Ranching and Scheming: A Case Study of the Ankole Ranching Scheme.' In: Lofchie, M.F. (ed) *The State of the Nations: Constraints on Development in Independent Africa*, University of California Press, Berkeley, pp. 165-187.

DOORNE, J.H. VAN (1980) 'Population density, land potential and out-migration: in search of development parameters.' In: *Journal of Eastern African Research and Development*, Vol. 10, No. 2, pp. 165-188.

DORNER, P. & B. SALIBA (1981) *Interventions in Land Markets to Benefit the Rural Poor*, Land Tenure Center, Research Paper No. 74, Wisconsin.

DSPP (DISTRICT SOCIO-CULTURAL PROFILES PROJECT) (undated) *Kajiado District Report*, A Joint Research of the Ministry of Finance and Training Project of the Ministry of Finance and Planning and the Institute of African Studies, College of Humanities and Social Sciences, University of Nairobi.

DUFOUR, J. (1971) 'The Problem of Collectively Owned Land in Tunisia'. In: FAO, *Land Reform, Land Settlement and Cooperatives*, No. 2, pp. 38-51.

DUNNE, T. (1977) *Intensity and control of soil erosion in Kajiado District*, UNDP/FAO Kenya Wildlife Management Project, Project Working Document 12, Nairobi.

DURNING, A.T. & H.B. BROUGH (1992) 'Reforming the Livestock Economy.' In: Brown, L.R. & H.B. Brough (eds) *State of the World 1992. A Worldwatch Institute Report on Progress Toward a Sustainable Society*, Earthscan Publications, London, pp. 66-82.

DYSON-HUDSON, N. (1982) *Changing Production Strategies in East African Range Livestock Systems: An Overview*, ILCA, unpublished paper.

DYSON-HUDSON, N. & R. DYSON-HUDSON (1982) 'The Structure of East African Herds and the Future of East African Herders.' In: *Development and Change*, Vol. 13, pp. 213-238.

EAS (several dates) *East African Standard*, former Kenyan newspaper (preceded by "The Standard").

ECOSYSTEMS LTD (1982) *Amboseli/Lower Rift Regional Study*, Final Report, report prepared for the

Wildlife Planning Unit, Ministry of Tourism and Wildlife, Republic of Kenya.
ESHIWANI, G.S., P.P.W. ACHOLA & S. OLE SENA (1988) *Education in a Semi-Arid Area: a Study of Determinants of School Achievement in Kajiado District. Final Report*, Bureau of Educational Research, Kenyatta University, Nairobi.
EUROSTAT (1989) *Analysis of agricultural trade EC-developing countries 1970-1986*, Statistical Office of the European Communities, Office des publications officielles des Communautés européennes, Luxembourg.
EVANGELOU, P. (1984) *Livestock Development in Kenya's Maasailand: Pastoralists' Transition to a Market Economy*, Westview Press, Boulder and London.
EZEOMAH, C. (1987) 'The Settlement Problems of Nomadic Fulani in Nigeria.' In: *Rural Africana*, 27, pp. 35-45.
FALLON, L.E. (1962) *Masai Range Resources: Kajiado District*, USAID, Nairobi.
FAO/PY (several years) *Production Yearbook*, Food and Agriculture Organization of the United Nations, Rome.
FAO/TY (several years) *Trade Yearbook*, Food and Agriculture Organization of the United Nations, Rome.
FAO (1970) 'Land Reforms as an Instrument of Progress.' In: FAO *Land Reform, Land Settlement and Cooperatives*, No. 1, pp. 1-25.
FAO (1984) *Republic of Kenya: assessment of the agriculture, food supply and livestock situation.* Report of the FAO Multidonor Mission, Office for Special Relief Operations, OSRO: Report No 13/84/E, Food and Agriculture Organization of the United Nations, Rome.
FAO (1985a) *The world meat economy in figures*, FAO Economic and Social Development paper No. 49, Food and Agriculture Organization of the United Nations, Rome.
FAO (1985b) *Legislation on Productivity in Agriculture: a Comparative Outline*, Legislative Study No. 33, Food and Agriculture Organization of the United Nations, Rome.
FAO (1985c) *Legislation Controlling the International Beef and Veal Trade*, Legislative Study No. 36, Food and Agriculture Organization of the United Nations, Rome.
FAO (1987) *1948-1985 World Crop and Livestock Statistics. Area, yield and production of crops; production of livestock products*, FAO Processed Statistics Series No. 1, Food and Agriculture Organization of the United Nations, Rome.
FAO (1989) *Aspects of the world feed-livestock economy. Structural changes, prospects and issues*, FAO Economic and Social Development paper 80, Rome.
FAO/WORLD BANK (1977a) *The Outlook for Meat Production and Trade in the Near East and East Africa* (In Two Volumes), Volume I: Market Situation, Problems and Prospects, Food and Agriculture Organization of the United Nations, Rome/World Bank, Washington.
FAO/WORLD BANK (1977b) *The Outlook for Meat Production and Trade in the Near East and East Africa* (In Two Volumes), Volume II: Livestock Development Country Studies, Food and Agriculture Organization of the United Nations, Rome/World Bank, Washington.
FUMAGALLI, C.T. (1978) 'An evaluation of development projects among East African Pastoralists.' In: *The African Studies Review*, Vol. XXI, No. 3, pp. 49-65.
FURLEY, O.W. (1972) 'The Histiography of Mau Mau.' In: Ogot, B.A. (ed) *Politics and Nationalism in Colonial Kenya*, Hadith 4, East African Publishing House, Nairobi, pp. 105-133.
GALATY, J.G. (1977) *In the Pastoral Image: The Dialectic of Maasai Identity*, Ph.D. thesis, Department of Anthropology, University of Chicago.
GALATY, J.G. (1978) *The Maasai Group Ranch: Politics and Development in an African Pastoral Society*, paper presented at the Symposion on Change and Development in Nomadic Societies, the Xth International Congress of Anthropological and Ethnological Sciences, Delhi.
GALATY, J.G. (1980) 'The Maasai Group Ranch: Politics and Development in an African Pastoral Society.' In: Salzman, P.C. (ed) *When Nomads Settle. Processes of Sedentarization as Adaptation and Response*, Praeger, New York, pp. 157-172.
GALATY, J.G. (1981) 'Land and Livestock among Kenyan Maasai.' In: *Journal of Asian and African Studies*, XVI, 1-2, pp. 68-88.
GALATY, J.G. (1982a) 'Being "Maasai"; being "people-of-cattle": ethnic shifters in East Africa.' In: *American Ethnologist*, Vol. 9, pp. 1-20.
GALATY, J.G. (1982b) 'Maasai Pastoral Ideology and Change.' In: Salzman, P.C. (ed) *Contemporary Nomadic and Pastoral Peoples: Africa and Latin America*, Studies in Third

World Societies, Publication Number 17, pp. 1-23
GALATY, J.G. (1988) 'Scale, Politics and Co-operation in Organizations for East African Development.' In: Attwood, D.W. & B.S. Baviskar (eds) *Who Shares? Co-operatives and Rural Development*, Oxford University Press, pp. 282-309.
GALATY, J.G. & P. BONTE (eds) (1991) *Herders, Warriors and Traders: Pastoralism in Africa*, African Modernization and Development Series, Westview Press, Colorado.
GALATY, J.G., D. ARONSON, P. SALZMAN & A. CHOUINARD (eds) (1981) *The Future of Pastoral Peoples*, proceedings of a conference held in Nairobi, Kenya, 4-8 August 1980, International Development Research Centre, Ottawa.
GILLES, J.L. & K. JAMTGAARD (1982) 'Overgrazing in Pastoral Areas: The Commons Reconsidered.' In: *Nomadic Peoples*, No. 10, pp. 1-10.
GILS, H. VAN, W. VAN WIJNGAARDEN & I.S. ZONNEVELD (1985a) *Applied vegetation science including rangeland ecology*, Lecture note N-6, International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede.
GILS, H. VAN, W. VAN WIJNGAARDEN & I.S. ZONNEVELD (1985b) *Vegetation and rangeland survey*, Lecture note N-7, International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede.
GORDON, D.F. (1979) 'Colonial Crises and Administrative Response: Kenya, 1945-60.' In: *Journal of African Studies*, Vol. 6, No. 2, pp. 98-112.
GORHAM, A. (1977) 'Developments in Primary Education in Kajiado District, 1963-75.' Institute for Development Studies, *Working Paper No. 297*, Nairobi.
GOVERNMENT OF KENYA/EASD (1950) *African Population of Kenya Colony and Protectorate: Geographical and Tribal Studies*, East African Statistical Department, Nairobi.
GOVERNMENT OF KENYA/MAAHWR (1962) *African Land Development in Kenya, 1946-1962*, Ministry of Agriculture, Animal Husbandry and Water Resources, Nairobi.
GRANDIN, B.E. (1981) *Group ranches in Kaputiei: The impact of the Kenya Livestock Development Project-phase 1*, Programme Document No. 62, IICA/Kenya.
GRANDIN, B.E. (1982) *Time allocation and labor inputs on a Maasai group ranch - Preliminary Findings from Olkarkar*, Programme Document No. 55, ILCA/Kenya.
GRANDIN, B.E. (1986a) 'Land tenure, subdivision, and residential change on a Maasai group ranch.' In: *IDA Development Anthropology Network*, Vol. 4, No. 2, pp. 9-13.
GRANDIN, B.E. (1986b) *Adding Community Level Variables to FSR: A Research Priority*, paper presented at the IIMI - Rockefeller Foundation Workshop on Social Science Perspectives on Managing Agricultural Technology, Lahore, Pakistan. September 24-27.
GRANDIN, B.E. (1987) 'Pastoral culture and range management: recent lessons from Maasailand.' In: *ILCA Bulletin*, 28, pp. 7-13.
GRANDIN, B.E. & S. BEKURE (1982) *Livestock Offtake and Acquisition: A Preliminary Analysis of Livestock Transactions in Olkarkar and Mbirikani Group Ranches*, Programme Document No. 56, ILCA/Kenya.
GREER, J. & E. THORBECKE (1986) 'Food Poverty Profile Applied to Kenyan Smallholders.' In: *Economic Development and Cultural Change*, Vol. 35, No. 1, pp. 115-141.
GROSH, B. (1986) 'Agricultural parastatals since independence: how have they performed?', Institute for Development Studies, *Working Paper No. 435*, Nairobi.
GRF Group ranch files of several Kajiado District group ranches.
GRUNBLATT, J., M.Y. SAID & J.K. MUTIRA (1989) *Livestock and Wildlife Data Summary 1987-1988 for Kenya Rangelands*, Data Summary No. 1, Ministry of Planning and National Development, Department of Resource Surveys & Remote Sensing, Nairobi.
GULLIVER, P.H. (1969a) 'The Conservative Commitment in Northern Tanzania. The Arusha and Masai.' In: Gulliver, P.H. (ed) *Tradition and Transition in East Africa*, Studies of the Tribal Element in the Modern Era, pp. 223-243.
GULLIVER, P.H. (1969b) 'Peoples.' In: Morgan, W.T.W. (ed) *East Africa: its peoples and resources*, Oxford University Press, Nairobi, pp. 33-40.
GUNN, S.E. (1990) *Development in a nomadic society: A study of indigenous and exogenous change in northern Somalia*, Ph. D. thesis, University of Colorado at Boulder.
GUTTO, S.B.O. (1981) 'Law, Rangelands, the Peasantry and Social Classes in Kenya.' In: *Review of African Political Economy*, 20, pp. 41-56.
GWYNNE, M.D. (1977) *Landsat image studies of green flush in Kajiado District, Kenya,*

UNDP/FAO Kenya Wildlife Management Project, Project Working Document No. 15, Nairobi.

HAALAND, G. (1972) 'Nomadisation as an economic career among the sedentaries in the Sudan Savannah Belt.' In: Cunnison, I. & W. James (eds) *Essays in Sudan Ethnography: presented to Sir Edward Evans-Pritchard*, C. Hurst, London, pp. 149-172.

HAILEY, LORD (1950 - repr. 1957) *An African Survey. Native Administration in the British African Territories*, Oxford University Press.

