# The Struggle for Land and Livestock among the Turkana, (ex) nomadic pastoralists of North-West Kenya

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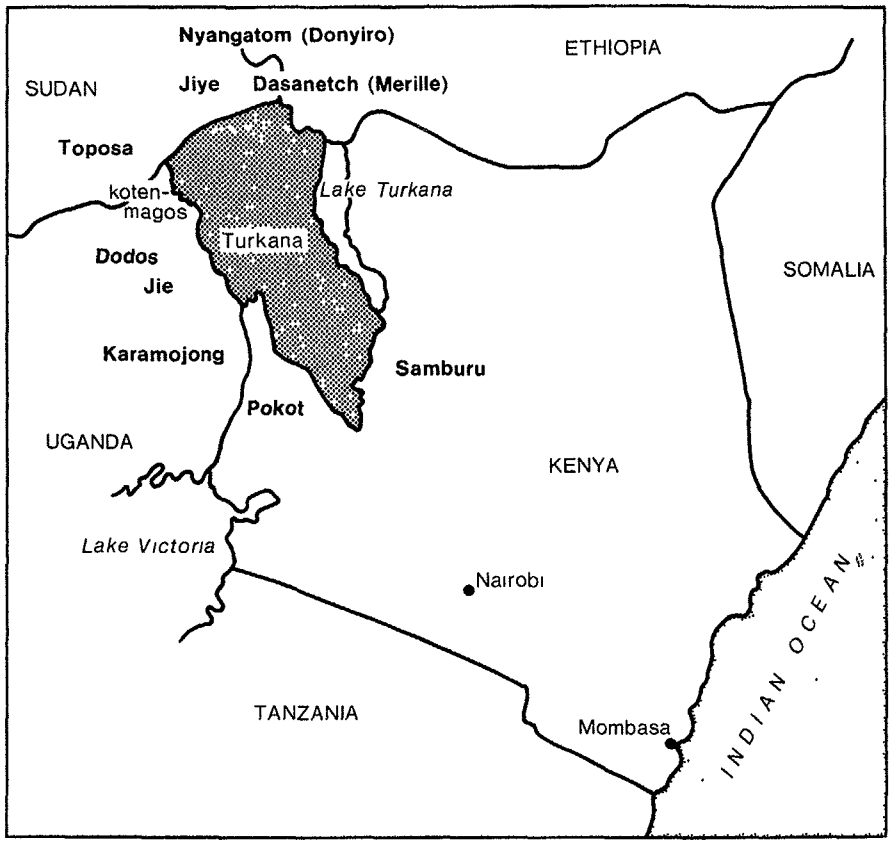



Map 5.1 Location of Turkana District



# 5 THE STRUGGLE FOR LAND AND LIVESTOCK AMONG THE TURKANA, (EX)-NOMADIC PASTORALISTS OF NORTH-WEST KENYA

M.M.E.M. Rutten

## 5.1 Introduction

The arid and semi-arid areas of Kenya are the habitat for some 1.2 million nomadic livestock keepers. These people move around with their cattle, sheep, goats and camels in search of food and water for the animals. The people themselves mainly live on the milk products of the animals. In this way human beings are trying to make a living in a harsh environment, but they do not always succeed. Opinions differ on the reasons for the periodic collapse of such nomadic systems. 'Nomadic pastoralists are all striving for a herd as large as possible at the cost of the quality of the animals and the ecology of their environment'. This often-heard statement is and has been made not only by laymen, but also by many 'experts', both government officials and scientists, e.g. Henriksen (1974), Herskovits (1948) and Konzacki (1978).

In what follows, I shall try to show that the link between the supposed desire for as large a herd as possible and the consequent degradation of the environment leading to the ultimate breakdown of the pastoral system, cannot be made in such a general and simplistic manner. The potential and/or periodical catastrophes within the pastoral way of life are due to many different causes, each acting in its own specific way. Economic, political, ecological and socio-cultural factors need to be studied within a historical perspective if the struggle for land and livestock by the nomadic pastoralists is to be understood.