HALDERMAN, J.M. (1972) 'An analysis of continued semi-nomadism on the Kaputei Maasai group ranches: sociological and ecological factors.' Institute for Development Studies, *Working Paper No. 28*, Nairobi.

HALDERMAN, J.M. (1972b) *The Kaputiei Group Ranch Development Programme (position paper)*, mimeo.

HALDERMAN, J.M. (1972c) 'An analysis of continued semi-nomadism on the Kaputei Maasai group ranches: sociological and ecological factors.' Institute for Development Studies, *Discussion Paper No. 152*, (revised version of Working Paper No. 28), Nairobi.

HALDERMAN, J.M. (1985) 'Problems of Pastoral Development in Eastern Africa.' In: *Agricultural Administration*, 18, pp. 199-216.

HAMPSON, M. (1975) *A conceptual approach to some land use problems in Kajiado District*, M.Sc. thesis, University of Nairobi.

HANSEN, R.M., B.M. WOLE & R.D. CHILD (eds) (1986) *Rangeland Development and Research in Kenya*, Proceedings of a Conference Agricultural Resources Centre Egerton College Njoro, Kenya, April 1-5, 1986, Winrock International Institute, Morrilton.

HARBESON, J.W. (1973) *Nation-Building in Kenya. The Role of Land Reform*, Northwestern University Press Evanston.

HEBINCK, P.G.M. (1990) *The Agrarian Structure in Kenya: State, Farmers and Commodity Relations*, Ph.D thesis, University of Nijmegen, NICCOS, Verlag breitenbach Publishers, Saarbrücken-Fort Lauderdale.

HEDLUND, H. (1971) 'Impact of Group Ranches on a Pastoral Society.' Institute for Development Studies, *Staff Paper No. 100*, Nairobi.

HEDLUND, H. (1979) 'Contradictions in the Peripheralization of Pastoral Society: the Maasai.' In: *Review of African Political Economy*, No. 15/16, pp. 15-33.

HELLAND, J. (1980a) *Five Essays on the Study of Pastoralists and the Development of Pastoralism*, Sosialantropologisk Institute, Universitetet i Bergen, African Savannah Studies, Occasional Paper No. 20, Bergen.

HELLAND, J. (1980b) *Some Issues in the Study of Pastoralists and the Development of Pastoralism*, International Livestock Centre for Africa, Working Document 15.

HELLEN, J. (1977) 'Legislation and Landscape: some aspects of agrarian reform and agricultural adjustment.' In: O'Keefe, Ph. & B. Wisner (eds) *Land Use and Development*, International African Institute, in association with the Environment Training Programme UNEP-IDEP-SIDA; African Environment Special Report, 5, pp. 54-74.

HENDRIKS, P.H.J. (1986) *De relationele definitie van begrippen*, Ph.D. thesis, University of Nijmegen.

HEYER, J., J.K. MAITHA & M.M. SENGA (eds) (1976) *Agricultural Development in Kenya: An Economic Assessment*, Oxford University Press, Nairobi.

HILLMAN, E. (1992) 'Marginalization of Pastoralists in Maasailand.' In: Klinken, M.K. van (ed) *The Second Conference on the Future of Maasai Pastoralists in Kajiado District*, Proceedings of a Conference held at Olkejuado High School, Kajiado, Kenya, 18-21 August, 1991, ASAL Programme, Kajiado, pp. 38-41.

HINDE, H. & S. HINDE (1910) *The Last of the Masai*, London.

HINDERINK, J. & J.J. STERKENBURG (1987) *Agricultural Commercialization and Government Policy in Africa*, KPI, London and New York.

HJORT, A. (1982) 'A Critique of "ecological" Models of Pastoral Land Use.' In: *Nomadic Peoples*, No. 10, pp. 11-27.

HOLLAND, K. (1986) *Pastoralism on the horns of a dilemma: is there a viable future for the Maasai?*, unpublished M.A. thesis, Department of Anthropology, McGill University, Montreal.

HOLLAND, K. (1988) *Schooling, outmigration, and employment among the Maasai: implications and consequences at the individual, local and community levels* (research proposal),

Department of Anthropology, McGill University, Montreal.

HOLLAND, K. (1989) *New needs for new Maasai adaptive strategies*, unpublished Discussion Paper, Department of Anthropology, McGill University, Montreal.

HOLLIS, A.C. (1905) *The Masai. Their language and folklore*, Clarendon Press, Oxford.

HOLY, L. (1987) 'Property differentiation and pastoralism in an agricultural society: the Berti.' In: Baxter, P.T.W. & R. Hogg (eds) *Property, Poverty and People: changing rights in property and problems of pastoral development*, Department of Social Anthropology and International Development Centre, University of Manchester, pp. 206-216.

HORDIJK, A., T. KANTAI, G. MBATE & D. KIMENYE (1989) *Draft Report of the Evaluation Mission ASAL Kajiado Kenya*, Nairobi.

HOUSE, W.J. & T. KILLICK (1981) 'Inequality and Poverty in the Rural Economy, and the Influence of Some Aspects of Policy.' In: Killick, T. (ed) *Papers on the Kenyan Economy: Performance Problems and Policies*, Heinemann Educational Books, Nairobi, pp. 157-179.

HUNT, D. (1984 - repr. 1985) *The Impending Crisis in Kenya. The case for land reform*, University of Sussex, Gower Publishing Company Ltd, Aldershot.

HUNTINGFORD, G.W.B. (1953) *The Southern Nilo-Hamites*, Ethnographic Survey Of Africa Series, East Central Africa Part VIII, London.

HUPPERTZ, J. (1956) 'Die Eigentumsrechte bei den Maasai.' In: *Anthropos*, 51, pp. 939-969.

HYDEN, G. (1983) *No shortcuts to progress: African development management in perspective*, Heinemann/University of California Press, London/Berkeley.

ILCA (1979) *District Ranch Development Briefs*, International Livestock Centre for Africa (ILCA/Kenya), Working Document 13, Nairobi.

ILCA (1981) *Introduction to East African Range Livestock Systems Study/Kenya*, International Livestock Centre for Africa (ILCA/Kenya), Working Document 23, Nairobi.

ILO (1972) *Employment, incomes and equality: a strategy for increasing productive employment in Kenya*, International Labour Organization, Geneva.

INGOLD, T. (1980) *Hunters, Pastoralists and Ranchers: Reindeer economics and their transformations*, Cambridge University Press.

INGULE, F.O. (1980) *Cultural Change and Communication of Innovations Among the Pastoral Maasai of Kajiado District of Kenya. A study of cultural change and the role played by the mass media and interpersonal channels in the communication of grade cattle innovation among the Maasai*, M.A. thesis Daystar International Institute, Wheaton College Graduate School, Nairobi.

JACOBS, A.H. (1963) *The Pastoral Maasai of Kenya: A Report of Anthropological Field Research*, unpublished Report, Department of Anthropology, University of Illinios.

JACOBS, A.H. (1967) *The Irrigation Agricultural Maasai of Pagasi (A Case of Maasai-Sonjo Acculturation)*, University College Nairobi, Department of History, Nairobi.

JACOBS, A.H. (1968) 'The Chronology of the Pastoral Maasai.' In: Ogot, B.A. (ed) *Hadith*, 1, Kenya Literature Bureau, Nairobi, pp. 10-31.

JACOBS, A.H. (1975) 'Maasai pastoralism in historical perspective.' In: Monod, T. (ed) *Pastoralism in Tropical Africa*, Oxford University Press, pp. 406-422.

JACOBS, A.H. (1980) 'Pastoral Maasai and Tropical Rural Development.' In: Bates, R.H. & M.F. Lofchie, (eds) *Agricultural Development in Africa. Issues of Public Policy*, Praeger, New York, pp. 275-301.

JACOBS, A.H. (1983) *An Overview of Population Dynamics in Kenya's Rangelands (1969-1979)*, Winrock International, Nairobi.

JAETZOLD, R. & H. SCHMIDT (1983) *Farm Management Handbook of Kenya. Natural Conditions and Farm Management Information*, Vol II, Ministry of Agriculture.

JAHNKE, H.E. (1982) *Livestock Production Systems and Livestock Development in Tropical Africa*, Kieler Wissenschaftsverlag Vauk.

JAMES, L. (1939) 'The Kenya Masai: a nomadic people under modern administration.' In: *Africa*, XII, pp. 49-73.

KAJIADO DISTRICT ATLAS (1990) Draft Version Published by the Arid and Semi-Arid Lands Programme Kajiado District, Kajiado.

KAJIADO FOCUS (1991a) 'Land sub-division: trials and tribulations?' In: *Kajiado Focus*, Issue No. 1.

KAJIADO FOCUS (1991b) 'The Maasai at crossroads.' In: *Kajiado Focus*, Issue No. 2.

KAJIADO FOCUS (1992) 'Kajiado NGOs Circus.' In: *Kajiado Focus*, Issue No. 3.
KANTAI, O. (1989a) *Livestock Marketing Survey, Kajiado District (draft)*, ASAL Programme, Kajiado.
KANTAI, O. (1989b) *An Analytical Report on Adult Education in Kajiado District: a case study of Central Division*, ASAL Programme, Kajiado.
KANTAI, O. (1989c) *A Report on the Condition of the Youth in Central Division Kajiado District: a case study of Esokota group ranch (Ildamat location)*, ASAL Programme, Kajiado.
KAPLAN, I. (1984) 'The Society and its Environment.' In: Nelson, H.D. (ed) *Kenya a country study*, Foreign Area Studies, the American University, Washington, pp. 65-132.
KDAR (several years from 1927 to 1988) *Kajiado District Annual Report* (Kenya National Archives and Kajiado District Information and Documentation Centre).
KDDP (1970) *Kajiado District Development Plan 1970-1974*, Republic of Kenya, Nairobi.
KDDP (1975) *Kajiado District Development Plan 1974-1978*, Republic of Kenya, Nairobi.
KDDP (1980) *Kajiado District Development Plan 1979-1983*, Republic of Kenya, Ministry of Economic Planning and Development, Nairobi.
KDDP (1984) *Kajiado District Development Plan 1984-1988*, Republic of Kenya, Ministry of Finance and Planning, Nairobi.
KDDP (1988) *Kajiado District Development Plan 1989-1993*, Republic of Kenya, Ministry of Planning and National Development, Nairobi.
KELLY, H. (1987) 'Commercialization, Sedentarization, Economic Diversification and Changing Property Relations Among Orma Pastoralists of Kenya: some possible target issues for future pastoral research.' In: Baxter, P.T.W & R. Hogg (eds) *Property, Poverty and People: Changing Rights in Property and Problems of Pastoral Development*, Department of Social Anthropology and International Development Centre, University of Manchester, pp. 80-94.
KENYATTA, J. (1965) *Facing Mount Kenya. The Tribal Life of the Gikuyu*, Vintage Books Edition, New York.
KIAMBA, M. (1989) 'The Introduction and Evolution of Private Landed Property in Kenya.' In: *Development and Change*, Vol. 20, pp. 121-147.
KIMANI, J.K. (ed) (1988) *Evaluation of Irrigation Developments in Loitokitok Division*, Report of a Multidisciplinary Task Force, Rural Development Services.
KIMANI, J.K., J.B.M. KANGETHE, J.K. MULUI, C.K. NKUKUU, D.F.M. KALLAVI (1988) *Marketing Structure of Irrigated Produce - Loitokitok Division*, Ministry of Agriculture, Rural Development Services.
KING, J.M., A.R. SAYERS, C.P. PEACOCK & E. KONTROHR (1982) *Maasai Herd and Flock Structure in Relation to Household Livestock Wealth and Group Ranch Development*, International Livestock Centre for Africa/Kenya, Working Document 27, Nairobi.
KING, K.J. (1970) 'Education and the Pastoral Economy: An Analysis of Social Change Amongst the Maasai of Kenya.' In: *Provincial Council for the Social Sciences in Africa*, 1st Annual Conference, Vol. 4, pp. 204-239.
KING, K.J. (1971a) 'The Kenya Maasai and the protest phenomenon.' In: *Journal of African History*, 12, 1, pp. 117-137.
KING, K.J. (1971b) 'Education and ethnicity in the Rift valley: Maasai, Kipsigis and Kikuyu in the school system.' Institute for Development Studies, *Staff Paper No. 113*, Nairobi.
KIPURY, N. (1992) 'The Impact of Land Ajudication on Maasai Women.' In: Klinken, M.K. van (ed) *The Second Conference on the Future of Maasai Pastoralists in Kajiado District*, Proceedings of a Conference held at Olkejuado High School, Kajiado, Kenya, 18-21 August, 1991, ASAL Programme, Kajiado pp. 32-37.
KITUYI, M. (1985) *The State and the Pastoralists: The Marginalization of the Kenyan Maasai*, The Chr. Michelsen Institute, Department of Social Science and Development, Development Research and Action Programme, Working Paper No. A 342, Bergen.
KITUYI, M. (1990) *Becoming Kenyans: Socio-economic Transformation of the Pastoral Maasai*, African Centre for Technology Studies (ACTS), Drylands Research Series, 1, Nairobi.
KLC (1934) *Kenya Land Commission: Evidence and Memoranda*, Government Printer, Nairobi.
KLEINPENNING, J.M.G. (ed) (1986) *Competition for rural and urban space in Latin America: its consequences for low income groups*, contributions to a symposium organized at the 45th International Congress of Americanists, Bogota, 1-7 July 1985, Nederlandse Geografische Studies 25, Amsterdam/Nijmegen.

KLEINPENNING, J.M.G. (1987) *Man and Land in Paraguay*, R.I.: CEDLA Latin American Studies No. 41, Dordrecht/Providence.
KLIEST, T. (1985) *Regional and Seasonal Food Problems in Kenya*, African Studies Centre, Food and Nutrition Studies Programme, Report No. 10, Leiden.
KLINKEN, M.K. VAN (1988) *ASAL Programmes in Kenya: 'The Second Generation'*, unpublished paper, Kajiado.
KLINKEN, M.K. VAN (ed) (1992) *The Second Conference on the Future of Maasai Pastoralists in Kajiado District*, Proceedings of a Conference held at Olkejuado High School, Kajiado, Kenya, 18-21 August, 1991, ASAL Programme, Kajiado.
KLINKEN, M.K. VAN & J. OLE SEITAH (eds) (1990) *The Future of Maasai Pastoralists in Kajiado District (Kenya)*, Proceedings of a Conference held in Brackenhurst Baptist International Conference Centre Limuru, Kenya, 28-31 May, 1989, ASAL Programme, Kajiado.
KNA DC/KAJ/2/3/14 (1935) *Officer-in-Charge Masai to the Provincial Commissioner Central Province 19/10/1935*, Kenya National Archives, Nairobi.
KNA DC/KAJ/2/3/15 (1936) *Agreement Byrne & Liebig's*, Kenya National Archives, Nairobi.
KNA DC/NGONG/1/1/22 (1936) *Officer-in-Charge Masai District to the District Commissioner Kiambu 08/06/1936*, Kenya National Archives, Nairobi.
KNA PC/NGONG/1/1/16 (1954) *District Officer Ngong to the Provincial Commissioner Southern Province 26/06/1954*, Kenya National Archives, Nairobi.
KRONENBURG, J. (1984) 'Participatie en ontwikkelingssamenwerking: twee projekten in Kenia.' In: *Derde Wereld*, nummer 2, pp. 31-48.
KRONENBURG, J. (1986) *Empowerment of the Poor: A Comparative Analyses of Two Development Endeavours in Kenya*, Ph.D. thesis, Koninklijk Instituut voor de Tropen/Derde Wereld Centrum-University of Nijmegen, Amsterdam/Nijmegen.
KT (several years) *Kenya Times*, Kenyan daily newspaper.
KUHNEN, F. (1982) *Man and Land. An Introduction into the Problems of Agrarian Structure and Agrarian Reform*, Deutsche Welthungerhilfe/German Agro Action, Verlag breitenbach Publishers, Saarbrücken-Fort Lauderdale.
KULUO, G.K. (1989) *Kajiado ASAL Project*, paper presented to ASAL Soil and Water Programme Development Workshop, Kajiado.
LANGAT, R.K. (1983) 'The Design and Management of Second Livestock Development Project (SLDP) Kenya.' In: MICCD (Maasai Inter-Church Committee for the Rural Development) *Group Ranch Consultation Workshop*, held in Kilimanjaro Buffalo Lodge, March 20-25, 1983, Nairobi, pp. 50-55.
LAWRANCE, J.C.D., G.J. HUMPHRIES, S.R. SIMPSON, G.M. GAITTA, C.P.R. NOTTIDGE & J.D. MacARTHUR (1966) *Report of the Mission on Land Consolidation and Registration in Kenya 1965-1966*, Republic of Kenya, London.
LAWREN, W.L. (1968) 'Masai and Kikuyu: An Historical Analysis of Culture Transmission.' In: *Journal of African History*, Vol. 9, no. 4, pp. 571-583.
LEEUW, P.N. DE & R.T. WILSON (1987) 'Comparative Productivity of Indigenous Cattle under Traditional Management in Subsaharan Africa.' In: *Quarterly Journal of International Agriculture*, Vol. 26, No. 4, pp. 377-390.
LEICHSENRING, M. & W. MONGIATTI (1984) 'Vom Nomaden zum Gemüsebauern? Beobachtungen in den Trockengebieten Kenyas.' In: Fiege, K. & L. Ramalho (Hrsg.) *Landwirtschaft = Hungerwirtschaft ?: Umbrüche und Krisen in den Agrarsystemen der Dritten Welt*, Breitenbach, Saarbrücken, pp. 339-360.
LEO, C. (1984) *Land and Class in Kenya*, University of Toronto Press, Toronto.
LEONARD, H.J. (ed) (1989) *Environment and the Poor. Development Strategies for a Common Agenda*, Overseas Development Council, Third World Policy Perspectives No. 11, Transaction Books, Oxford.
LEWIS, R.W.E. (1967) 'The Maasai Traditional Way of Life.' In: Morgan, W.T.W. (ed) *Nairobi, City and Region*, Oxford University Press, Nairobi, pp. 67-78.
LEYS, C. (1975) *Underdevelopment in Kenya. The political economy of neo-colonialism, 1964-1971*, Heinemann, London.
LEYS, N. (1924 - repr. 1973) *Kenya*, London (Fourth edition Frank Cass and Company Limited, London).
LITTLE, P.D. (1987) 'Land Use Conflicts in the Agricultural/Pastoral Borderlands: The Case of

Kenya' In: Little, P.D., M.M. Horowitz & A. Endre Nyerges (eds) *Lands at Risk in the Third World: Local-Level Perspectives*, Westview Press, Boulder and London, pp. 195-212.
LIVINGSTONE, I. (1975) 'Cowboys in Africa: The Socio-Economics of ranching in Kenya.' Institute for Development Studies, *Working Paper No. 220*, Nairobi.
LIVINGSTONE, I. (1977) 'Economic Irrationality among Pastoral Peoples in East Africa: Myth or Reality?' Institute for Development Studies, *Discussion Paper No. 245*, Nairobi.
LIVINGSTONE, I. (1986) *Rural Development, Employment and Incomes in Kenya*, Aldershot, Gower.
LOFTUS, E.A. (1951 - repr. 1983) *Thomson Through Masai Land: Early Travellers in East Africa*, Kenya Literature Bureau, Nairobi.
LOW, D.A. & A. SMITH (eds) (1976) *History of East Africa*, Volume III, Clarendon Press, Oxford.
LUSIGI, W.J. & G. GLASER (1984) 'Desertification and nomadism: a pilot approach in eastern Africa.' In: *Nature and Resources*, Vol. XX, No. 1, pp. 21-32.
LYNAM, J.K. (1978) *An Analysis of Population Growth, Technical Change, and Risk in Peasant, Semi-Arid Farming Systems: A Case of Machakos District, Kenya*, Ph.D. thesis, Stanford University.
MAAS, M. (1986) *Women's Groups in Kiambu, Kenya: it is always a good thing to have land*, African Studies Centre, Research Reports No. 26, Leiden.
MALLEON, S. (1989) *A Research on Land Individualization in Sajiloni Group Ranch*, Arid and Semi-Arid Lands Programme Kajiado District.
MASHAREN, S. OLE (1989) *The Green Revolution in Maasailand*, Arid and Semi-Arid Lands Programme Kajiado District.
MBITHI, P.M. & C. BARNES (1973) *The Squatter Problem in the Context of Rural Development in Kenya*, Institute for Development Studies, Nairobi.
MBUGUA, S.W. (1986) 'Monitoring Livestock and Wildlife in Kenya.' In: Hansen, R.M., B.M. Wole & R.D. Child (eds) *Rangeland Development and Research in Kenya*, Proceedings of a Conference Agricultural Resources Centre Egerton College Njoro, Kenya, April 1-5, 1986, Winrock International Institute, Morrilton, pp. 411-430.
MCCLURE, H.R. (1910) *District Records for the Guidance of the Officer Administrating the Masai Southern Reserve*, Native Affairs Department, MSS 19/iii/47/KNA.
MCWILLIAM, M. (1976) 'The Managed Economy: Agricultural Change, Development, and Finance in Kenya'. In: Low, D.A. & A. Smith (eds) *History of East Africa*, Volume III, Clarendon Press, Oxford, pp. 251-289.
MEMON, P.A. (1981) 'Kenya'. In: Blij, H. de & E. Martin (eds) *African Perspectives. An Exchange of Essays on the Economic Geography of Nine African States*, Methuen, New York, pp. 59-89.
MERKER, M. (1904) *Die Masai: Ethnographischer Monographie eines Ost-Afrikanischen Semitenvolkes*, Reimer, Berlin.
METSON, J.E. (1974) *A base line survey for the evaluation of the foot and mouth disease control programme in Narok and Kajiado Districts*, Institute for Development Studies, Nairobi.
MICCD (MAASAI INTER-CHURCH COMMITTEE FOR THE RURAL DEVELOPMENT) (1983) *Group Ranch Consultation Workshop*, held in Kilimanjaro Buffalo Lodge, March 20-25, 1983, Nairobi.
MIDDLETON, J. (1953) *The Central Tribes of the North-Eastern Bantu. (The Kikuyu, including Embu, Meru, Mbere, Chuka, Mwimbi, Tharaka, and the Kamba of Kenya)*, International African Institute, London.
MIGOT-ADHOLLA, S.E. (1981) 'Settlement Policy and its Implications to the Development of Semi-Arid Areas.' In: Campbell, D.J. & S.E. Migot-Adholla *The Development of Kenya's Semi-Arid Lands*, Institute for Development Studies, Ocassional Paper No. 36, Nairobi, pp. 40-53.
MILAZI, D. (1988) 'Implications of Land Policy and Rural Development in Botswana.' In: *The Rural Sociologist*, Vol. 8, Nr. 1, pp. 50-59.
MIRMD (several years) *Colonial Monthly Intelligence Report Masai District*, Kenya National Archives, Nairobi.
MOA/AR (MINISTRY OF AGRICULTURE KAJIADO DISTRICT) (several years) *Kajiado District Annual Report*, Republic of Kenya, Kajiado.
MOALD/AR (MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT KAJIADO DISTRICT) (several years) *Kajiado District Annual Report*, Republic of Kenya, Kajiado, several years.
MOL/AR (MINISTRY OF LANDS KAJIADO DISTRICT) *Kajiado District Annual Report*, Republic of Kenya, Kajiado.

MOLD (MINISTRY OF LIVESTOCK DEVELOPMENT KAJIADO DISTRICT) (1988) *Kajiado Livestock Census: integrated livestock census and infrastructure survey report*, Department of Livestock Production Kajiado District/Arid and Semi-Arid Lands Programma Kajiado.
MOLD/AR (MINISTRY OF LIVESTOCK DEVELOPMENT KAJIADO DISTRICT) (several years) *Kajiado District Annual Report*, Republic of Kenya, Kajiado.
MOLD-RMD (MINISTRY OF LIVESTOCK DEVELOPMENT KAJIADO DISTRICT/RANGE MANAGEMENT DIVISION (05/12/1966) *Letter Head of Range Management Division to Land Adjudication Officer*, Kajiado.
MOLD-RMD/AR (MINISTRY OF LIVESTOCK DEVELOPMENT KAJIADO DISTRICT/RANGE MANAGEMENT DIVISION) (several years) *Kajiado District Annual Report*, Republic of Kenya, Kajiado.
MOLD/RPU (MINISTRY OF LIVESTOCK DEVELOPMENT KAJIADO DISTRICT/RANGE PLANNING UNIT) (1989a) *Development Plan for Lorngosua Group Ranch*, Group ranch planning project, Kajiado.
MOLD/RPU (MINISTRY OF LIVESTOCK DEVELOPMENT KAJIADO DISTRICT/RANGE PLANNING UNIT) (1989b) *Development Plan for Meto Group Ranch*, Group ranch planning project, Kajiado.
MOLD/RPU (MINISTRY OF LIVESTOCK DEVELOPMENT KAJIADO DISTRICT/RANGE PLANNING UNIT) (1989c) *Development Plan for Elang'ata Wuas Group Ranch*, Group ranch planning project, Kajiado.
MOWD (MINISTRY OF WATER DEVELOPMENT KAJIADO DISTRICT) (1988) *Kajiado Borehole Survey*, Ministry of Water Development (with assistance from Groundwater Survey (Kenya) Ltd), Kajiado.
MOL, F. (1978) *Maa: A Dictionary of the Maasai Language and Folklore (English-Maasai)*, Marketing & Publishing Ltd, Nairobi.
MOL, F. (1980) *Maasai Mara*, Nairobi.
MORENO, R. (1984) 'Foreword.' In: Sinha, R. *Landlessness: a growing problem*, FAO, Rome, pp.v-vi.
MORGAN, W.T.W. (ed) (1967) *Nairobi, City and Region*, Oxford University Press, Nairobi.
MORGAN, W.T.W. (ed) (1969) *East Africa: its peoples and resources*, Oxford University Press, Nairobi.
MORGAN, W.T.W. (1972) 'The "White Highlands" of Kenya.' In: Mansell Prothero, R. (ed) *People and Land in Africa South of the Sahara. Readings in Social Geography*, Oxford University Press, pp. 208-224.
MOSS, C. (1989) *Onder Olifanten. Veertien jaar met een Afrikaanse olifanten-familie*, De Boekerij bv, Amsterdam (translation in Dutch of Elephant Memories: thirteen years in the life of an elephant family. Morrow, New York, 1988).
MUCHENA, F.N., J.P. MBUVI & S.M. WOKABI (1988) *Report on Soils and Land Use in Arid and Semi-Arid Lands of Kenya*, Republic of Kenya, Ministry of Environment and Natural Resources, National Environment Secretariat, Nairobi.
MUMIUKHA, P.W. (1976) 'The Vegetation of Kajiado District.' *Project Working Document 18*, Nairobi: UNDP/FAO Kenya Wildlife Management Project, Nairobi.
MUNGEAM, G.H. (1970) 'Masai and Kikuyu Responses to the Establishment of British Administration in the East Africa Protectorate.' In: *Journal of African History*, XI, I pp. 127-143.
MURANJA, G. (1973/74) 'Land politics and economic advancement in Ngong Division, Kajiado District, Kenya.' In: *Taamuli*, Vol. 4, No. 1, pp. 55-63.
MWANGI, M.N. (1990) 'Water development in Kajiado District: some personal remarks.' In: Klinken, M.K. van & J. ole Seitah (eds) *The Future of Maasai Pastoralists in Kajiado District (Kenya)*, Proceedings of a Conference held in Brackenhurst Baptist International Conference Centre Limuru, Kenya, 28-31 May, 1989, ASAL Programme, Kajiado, pp. 114-119.
MWANGI, M.N. (undated) *National Noolturesh Water Project*, unpublished paper, ASAL Kajiado District Atlas File.
MWEYA, E.P. (1986) 'Marketing of Range Cattle in Kenya.' In: Hansen, R.M., B.M. Wole & R.D. Child (eds) *Rangeland Development and Research in Kenya*, Proceedings of a Conference, Agricultural Resources Centre Egerton College, Njoro, Kenya, April 1-5, 1986, Winrock International Institute, Morrilton, pp. 327-330.
NDAGALA, D.K. (1982) '"Operation Imparnati": The Sedentarization of the Pastoral Maasai in Tanzania.' In: *Nomadic Peoples*, No. 10, pp. 28-39.

NES (NATIONAL ENVIRONMENT SECRETARIAT) (1980) *Kajiado District Environmental Assessment Report*, NES Profile No. 1, Ministry of Environment and Natural Resources in co-operation with Clark University and USAID, Nairobi

NGUTTER, L.K. (1981) 'Government Policy in Semi-Arid Areas.' In: Campbell, D.J. & S.E. Migot-Adholla. *The Development of Kenya's Semi-Arid Lands*, Institute for Development Studies, Ocassional Paper No. 36, Nairobi, pp. 25-40.

NJIRU, G.K. (1986) 'Case Study of Livestock Marketing Among the Rendille of Marsabit.' In: Hansen, R.M., B.M. Wole & R.D. Child (eds) *Rangeland Development and Research in Kenya*, Proceedings of a Conference, Agricultural Resources Centre Egerton College, Njoro, Kenya, April 1-5, 1986, Winrock International Institute, Morrilton, pp. 331-350.

NJOKA, T.J. (1979) *Ecological and socio-cultural trends of Kaputiei group ranches in Kenya*, unpublished Ph.D. thesis, University of California, Berkeley.

NJOKA, T.J. (1983) 'The Operation of Kaputiei Group Ranch: Pilot Scheme.' In: MICCD (Maasai Inter-Church Committee for the Rural Development) *Group Ranch Consultation Workshop*, held in Kilimanjaro Buffalo Lodge, March 20-25, 1983, Nairobi, pp. 55-68.

NORTON-GRIFFITHS, M. (1977) 'Aspects of climate in Kajiado District.' UNDP/FAO Kenya Wildlife Management Project, *Project Working Document 13*, Nairobi.

NT (several years) *Nairobi Times*, former Kenyan daily newspaper (preceded by "Kenya Times")

OBA, G. (1987) 'Changing Property Rights Among Settling Pastoralists: an Adaptive Strategy to Declining Pastoral Resources.' In: Baxter, P.T.W & R. Hogg (eds) *Property, Poverty and People: Changing Rights in Property and Problems of Pastoral Development*, Department of Social Anthropology and International Development Centre, University of Manchester, pp. 38-44.

OBARA, D.A. (1988) *"The Impact of Crop Husbandry on Desertification in Kenya": a study in support of the National Environment Secretariat (NES) project of desertification monitoring, assessment and intervention preparatory phase*, Nairobi.

OCHIENG', W.R. (1985) *A History of Kenya*, Macmillan Publishers Ltd, London and Basingstoke.

ODINGO, R.S. (1971) *The Kenya Highlands: Land Use and Agricultural Development*, University of Nairobi, East African Publishing House, Nairobi.

ODUNDO, P. (1992) 'THE ENVIRONMENTAL EFFECTS OF SUBDIVISION OF GROUP RANCHES IN KAJIADO DISTRICT' In: Klinken, M.K. van (ed) *The Second Conference on the Future of Maasai Pastoralists in Kajiado District*, Proceedings of a Conference held at Olkejuado High School, Kajiado, Kenya, 18-21 August, 1991, ASAL Programme, Kajiado pp. 19-23.

O'KEEFE, PH. (1983) 'The Causes, Consequences and Remedies of Soil Erosion in Kenya.' In: *Ambio*, Vol. 12, No. 6, pp. 302-305.

OKOTH-OGENDO, H.W.O. (1976) "African Land Tenure Reform." In: Heyer, J., J.K. Maitha & W.M. Senga *Agricultural Development in Kenya: An Economic Assessment*, Oxford Universtity Press, Nairobi, pp. 152-186.

OKOTH-OGENDO, H.W.O. (1981) 'Land Ownership and Land Distribution in Kenya's Large-Farm Areas.' In: Killick, T. (ed) *Papers on the Kenyan Economy. Performance, Problems and Policies*, Heinemann Educational Books Ltd, London, pp. 329-338.

OLANG, M.O. (1983) 'Ministry of Tourism and Wildlife.' In: MICCD (Maasai Inter-Church Committee for the Rural Development) *Group Ranch Consultation Workshop* held in Kilimanjaro Buffalo Lodge, March 20-25, 1983, Nairobi, pp. 74-77.

O'LEARY, M.F. (1984) *The Kitui Akamba: economic and social change in semi-arid Kenya*, Heinemann Educational Books, Nairobi.

O'LEARY, M.F. (1987) 'Changing Responses to Drought in Northern Kenya: the Rendille and Gabra Livestock Producers.' In: Baxter, P.T.W & R. Hogg (eds) *Property, Poverty and People: Changing Rights in Property and Problems of Pastoral Development*, Department of Social Anthropology and International Development Centre, University of Manchester, pp. 55-79.

OMINDE, S.H. (ed) (1984) *Population and Development in Kenya*, Heinemann Educational Books, Nairobi.

OXBY, C. (1981) *Group Ranches in Africa. A Study of Group and Commercial Livestock Production Enterprises and their Application in Tsetse and Trypanosomiasis Control Programmes, with Special Reference to Cattle*, Food and Agriculture Organization of the United Nations, Rome.

PANKHURST, R. & D.H. JOHNSON (1988) 'The great drought and famine of 1888-92 in northeast Africa.' In: Johnson, D.H. & D.M. Anderson (eds) *The Ecology of Survival. Case Studies from Northeast African History*, Lester Crook Academic Publishing, London, pp. 47-72.

PASHA, I.K. OLE (1986) 'Evolution of Individuation of Group Ranches in Masailand.' In: Hansen, R.M., B.M. Wole & R.D. Child (eds) *Rangeland Development and Research in Kenya*, Proceedings of a Conference, Agricultural Resources Centre Egerton College, Njoro, Kenya, april 1-5, 1981, Winrock International Institute, Morrilton, pp. 303-317.

PEBERDY, J.R. (1969) 'Rangeland.' In: Morgan, W.T.W. (ed) *East Africa: its peoples and resources*, Oxford University Press, Nairobi, pp. 153-176.

PEDEN, D.G. (1984) *Livestock and Wildlife Population Inventories by District in Kenya 1977-1983*, Technical Report No. 102, Ministry of Finance and Planning, KREMU, Nairobi.

PEPERKAMP, G. (1986) *Land-use competition and conflicts in Kenya's marginal areas as exemplified by the situation in Laikipia and Meru Districts. An Introduction*, Publication No. 45, Study Group for Human Geography of Developing Countries, Institute for Geography and Planning, University of Nijmegen.

PERON, X. (1984) 'Water Policy in Maasai Country in Kenya: Development Without Participation.' paper presented at the symposium "Agricultural development and peasant participation: Water Policy", In: *Bulletin de Liason*, CREDU, Newsletter, Issue 12, pp. 41-71.

POLONG, J.S. (1990) 'The Overall Context of Development and the Future of Maasai Pastoralists in Kajiado District, Kenya.' In: Klinken, M.K. van & J. ole Seitah (eds) *The Future of Maasai Pastoralists in Kajiado District (Kenya)*, Proceedings of a Conference held in Brackenhurst Baptist International Conference Centre Limuru, Kenya, 28-31 May, 1989, ASAL Programme, Kajiado, pp. 103-109.

POLONG, J.S. (1992) 'The Consequences of Subdivision of Group Ranches in Kajiado District.' In: Klinken, M.K. van (ed) *The Second Conference on the Future of Maasai Pastoralists in Kajiado District*, Proceedings of a Conference held at Olkejuado High School, Kajiado, Kenya, 18-21 August, 1991, ASAL Programme, Kajiado pp. 14-17.

POPULATION CENSUS (several years) see GoK/EASD and RoK (1966), (1970a), (1971a), (1971b), RoK/CBS (1977), (1981), (undated), (1988).

POTTER, H.L. (1989) *Some Thoughts on the Prospects for Intensification and Diversification in Kenta Maasailand*, paper presented at a conference held in Brackenhurst Baptist International Conference Centre, Limuru, Kenya, 28-31 May.

POYCK, L.J. (1985) *Ruimtelijk-economische ontwikkeling, sociale differentiatie en kleinschalige niet-agrarische bedrijvigheid in Kenya*, Ph.D. thesis, University of Nijmegen, Nijmeegse Geografische Cahiers, no. 28, Geografisch & Planologisch Instituut K.U.

PRATT, D.J. & M.D. GWYNNE (eds) (1977 - repr. 1978) *Rangeland Management and Ecology in East Africa*, Hodder and Stoughton, London.

PROLE, J.H.B. (1967) 'Pastoral Land Use.' In: Morgan, W.T.W. (ed) *Nairobi, City and Region*, Oxford University Press, Nairobi, pp. 90-98.

RAIKES, PH.L. (1981) *Livestock Development and Policy in East Africa*, Scandinavian Institute of African Studies, Uppsala.

RBC (1962) *Kenya: Report of the Regional Boundaries Commission, Presented to Parliament by the Secretary of State for the Colonies By Command of Her Majesty*, HMSO, Cmnd 1899, London.

REMPEL, H. (1974) 'An analysis of the information on interdistrict migration provided in the 1969 Kenya Census.' Institute for Development Studies, *Working Paper No. 142*, Nairobi.

REPUBLIC OF KENYA (1966) *Kenya Population Census, 1962 Volume III African Population*, Statistics Division, Ministry of Economic Planning and Development, Nairobi.

REPUBLIC OF KENYA (1970a) *Kenya Population Census, 1969 Volume I*, Statistics Division, Ministry of Finance and Economic Planning, Nairobi.

REPUBLIC OF KENYA (1970b) *Laws of Kenya: The Land (Group Representatives) Act-Chapter 287 (Revised Edition)*, Government Printer, Nairobi.

REPUBLIC OF KENYA (1971a) *Kenya Population Census, 1969 Volume II Data on Urban Population*, Statistics Division, Ministry of Finance and Economic Planning, Nairobi.

REPUBLIC OF KENYA (1971b) *Kenya Population Census, 1969 Volume III Data on Education, Relationship to Head of Household, Birthplace and Marital Status*, Statistics Division, Ministry of Finance and Economic Planning, Nairobi.

REPUBLIC OF KENYA (1979) *Development Plan 1979-1983*, Government Printer, Nairobi.

REPUBLIC OF KENYA (1979a) *Arid and Semi-Arid Lands Development in Kenya. The framework for implementation, programme planning and evaluation*, Government of Kenya, Government Printer, Nairobi.
REPUBLIC OF KENYA (1983) *Development Plan 1984-1988*, Government Printer, Nairobi.
REPUBLIC OF KENYA (1985) *Sessional Paper No. 2 of 1985 on Unemployment*, Ministry of Labour, Government Printer, Nairobi.
REPUBLIC OF KENYA (1986) *Economic management for renewed growth*, Government Printer, Sessional Paper No. 1, Nairobi.
REPUBLIC OF KENYA (1987) *Development Estimates for the Year 1987/88*, Government Printer, Nairobi.
REPUBLIC OF KENYA (1988a) *Development Plan 1989-1993*, Government Printer, Nairobi.
REPUBLIC OF KENYA (1988b) *Development Estimates for the Year 1988/89*, Government Printer, Nairobi, Vol. I and II.
REPUBLIC OF KENYA (1989) *Development Estimates for the Year 1989/90*, Government Printer, Nairobi.
REPUBLIC OF KENYA/CBS (1977) *1969 Population Census Volume IV Analytical Report*, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi.
REPUBLIC OF KENYA/CBS (1981) *Kenya Population Census, 1979 Volume I*, Central Bureau of Statistics, Nairobi.
REPUBLIC OF KENYA/CBS (undated) *Kenya Population Census, 1979 Volume II Analytical Report*, Central Bureau of Statistics, Nairobi.
REPUBLIC OF KENYA/CBS (1988) *Kenya Population Census, 1979 Volume III Urban Population*, Central Bureau of Statistics, Nairobi.
REPUBLIC OF KENYA/CBS (1983) *Population Projections for Kenya 1980-2000*, Unicef, Nairobi.
REPUBLIC OF KENYA/CBS (various years) *Economic Survey*, Central Bureau of Statistics, Ministry of Planning and National Development, Nairobi.
REPUBLIC OF KENYA/CBS (various years) *Statistical Abstract*, Central Bureau of Statistics, Ministry of Planning and National Development, Nairobi.
REPUBLIC OF KENYA/MEO (1988) *Kajiado District Annual Inspection Report 1988*, Ministry of Education, District Education Office, Kajiado District.
REPUBLIC OF KENYA/MFP (1984) *Community Action in Rural Development Projects in the Arid and Semi-Arid Lands of Kenya: Project Progress Report*, Ministry of Finance and Planning, Community Action For Disadvantaged Rural Women, Nairobi.
REPUBLIC OF KENYA/MLD (1980) *National Livestock Development Policy*, Ministry of Livestock Development, Government Printer, Nairobi.
RIDDELL, J.C. (1988) 'Dynamics of land tenure and spontaneous changes in African agrarian systems.' In: *Land Reform, Land Settlement and Cooperation*, No 1/2, FAO, Rome, pp. 39-52.
RIGBY, P. (1985) *Persistent Pastoralists: Nomadic Societies in Transition*, Zed Books Ltd, London.
RUTTEN, M.M.E.M. (1985) *Where to Go?!? Conflicts and Competition for Space among the Turkana, (ex)-nomadic Pastoralists of North-west Kenya*, unpublished M.A. thesis, University of Nijmegen (including 27 minutes video movie).
RUTTEN, M.M.E.M. (1988) *Maasai-Kajiado District Bibliography*, ASAL Programme Kajiado District/University of Nijmegen.
RUTTEN, M.M.E.M. (1989) 'The Struggle for Land and Livestock among the Turkana, (ex) Nomadic Pastoralists of North-West Kenya,' In: Peperkamp, G. & C.H.W. Remie (eds) *The Struggle for Land World-Wide*, NICCOS Nijmegen, Verlag breitenbach Publishers, Saarbrucken-Fort Lauderdale, pp. 48-71.
RUTTEN, M.M.E.M. (1990) 'The District Focus Policy for Rural Development in Kenya: The Decentralization of Planning and Implementation, 1983-9.' In: Simon, D. (ed) *Third World Regional Development: A Reappraisal*, Paul Chapman Publishers, London, pp. 154-171.
SADERA, P.L.K. OLE (1986) 'Group Ranches in Kenya.' In: Hansen, R.M., B.M. Wole & R.D. Child (eds) *Rangeland Development and Research in Kenya*, Proceedings of a Conference, Agricultural Resources Centre Egerton College, Njoro, Kenya, April 1-5, 1986, Winrock International Institute, Morrilton, pp. 19-27.
SAID, M.Y., J. GRUNBLATT, S. NGANGA & J.K. MUTIRA (1989) *Livestock and Wildlife Data Summary for Kenya Rangelands*, Data Summary No. 2, Ministry of Planning and National Development, Department of Resource Surveys & Remote Sensing, Nairobi.

SAITOTI, T. OLE (1978) *A Maasai looks at the ecology of Maasailand*, Munger Africana Library Notes, No. 42.
SAITOTI, T. OLE & C. BECKWITH (1980) *Maasai*, Elm Tree Books, London.
SALZMAN, P.C. (ed) (1980) *When Nomads Settle: Processes of Sedentarization As Adaptation and Response*, Praeger, New York.
SANDFORD, G.R. (1919) *An Administrative and Political History of the Masai Reserve*, Waterlow and Sons Ltd, London Wall.
SANDFORD, S. (1981) *Review of World Bank Livestock Activities in Dry Tropical Africa* (draft), World Bank.
SANDFORD, S. (1983a) *Management of Pastoral Development in the Third World*, John Wiley & Sons, Overseas Development Institute, London.
SANDFORD, S. (1983b) 'The Development Experience' In: *Pastoral Systems Research in Sub-Saharan Africa. Proceedings of the IRDC/ILCA Workshop Held at ILCA, Addis Ababa, Ethiopia, 21 to 24 March, 1983*, International Livestock Centre for Africa, pp. 11-24.
SANKAN, S.S. (1971) *The Maasai*, East African Literature Bureau, Nairobi.
SCHEGGET, R. TER & J. SCHOEMAKERS (1988) *Ilkerin Loita Integral Development Project, Kenya*, Survey-Results, Rotterdam Highschool.
SCHEGGET, R. TER & J. SCHOEMAKERS (1989) *Ilkerin Loita Integral Development Project, Kenya*, Evaluation Report, Rotterdam Highschool, Wassenaar.
SCHLUETER, L. & S. SCHLUETER (1975) *The Isinya Experience. A Descriptive Study of the Maasai Rural Training Centre*, unpublished paper prepared for the National Christian Council of Kenya.
SCHNEIDER, H.K. (1979) *Livestock and Equality in East Africa: The Economic Basis for Social Structure*, Indiana University Press, Bloomington and London.
SCHNEIDER, H.K. (1981) 'The Pastoralist Development Problem.' In: *Journal of Asian and African Studies*, XVI, 1-2, pp. 27-32.
SCHWARTZ, H.J. (1980) 'Understanding the ecology of a nomadic system of livestock production.' In: *Impact of Science om Society*, Vol. 30, No. 4, pp. 279-288.
SCHWARTZ, H.J. (1981) *Pastoral Livestock Production in Northern Kenya - Constraints and Potential*, discussion paper for the International Workshop on "Strategies for Developing the Resources of the Arid amd Semi-Arid Areas of Kenya" at the Kenyatta Conference Centre, Nairobi.
SCHWARTZ, S. (1980) *Wenn Laeduma träumt. Leben in extremer Umwelt Afrikas*, Econ Verlag, Düsseldorf-Wien.
SCHWARTZ S. & H.J. SCHWARTZ (1985) 'Nomadic Pastoralism in Kenya -Still a Viable Production System?-.' In: *Quarterly Journal of International Agriculture*, Vol. 24, No. 1, pp. 5-21.
SEITAH, J. OLE (undated) *Education*, unpublished paper prepared for the ASAL Kajiado District Atlas File.
SEKI, S.P. (1990) *1989 Kajiado District K.C.P.E. Results Analysis*, District Education Officer, Kajiado District.
SENA, S. OLE (1990) 'Potter's thoughts on the prospects for intensification and diversification in Kenya Maasailand: some reactions.' In: Klinken, M.K. van & J. ole Seitah, *The Future of Maasai Pastoralists in Kajiado District (Kenya)*, Proceedings of a Conference held in Brackenhurst Baptist International Conference Centre Limuru, Kenya, 28-31 May, 1989, ASAL Programme, Kajiado, pp. 62-68.
SENGA, W.M. (1976) 'Kenya's Africultural Sector.' In: Heyer, J., J.K. Maitha & W.M. Senga (eds) *Agricultural Development in Kenya. An Economic Assesment*, Oxford University Press, Nairobi, pp. 69-110.
SENGA, W.M., R. FARUQEE & B.A. ATENG (1980) 'Population growth and agricultural development in Kenya.' *Occassional Paper No. 40*, Institute for Development Studies, Nairobi.
SIM, R.J. (1980) *A Sociolinguistic Profile of Maasai-Samburu-Ilchamus Languages*, Summer Institute of Linguistics, Nairobi.
SINDIGA, I. (1984a) 'Inducing rural development in Kenya Maasailand.' In: *Journal of Eastern African Research & Development*, Vol. 14, pp. 162-177.
SINDIGA, I. (1984b) 'Land and population problems in Kajiado and Narok, Kenya.' In: *African Studies Review*, Vol. 27, No. 1, pp. 23-39.
SINDIGA, I. (1986) *Population and Development in Maasailand, Kenya*, Ph.D. thesis, Syracuse

University.
SINHA, R. (1984) *Landlessness: a growing problem*, FAO, Rome.
SINKET, S. OLE (1990) 'Pastoral intensification and diversification.' In: Klinken, M.K. van & J. ole Seitah (eds) *The Future of Maasai Pastoralists in Kajiado District (Kenya)*, Proceedings of a Conference held in Brackenhurst Baptist International Conference Centre Limuru, Kenya, 28-31 May, 1989, ASAL Programme, Kajiado, pp. 93-96.
SHINGLEDECKER, K. ET AL. (1982) *Unreaches Peoples of Kenya Project: Maasai Report*, Daystarr Communications, Nairobi.
SOMBROEK, W.G., H.M.H. BRAUN & B.J.A. VAN DER POUW (1982) *Exploratory Soil Map and Agro-Climatic Zone Map of Kenya, 1980 Scale 1:1,000,000*, Exploratory Soil Survey Report No. E1, Kenya Soil Survey, Nairobi.
SONIUS, H.W.J. (undated) *Het recht op de grond in Kenya. Een korte beschouwing en enige vergelijkingen met Indonesië*, Inleiding en deel 1, Afrika-studiecentrum, Leiden.
SONIUS, H.W.J. (1986) 'Aantekeningen over landhervorming.' In: Strijbosch, F. & G. Schmidt (eds) *Een leven lang verbonden met de grond*, Instituut voor Volksrecht, Nijmegen, pp. 1-160.
SORRENSON, M.P.K. (1965) 'Land Policy in Kenya 1895-1945.' In: Harlow, V., E.M. Chilver & A. Smith (eds) *History of East Africa*, Volume II, Clarendon Press, Oxford, pp. 672-689.
SORRENSON, M.P.K. (1967) *Land Reform in the Kikuyu Country. A Study in Government Policy*, Oxford University Press.
SORRENSON, M.P.K. (1968) *Origins of European Settlement in Kenya*, Oxford University Press.
SPENCER, I. (1983) 'Pastoralism and Colonial Policy in Kenya, 1895-1929.' In: Rotberg, R. (ed) *Imperialism, Colonialism, and Hunger: East and Central Africa*, pp. 113-140.
SPENCER, P. (1987) 'Time and the Boundaries of the Economy in Maasai.' In: Baxter, P.T.W & R. Hogg (eds) *Property, Poverty and People: Changing Rights in Property and Problems of Pastoral Development*, Department of Social Anthropology and International Development Centre, University of Manchester, pp. 121-128.
SPENCER, P. (1988) *The Maasai of Matapato: a study of rituals of rebellion*, Manchester University Press/International African Institute, London.
STANDARD (several years) *The Standard*, Kenyan daily newspaper.
STATISTICAL ABSTRACT see RoK/CBS (various years).
STOKS, J.W.H.M. (1980) *Aan de voet van de Kilimanjaro*, M.A. thesis Theology, University of Nijmegen.
SUNDAY POST (several years) Kenyan weekly journal.
SWIFT, J. 'The Future of African Hunter-Gatherer and Pastoral Peoples.' In: *Development and Change*, Vol. 13, pp. 159-181.
SWYNNERTON, R.J.M. (1955) *A Plan to Intensify the Development of African Agriculture in Kenya*, Colony and Protectorate of Kenya, Nairobi, Government Printer.
TARDA (TANA AND ATHI RIVER DEVELOPMENT AUTHORITY) (1984) *Resource Evaluation and Development Proposals Kajiado District.*
THRESHER, P. (1973) 'Some economic problems of wildlife utilisation in Kajiado District.' Institute for Development Studies, *Working Paper No. 124*, Nairobi.
TIDRICK, G. (1979) *Issues in Agricultural Development*, World Bank, Washington.
TIDRICK, K. (1980) 'The Maai and their masters: a psychological study of district administration.' In: African Studies Review, Vol xxiii, No. 1, pp. 15-31.
TIGNOR, R.L. (1976) *The Colonial Transformation of Kenya. The Kamba, Kikuyu, and Maasai from 1900-1939*, Princeton University Press, New Jersey.
TIMOI, S.S. OLE & G.K. OLE KULUO (1990) 'Concept and Evolution of Group Ranches in Kajiado District.' In: Klinken, M.K. van & J. ole Seitah (eds) *The Future of Maasai Pastoralists in Kajiado District (Kenya)*, Proceedings of a Conference held in Brackenhurst Baptist International Conference Centre Limuru, Kenya, 28-31 May, 1989, ASAL Programme, Kajiado, pp. 81-87.
TOBIKO, K. (1989a) *"The Land (Group Representatives) Act: A Case Study of Ilkaputiei Maasae Group Ranches of Kajiado District"*, unpublished LL.B thesis, University of Nairobi.
TOBIKO, P.P. (1989b) *An Analysis of Mashuuru-Imaroro Group Ranch*, unpublished B.A. Paper, University of Nairobi, ASAL Programme, Kajiado.
TOMLINSON, R.H. (1981) *Spatial Inequality and Public Policy in Less-Developed Countries: The Case of Kenya*, Ph.D. thesis, Rutgers University, The State University of New Jersey (New

Brunswick).
TOUBER, L. (1983) *Soils and Vegetation of the Amboseli-Kibwezi Area*, Reconnaissance Soil Survey Report No. R6, 1983, Kenya Soil Survey, Nairobi
UNDP/FAO (1967a) *East African Livestock Survey. Regional - Kenya, Tanzania, Uganda*, Volume I Development Requirements, United Nations Development Program/Food and Agriculture Organization, Rome.
UNDP/FAO (1967b) *East African Livestock Survey. Regional - Kenya, Tanzania, Uganda*, Volume II Development Plans, United Nations Development Program/Food and Agriculture Organization, Rome.
UNDP/FAO (1967c) *East African Livestock Survey. Regional - Kenya, Tanzania, Uganda*, Volume III Development Atlas, United Nations Development Program/Food and Agriculture Organization, Rome.
UNDP/FAO (1969) *Pre-investment Survey Report of Ranching Potential, Kaputiei Section Kajiado District, Kenya (draft)*, UNDP/FAO Kenya Range Management Project, Nairobi.
UNDP/FAO (1978) *Wildlife Management Kenya. Plans for Rural Income from Wildlife in Kajiado District*, Technical Report 1, Rome.
UNEP (1992) *Saving Our Planet: challenges and hopes. The State of the Environment (1972-1992)*, United Nations Environment Programme, Nairobi.
UNEP/GEMS/GRID (1987) *African Elephant Database Project: Maps*, Grid Case Study Series No. 2, Global Environment Monitoring System, United Nations Environment Programme, Nairobi.
UNESCO/UNEP/FAO (1979) *Tropical Grazing Land Ecosystems: A State-of-Knowledge Report*, Unesco Natural Resources Research no. XVI, Paris.
UNITED NATIONS (several years) *Demographic Yearbook*, United Nations Department of International Economic and Social Affairs, New York.
VERMAAT, B. (1988) *Group Ranches in Kenia: een evaluatie*, M.A. thesis, University of Amsterdam.
VIITANEN, E. (1982) 'Nomadism and Desertification: A Case Study of Northern Kordofan, Sudan.' In: *Nomadic Peoples*, No. 10 , pp. 58-60.
VOLKSKRANT, DE (several years) Dutch daily newspaper.
VOSHAAR, J. (1979) *Tracing God's Walking-stick in Maa. A Study of Maasai Society, Culture and Religion, a Missionary's Approach*, M.A. thesis, University of Nijmegen, Mill Hill, Roosendaal, the Netherlands.
WALES, M., F. CHABARI, J.C. BILLE & F.M. ANDERSON (1979) *District Ranch Development Briefs*, International Livestock Centre for Africa/Kenya. Working Document 13, Nairobi.
WALLER, R. (1976) 'The Maasai and the British 1895-1905, the origins of an alliance.' In: *Journal of African History*, 17, 4, pp. 529-553.
WALLER, R. (1984) 'Interaction and identity on the periphery: the Trans-Mara Maasai.' In: *International Journal of African Historical Studies*, 17, 2, pp. 243-284.
WALLER, R. (1985) 'Ecology, Migration, and Expansion in East Africa.' In: *African Affairs*, Vol. 84, No. 336, pp. 347-370.
WALLER, R. (1988) 'Emutai: crisis and response in Maasailand 1883-1902.' In: Johnson, D.H. & D.M. Anderson (eds) *The Ecology of Survival. Case Studies from Northeast African History*, Lester Crook Academic Publishing, London, pp. 73-114.
WANJALA, S.C. (1990) *Land Law and Disputes in Kenya*, (You and the Law series), Oxford University Press, Nairobi.
WASSERMAN, G. (1976) *Politics of Decolonization: Kenya Europeans and the Land Issue 1960-1965*, African Studies Series, No. 17, Cambridge University Press.
WCARRD (1988) *The Impact of Development Strategies on the Rural Poor*. World Conference on Agrarian Reform and Rural Development. 1979-1989, 10 years of follow up, FAO, Rome.
WEEKLY REVIEW, (several years) Kenyan weekly paper.
WEICKER, M. (1982) *Die Beziehungen zwischen Nomaden und Bauern im Senegalesischen Sahel: Eine konfliktheoretische Analyse*, Institut für Geowissenschaften, Universität Bayreuth.
WESTERN, D. (1982a) 'Amboseli National Park: Enlisting Landowners to Conserve Migratory Wildlife.' In: *Ambio*, Vol. 11, no. 5, pp. 302-308.
WESTERN, D. (1982b) 'The Environment and Ecology of Pastoralists in Arid Savannas.' In: *Development and Change*, 13, pp. 183-211.
WESTERN, D & V. FINCH (1986) 'Cattle and Pastoralism: Survival and Production in Arid Lands.'

In: Human Ecology', Vol. 14, No. 1, pp. 77-94.
WHITE, J. & S. MEADOWS (1981) *Evaluation of the contribution of group and individual ranches in Kajiado District, Kenya, to economic development and pastoral production strategies*, Nairobi, Ministry of Livestock Development.
WIGGINS, S. (1985) 'The planning and management of integrated rural development in drylands: early lessons from Kenya's arid and semi-arid lands programmes.' In: *Public Administration and Development*, Vol. 5, no. 2, pp. 91-108.
WISNER, B.G. (1978) *The Human Ecology of Drought in Eastern Kenya*, Ph.D. thesis Social Geography, Clarke University, Massachusetts.
WORLD BANK (1975) *Kenya: Into the Second Decade*, John Hopkins Press, Baltimore.

WORLD BANK (1979) *Kenya Second Livestock Development Project - Credit 477-KE Partial Supervision Mission: August 20-31, 1979*, Summary of Status of Selected Issues at the time of Supervision Mission (August 1979) and Implementation Review Meeting (September 1979), mimeo.
WORLD BANK (1983) *Kenya: Growth and Structural Change*, Vol. 1 & 2, Washington.
WORLD BANK (1990) *World Development Report 1990. Poverty*, World Development Indicators, Oxford University Press.
WORLD BANK (1992) *World Development Report 1992. Development and the Environment*, World Development Indicators, Oxford University Press.
WRIGLEY, C.C. (1965) 'Kenya: The Patterns of Economic Life 1902-45'. In: Harlow, V., E.M. Chilver & A. Smith (eds) *History of East Africa Volume II*, pp. 209-264, Clarendon Press, Oxford.
ZONNEVELD, I.S. (1984) 'Principles of land evaluation for extensive grazing.' In: Siderius, W. (ed) *Proceedings of the workshop on land evaluation for extensive grazing (LEEG)*, ILRI, Publication 36, Wageningen, pp. 84-118.
ZWANENBERG, R.M.A. & A. KING (1975) *An Economic History of Kenya and Uganda 1800-1970*, the Macmillan Press Ltd, London.

CURRICULUM VITAE

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NEDERLANDSE SAMENVATTING

In de jaren 1883/84 slaagde de jonge Schotse geoloog en ontdekkingsreiziger Joseph Thomson er als eerste Europeaan in het gebied van oostelijk Afrika gelegen tussen de Indische Oceaan en de bronnen van de Nijl te doorkruisen. De relatief onervaren Thomson ondervond op zijn tocht verrassend weinig tegenstand van de als zeer bloeddorstig afgeschilderde en daarom zo gevreesde Maasai. Deze Oost-Afrikaanse veehouders waren echter door een aaneenschakeling van vijandigheden met naburige akkerbouwers, door onderlinge twist en door ziekten van mens en dier zeer verzwakt, zelfs zodanig dat sommige groepen zich onder de hoede van de Europese nieuwkomer schaarden in de hoop op betere tijden.

De gevraagde bescherming werd gaarne geboden, maar de Maasai betaalden hiervoor wel een hoge prijs. Al direct deelden de Europese indringers het Maasai volk op door van de kust naar het Victoriameer een vrijwel rechte lijn te trekken. De noordelijke Maasai kwamen onder het gezag van het Britse "East Africa Protectorate" en de zuidelijke Maasai onder dat van het Duitse Tanganyika. In 1904 en 1911 werden de "Maasai Verdragen" gesloten tussen vertegenwoordigers van de noordelijke Maasai en de Britse koloniale autoriteiten. Resultaat hiervan was dat deze Maasai exclusieve gebruiksrechten verkregen ten aanzien van twee van elkaar gescheiden reservaten, tezamen ongeveer 24.000 km^2 groot. In latere jaren werd deze splitsing in de "East Africa Protectorate" ongedaan gemaakt door het meest noordelijke gebied in handen te geven van blanke kolonisten en het zuidelijke reservaat uit te breiden tot 38.000 km^2. Desondanks zagen de Keniaanse Maasai hun oorspronkelijke territorium van ongeveer 60.000-70.000 km^2, met zo'n 40% afnemen.

De verliezen in kwalitatieve zin waren zo mogelijk nog belangrijker. De beste weideterreinen werden door Europese immigranten overgenomen. Dit was mogelijk dankzij de actieve medewerking van het Britse koloniale bewind dat zorgde voor een gunstige wetgeving betreffende landbezit, op soepele wijze omging met de restricties die golden bij de toewijzing van land en terughoudend was bij het opleggen van straffen.

Het aan de Maasai toegewezen reservaat omvatte uitgestrekte gebieden waarin gebrek was aan water of gras. In andere delen werd het gebruik bemoeilijkt door veeziekten. De Maasai gaven herhaaldelijk te kennen de beweidingscapaciteit van het gebied te willen verhogen door verbetering van de watervoorziening. Ook toonden zij grote belangstelling voor het vaccineren van het vee. Dit laatste was ook in het belang van de inmiddels in grote getale toegestroomde blanke kolonisten.

In de periode tussen de beide wereldoorlogen concentreerde de koloniale machthebber zich op het beschermen van de door de Europese immigranten opgezette veeranches. Quarantainemaatregelen belemmerden de Maasai in hun traditionele pogingen betere veesoorten vanuit noordelijk Kenya te importeren.

Ook de legale verkoop van Maasaivee werd bemoeilijkt, evenals de vrije trek van Maasaaikudden op zoek naar gras en water. Daarentegen floreerde in het Maasaigebied de illegale veehandel die in handen was van privé handelaren die beduidend hogere prijzen boden.

In deze periode van belemmering en veronachtzaming kwamen de Maasai voornamelijk in de schijnwerpers ten tijde van de "Kenya Land Commission". Deze commissie, ook wel vernoemd naar haar voorzitter Carter, had als taak een onderzoek in te stellen naar de door de Afrikaanse bevolking geuite protesten tegen het verlies van land. De Maasai verklaarden ten overstaan van deze commissie recht te hebben op een aantal aangrenzende zones en claimden een gebied van in totaal 720 km^2. Bovendien verlangden zij dat de kunstmatige grens tussen hen en de Maasai in Tanganyika werd opgeheven. De Carter commissie wees echter op de zeer geringe bevolkingsdichtheid in het Maasaigebied in vergelijking met die in de naburige gebieden van Europese boeren en Afrikaanse akkerbouwers. Gezien deze geringe bevolkingsdichtheid was het weinig verwonderlijk dat de illegale vestiging van Afrikaanse akkerbouwers in het Maasaigebied oogluikend door de lokale bestuurders werd toegestaan. Behalve tot een uitbreiding van de akkerbouw leidde deze vestiging ook tot een verminderde vraag naar goed land in de "White-Highlands", waar blanke kolonisten zich de betere gronden hadden toegeëigend.

Na de Tweede Wereldoorlog kwam de discriminerende politiek van de koloniale regering in toenemende mate onder vuur te staan. Niet alleen vanuit de Afrikaanse bevolking kwamen steeds meer protesten tegen de achterstelling van de inheemse meerderheid ten gunste van een kleine groep blanke kolonisten, vrij snel kwamen dergelijke protesten ook vanuit Groot-Brittannië zelf. De Afrikanen zochten de oplossing in gewapende strijd ("Mau Mau"), het moederland reageerde door een aantal onderzoekscommissies in te stellen. Het uit deze commissie-activiteiten voortgekomen "Plan to Intensify the Development of African Agriculture", beter bekend als het "Swynnerton Plan", betekende een breuk met het verleden, dat gekenmerkt was geweest door desinteresse voor en belemmering van het functioneren en het welzijn van de Afrikaanse samenleving. Het in een eerder stadium gepropageerde idee van communaal landeigendom als de beste garantie voor een verantwoord landgebruik werd, voorzover het de vruchtbare en natte hooglanden betrof, vervangen door dat van individueel landbezit. Voor de semi-aride gebieden werd een programma voorgesteld dat moest leiden tot beter weidemanagement en maximale veebezetting.

De Maasai werd gevraagd in te stemmen met een systeem waarbij een maximaal aantal families rondom een waterput gesitueerd zou worden. Getracht werd om aldus een vorm van "ranching" te ontwikkelen. Enige ervaring hiermee had men in Maasailand al in het midden van de jaren veertig opgedaan via het zogenaamde Konza experiment. Dit project had tot doel een

kleine groep Maasai kennis te laten maken en ervaring te laten opdoen met westerse methoden van veehouderij. Omheining van de weiden, weiderotatie, veterinaire hulp en intensieve verzorging moesten, als voornaamste elementen van het project, een breuk met het traditionele nomadische verleden bewerkstelligen. De Maasai waren bijzonder geïnteresseerd in deze moderne methoden. Problemen ontstonden echter ten tijde van droogte maar met name naar aanleiding van de verplichte vermindering van de kuddegrootte. Plannen om het gehele district in "ranch units" op te delen werden ingetrokken nadat onderzoek had uitgewezen dat als gevolg van klimatologische en geologische omstandigheden slechts het noordelijke deel van het district voor deze vorm van exploitatie geschikt was.

Aan het eind van de jaren vijftig en het begin van de jaren zestig werden toch weer ontwikkelingen in gang gezet die een verandering moesten bewerkstellingen in de rechten ten aanzien van het land en daarmee in de wijze van veehouden. In 1954 werd de eerste privé ranch toegewezen en snel daarna deden tal van Maasai het verzoek ook voor zo'n ranch in aanmerking te komen. De belangstelling kwam vooral uit de hoek van hen die enig formeel onderwijs hadden genoten. Een andere ontwikkeling was de registratie van het Maasailand in de Ngong regio. Hier hadden in toenemende mate andere Afrikaanse volken hun toevlucht gezocht teneinde de groeiende congestie in de eigen reservaten te ontlopen. Deze congestie was mede ontstaan doordat de blanke kolonisten steeds meer landarbeiders hadden afgestoten en naar de eigen reservaten teruggestuurd. De vruchtbare gebieden in het Kajiado district vormden voor deze landlozen een aantrekkelijk alternatief. Vestiging in dit gebied was echter alleen mogelijk met toestemming van de Maasai. Ten tijde van de noodtoestand was zelfs dit niet langer een legaal alternatief, maar na de opheffing van de noodtoestand vond de toestroom van niet-Maasai weer in versneld tempo plaats.

Het creëren van een gordel van individuele ranches in het grensgebied met de Kikuyu werd gezien als een mogelijkheid om illegale vestiging tegen te gaan. Al spoedig bleek evenwel dat dit, van meer ontwikkelde Maasai afkomstige, idee voornamelijk ten eigen bate werd aangewend. Tal van oudere Maasai en de koloniale machthebber constateerden terecht dat de mogelijkheid tot verwerving van individuele ranches zou leiden tot landspeculatie, maar waren niet in staat of bereid het proces te stoppen.

De toenemende vestiging van akkerbouwers, de reservering van delen van het weidegebied voor wildparken en de naderbij komende onafhankelijkheid verontrustten de Maasai in die tijd zodanig dat zij herhaaldelijk protesteerden tegen de ontwikkelingen. De toestroom van andere Afrikaanse groepen in met name het gebied van de noordelijke Kaputiei Maasai nam snel toe. Voorstellen om een gordel van individuele ranches in het grensgebied met de akkerbouwende groepen te creëren of het als geheel registreren van de Kaputiei bleven bij plannen. De vrees dat het exclusieve recht op het land na de onafhankelijkheid verloren zou gaan bracht de Maasai

er zelfs toe een verzoek bij de Verenigde Naties in te dienen tot hereniging met de Tanzaniaanse Maasai en de vorming van een eigen staat. Dit verzoek werd echter niet gehonoreerd, evenmin als de verzoeken tot teruggave van vroeger Maasai gebied.

In het begin van de jaren zestig werden de Maasai getroffen door ernstige droogte. Grote aantallen vee gingen verloren, waardoor de Maasai opnieuw in een kwetsbare situatie kwamen. Onder deze omstandigheden gingen zij akkoord met de oprichting van communale ranches: een bepaald stuk land werd toegewezen aan een groep mensen die na registratie als lid van de groep het wettelijk bezit over dit deel van het Maasaigebied verwierven. Het dagelijks bestuur van de ranch kwam in handen van maximaal 10 personen, gekozen uit de leden. Zij dienden er onder andere op toe te zien dat het vee binnen de grenzen van de ranch bleef en er voor te zorgen dat er leningen voor infrastructurele voorzieningen werden afgesloten en tijdig afgelost. Ook kregen zij het beheer van deze voorzieningen. Op deze wijze poogde de overheid de zelfvoorzienende Maasai-economie te transformeren in marktgerichte produktie.

Met uitzondering van enkele regio's werd het voorstel door de Maasai geaccepteerd. Naast de mogelijkheid om de watervoorziening en de veterinaire diensten te verbeteren zagen de Maasai in het voorstel ook een mogelijkheid om de uitgifte van individuele ranches, het opzetten en uitbreiden van wildparken en de infiltratie door akkerbouwers tegen te gaan. In 1964 werd een proefranch (Poka) opgezet. Uiteindelijk resulteerde dit in de gefaseerde vorming van 51 communale ranches in een gebied van 15.200 km^2, overeenkomend met ongeveer 75% van het Kajiado District. In 1969 werd een start gemaakt met de eerste fase van het "Kenya Livestock Development Project", dat voornamelijk gefinancierd werd met fondsen van de Wereldbank. De uitvoering was in handen van de landbouw- en ontwikkelingsinstanties van de Verenigde Naties (FAO en UNDP). Het streven van de projectleiders naar een meer marktgerichte produktie werd naar de mening van de donoren echter niet voldoende gerealiseerd. Het negeren van de groepsranchgrenzen, de weigering de kuddegrootten te verminderen, corruptie bij vele comités, tegenvallende investeringen en problemen met de aflossing van de leningen waren de overige redenen om in 1982 verdere financiering stop te zetten. Het project bleek te ambitieus en had te weinig rekening gehouden met pastorale strategieën en behoeften.

In het begin van de jaren tachtig neemt de roep om te komen tot opdeling van de groepsranches toe. Tot de mogelijk positieve effecten werden gerekend de (vergrote) mogelijkheid om leningen af te sluiten, het tegengaan van de exploitatie van de armen door rijke huishoudens, de ruimere mogelijkheid andere activiteiten (zoals akkerbouw) te beginnen en de mogelijkheid om de bestaande infrastructuur beter te beheren en nieuwe voorzieningen in te voeren. De tegenstanders waren evenwel bevreesd voor verkoop van land aan

buitenstaanders, erosie in de gebieden waar akkerbouw uitgeoefend zou gaan worden, verlies van de Maasaicultuur en inperking van de bewegingsvrijheid van wilde dieren die van vitaal belang zijn voor het toerisme in het district.

Begin 1990 hadden 40 ranches besloten tot opdeling. Bij zeven ranches was op dat moment het proces van opsplitsing reeds geheel voltooid. Slechts 4 ranches hadden opsplitsing afgewezen.

Deze studie concentreert zich op de gevolgen van de opdeling. Met name de ontwikkelingen op het vlak van landbezit werden nader onderzocht. Daarnaast werd aandacht besteed aan de ecologische en economische levensvatbaarheid van de nieuwe kleine individuele ranches. In twee voormalige communale ranches (Olkinos en Embolioi) werd de nieuwe individuele bezitters gevraagd naar de door hen doorgevoerde landtransacties, het aangaan van leningen en de introductie van veranderingen op het vlak van weidemanagement, afgrenzing van het weidegebied, infrastructuur (zoals waterputten) en diversificatie (bijvoorbeeld de introductie van akkerbouw). Ter vergelijking werd tevens onderzoek verricht bij een aantal (nog) niet opgedeelde communale ranches en bij reeds bestaande individuele ranches.

Geconstateerd werd dat de opdeling van de communale ranches met name voordelig was voor de voormalige leden van het ranchcomité. Zij verkregen de grootste en best gelegen bedrijven. Verder bleek dat maximaal 10% van de Olkinos en Embolioi huishoudens zo veel land hebben verworven dat zij in staat zijn om zowel in de droge als de natte periodes op de eigen ranch zo veel dieren te houden dat zij geheel van de veehouderij kunnen bestaan. Sinds de opdeling van de ranches in 1986 is dit aantal nog eens met een extra 1-2 procent afgenomen. 43% van de Olkinos huishoudens meende dat hun ranch economisch levensvatbaar zou zijn. Voor de grotere Embolioi ranches lag dit percentage op bijna 85.

Uitkomst van het onderzoek was voorts dat 72 tot 93% van de Olkinos ranches te veel vee zouden hebben in het natte, respectievelijk het droge seizoen. In Embolioi was de situatie iets beter: 37 resp. 64%. De vaak geuite veronderstelling dat de individualisering van het landbezit zou leiden tot een vermindering van de veestapel tot op het niveau van de draagcapaciteit van de ranch wordt hiermee weersproken. Integendeel, veel ranchers blijken extra vee te hebben gekocht, ongeacht de veedichtheid op hun ranch.

Gezien deze situatie zal het geen verwondering wekken dat de Maasai pastoralisten ook na de opsplitsing vast hebben gehouden aan hun strategie van veeverplaatsing. In Olkinos en Embolioi had ongeveer 20-25% van de huishoudens een deel van het vee elders gesitueerd. Het vinden van weidegrond is niet de enige verklaring; een belangrijke reden is ook dat hiermee andere huishoudens worden geholpen en dat bepaalde ziektes worden ontlopen. Bij de al langer gevestigde individuele ranchers en in de communale ranches werd een zelfde strategie geconstateerd. Met andere woorden, niet zo zeer de legale status als wel de ecologische situatie en intermenselijke relaties zijn van

invloed op de graaspatronen van het vee. Vooralsnog vindt de mobiliteit plaats zonder financiële vergoedingen. Slechts twee huishoudens rapporteerden te hebben betaald voor het verkrijgen van toegang tot elders gelegen weidegebied.

De door de tegenstanders vaak geuite vrees dat de individuele ranches omheind zullen worden en daardoor de trek van het vee en het wild ernstig belemmerd wordt lijkt vooralsnog ongegrond. De omheiningen beperken zich tot op heden voornamelijk tot het akkerland en tot speciaal voor ziek en jong vee gereserveerde kleine weiden. Het geheel omheinen van de ranches is erg duur. Het zijn daarom met name immigranten, die nu op legale wijze land kunnen verkrijgen in het voormalige communale gebied, aktief bezig zijn met omheinen. Daarnaast hebben enkele zeer rijke opkopers van land grote hekwerken geplaatst. Afgezien van de financiële consequenties beseffen vele Maasai dat het geheel afsluiten van de eigen ranch onder de huidige klimatologische omstandigheden tot problemen zal leiden. De uitsluiting van wild kan in de nabije toekomst echter wel een motief zijn om toch tot volledige afrastering van de ranches over te gaan. Corridors en een uitgebreid netwerk van vrienden zullen het dan mogelijk maken het vee zo nodig nog te verplaatsen.

De komst van niet-Maasai heeft geleid tot een uitbreiding van het akkerland. Toch is de feitelijke omvang daarvan nog beperkt (0,53% van het studiegebied). Ook de Maasai leggen overigens een grotere belangstelling voor akkerbouw aan de dag. Ruim 40% van de onderzoekspopulatie bedreef enige akkerbouw. Voor de droogte van 1984/5 was dit nog slechts 10-15%.

Uitgebreid werd in deze studie stilgestaan bij de door de nieuwe land eigenaren ondernomen landtransacties. Er werd een analyse gemaakt van de verdere opdeling, verkoop en het als onderpand bij leningen gebruiken van de nieuw verworven ranches. Naast de Embolioi en Olkinos ranches werden daarbij nog drie andere opgedeelde ranches in de beschouwing betrokken (Poka, Empuyiankat en Kitengela). Een totaal van 757 Maasai van deze voormalige ranches bezat in februari 1990 een eigen ranch. 36,7% van hen had reeds besloten het land verder op te delen. 78 Maasai (10,3%) hadden toestemming verkregen een stuk land te verkopen. In totaal betrof het 1.728 ha ofwel 2,4% van het voormalig communale bezit.

De groep verkopers vertoonde geen specifieke kenmerken. Wel kwam uit het onderzoek naar voren dat voormalige comitéleden niet tot de verkopers behoorden. Een enkel voormalig comitélid dat een stuk land had verkocht had dit enkele maanden eerder van een buurman gekocht. Speculatie bleek zeer aantrekkelijk te zijn vanwege de snel stijgende landprijzen en de exorbitant hoge bedragen die daardoor geboden worden. Een Olkinos Maasai eigenaar zal bij verkoop van zijn gehele ranch ongeveer *f* 75.000 kunnen krijgen, d.w.z. een bedrag dat overeenkomt met ongeveer 25 jaren loonarbeid.

De voormalige comité-leden waren wel significant aanwezig in de groep

van personen die een lening hadden aangevraagd. Slechts 17 personen (2,2%) hadden in totaal 1.195 ha (1,6%) van het land als onderpand voor een lening aangeboden. Volgens de meeste Maasai is de verkoop van land een snellere en eenvoudiger mogelijkheid om geld te krijgen dan het aangaan van een lening. De financiële instellingen zijn namelijk niet erg toeschietelijk en lijken, onuitgesproken, ook allerlei eisen te stellen bij het verstrekken van een lening, zoals een bepaald ontwikkelingsniveau en de aanwezigheid van neveninkomsten.

Degenen die stukjes land gekocht hadden waren voornamelijk niet-Maasai. Deze groep bestond zowel uit rijke zakenmensen en ambtenaren als uit minder draagkrachtigen. De enkele Maasai onder de kopers waren gevestigde individuele ranchers, voormalige comité-leden en politici. De groep van landkopers vertoonde een evenwichtige verdeling voor wat betreft het opnieuw verkopen (speculatie) en het als onderpand voor een lening aanbieden van de grond.

Aandacht werd in het onderzoek ook besteed aan de vraag in hoeverre de Maasai in Olkinos en Embolioi infrastructurele verbeteringen hadden aangebracht nadat ze een eigen ranch hadden verworven. Op beide voormalige groepsranches werd wat dit aangaat een toename geconstateerd. Het feit dat een deel van het land verkocht werd of dat een lening werd aangevraagd speelde hierbij geen rol. Het is echter niet uitgesloten dat de doorgevoerde verbeteringen niet eveneens zouden hebben plaats gevonden indien deze ranches niet opgedeeld zouden zijn.

De aangebrachte verbeteringen lagen voornamelijk in de consumptieve sfeer. Moderne huizen werden het meest gebouwd, daarna volgden investeringen in omheiningen, veterinaire voorzieningen en infrastructurele werken ter verbetering van de watervoorziening. De groep van opkopers investeerde vooral in omheiningen en watertanks.

Tenslotte werd in deze studie een overzicht gegeven van de aanpassingen in de huishoudeconomie van de Maasai. De toename van de akkerbouw werd hierboven reeds gememoreerd. Vooral de armere huishoudens houden zich hier meer mee bezig, maar ook de rijkste huishoudens, die in staat zijn arbeidskracht in te huren, tonen er belangstelling voor. Zij die geen akkerbouw bedrijven doen dit voornamelijk vanwege het klimaat of een tekort aan arbeidskracht. Daarnaast blijken de Maasai huishoudens in toenemende mate een inkomen buiten de landbouwsector te verwerven. Deze diversificatie betekent voor Olkinos dat nog slechts 70% van de hoofden van huishoudens de veehouderij als de meest belangrijke activiteit beschouwt. Ruim 22% is in loondienst en ongeveer 5% heeft een eigen onderneming. Deze trend is ook, zij het in mindere mate, waarneembaar op de overige ranches. Sommige hoofden van huishouden verblijven dientengevolge de meeste tijd elders. Over het algemeen is er echter geen sprake van een definitief vertrek naar gebieden

buiten het district. Een uiting van diversificatie is ook de veranderde samenstelling van de kuddes. Het onderzoek bevestigde dat geiten en schapen meer betekenis hebben gekregen. Recentelijk zijn ook dromedarissen (camels) in het Kajiado gebied geïntroduceerd. Het is evenwel nog te vroeg om een uitspraak over de haalbaarheid van deze ontwikkeling te doen.

Intensivering van de traditionele Maasai-economie is een andere optie die door vele Maasai huishoudens is aangegrepen. Een van de mogelijkheden is het verhogen van de melkproduktie door de introductie van goede melkkoeien of uitbreiding van hun aantal. Een probleem hierbij is de hoge prijs, de beperkte beschikbaarheid van goed melkvee en hun gevoeligheid voor ziekten en droogte.

Nog weer een andere mogelijkheid is de produktie meer te commercialiseren. Het is namelijk een misvatting dat de Maasai niet in de verkoop van vee geïnteresseerd zouden zijn. In het verleden hebben zij hiervoor wel degelijk belangstelling getoond. Vermeld moet worden dat de kuddegrootte niet alleen door verkoop kan afnemen, maar ook op andere wijze tot stand kan komen, en wel door slacht, leningen, giften en ruil. De verkoop van vee uit puur commerciële overwegingen bleek vooral aan aangelegenheid te zijn van de rijke huishoudens; gedwongen verkopen bij ziekte van het vee of vanwege problemen in het huishouden kwamen bij deze groep minder voor. Over het algemeen vormden de verkopen ongeveer 70% van het totale aantal tot afname leidende transacties.

Ongeveer de helft van de huishoudens verkocht huiden en vellen. Met name de rijkere huishoudens waren hierin actief. Daarentegen verkocht maar 5% van de respondenten melk. Ook de verkoop van akkerbouwprodukten is in dit deel van het Kajiado District verwaarloosbaar.

De Maasai hebben hun toekomst thans nog grotendeels in eigen handen. De jongere generatie zal in de toekomst echter geconfronteerd worden met het feit dat een Maasai niet meer automatisch toegang heeft tot zijn of haar geboortegrond. Verdergaande sociale stratificatie en daarmee gepaard gaande marginalisatie lijken onafwendbare ontwikkelingen. De vraag naar weidegrond zal versneld toenemen, terwijl onder meer door de uitbreiding van de akkerbouw en de individualisering van het bezit de beschikbaarheid ervan zal afnemen. Het zoeken naar mogelijkheden om vormen van landgebruik zo goed mogelijk te integreren en het creëren van alternatieve vormen van werkgelegenheid verdienen in het ontwikkelingsbeleid de hoogste prioriteit. Educatie speelt daarbij een belangrijke rol. Op korte termijn lijkt prioriteit te moeten worden gegeven aan goede voorlichting over de mogelijkheden van deskundig en verantwoord landgebruik en dienen landverkopen aan speculanten te worden tegengegaan. Een moratorium op de verkoop van land, taxatie en een maximum bezit van land en goede voorlichting zijn nodig om te voorkomen dat de Maasai hun huidige rijkdommen verruilen voor toekomstige armoede.