In this study our attention will focus on the Turkana nomadic pastoralists, who live in the most north-westerly part of Kenya, bordering on Uganda, Sudan and Ethiopia. Turkana District (see map 5.1) is a semi-arid region covering 66,000 $km^2$ or about 1/9 of Kenya's total land surface. Approximately 180,000-200,000 Turkana try to make a living in this harsh environment, which is characterized by high temperatures (25 C-37 C) and low rainfall (200-400 mm p.a.). The rainfall pattern over the year is bimodal, with April-July and November-December being the wet seasons. However, rainfall is erratic and unreliable.

## 5.2 History

### 5.2.1 Pre-colonial period (1500-1880)

As part of the Karamojong cluster of peoples, the Turkana originally lived in the Koten-Magos area, just north of the escarpment which marks the present border between Uganda and northern Kenya. Their economy was based mainly on hunting, gathering, pastoralism and the cultivation of drought-resistant crops.

After 1700, however, ecological pressures built up and the group divided itself amoeba like into seven new components. The Jie, Karamojong and Dodos are still living in Uganda, while the Jiye, Nyangatom (Donyiro) and Toposa migrated to Sudan. The Turkana dispersed to the east, where they concentrated in the relatively fertile Upper Tarach Valley.

At the beginning of the nineteenth century, the Turkana concentrated increasingly on livestock herding as the ecological conditions in their new home area were not as favourable for arable farming as they were in Uganda. The still embryonic Turkana group was able to move rapidly into many important grazing areas at a time when a major drought did not affect the Turkana as much as it did other small neighbouring groups living to the east and south. This expansion was not so much a military one as a process of largescale assimilation of neighbouring groups, who became Turkana. This process went on until the beginning of the 20th century: 'As the Turkana expansion was nearing the completion of what was at least one important phase of its history the grim reality of the colonial era was suddenly brought home to the Turkana by the nearly simultaneous appearance of the Ethiopian and British administrations into Northern and Southern parts of the territory respectively.' (Lamphear, 1982, p. 19).

### 5.2.2 Colonial period (1880-1963)

The first outsiders to appear in Turkana-land had been ivory hunters, traders and 'explorers' from Ethiopia and Europe. Towards the end of the 19th century they fought their private wars, in which many Turkana were killed, in order to obtain livestock and other loot. Around 1880 the British officially installed themselves in Sudan, Uganda and the British East Africa Protectorate (i.e. Kenya).

In 1902 Turkana District, till then Ugandan territory, became divided between Uganda and British East Africa. However no effective control could yet be exercised over this region. In 1905 and 1906, the British declared the Southern Area of Turkana an Administrative District and started collecting 'hut taxes' in the form of livestock. Northern Turkana, which was also claimed by Ethiopia,



remained generally beyond the reach of the European colonists. Particularly after 1911, the tax policy created passive resistance, which soon escalated into active resistance by the Turkana from the North, who were assisted by Ethiopia, when the British started to interfere with livestock raiding in favour of neighbouring tribes, such as the Pokot and Samburu (1). 'Turkana regarded British opposition to their raiding activities as interference with a vital aspect of their traditional system. Unlike the peoples who had raided the Turkana in the past, these Europeans had no herds of their own which the Turkana could raid in return. Therefore the Turkana sought to increase their raiding of those people who had come under British Administration. The stable relations which had existed between many of these groups and the Turkana began to deteriorate badly as a result' (Lamphear, 1976, p. 230).

These tensions were strengthened when the colonial military forces (King's African Rifles) recruited members of the neighbouring tribes in order to conquer the Turkana in a big military operation in 1915. Many Turkana were killed and some 130,000 head of livestock confiscated.

When even larger numbers of livestock were taken away, the primary concern for the Turkana people changed from resistance to subsistence, but it was not until 1926 that the Turkana were defeated, which made them one of the last peoples anywhere on the African continent to be brought under European colonial rule. The Civil Administration took over, but their policy was mainly directed towards the avoidance of raiding and the restriction of stock grazing movements. Until 1940, large stock movements had to be reported to the British District Commissioner and fines were imposed by the authorities if the Turkana herded their livestock too close to certain forbidden areas. 'Unfortunately this policy over a period of years has led to the very bad grazing of certain areas (and) several hundred square miles of good grazing are closed altogether even when cattle may be dying of drought conditions a few miles away' (H.O.R., 1948, p. 9). An attempt was also made to stop raiding, by disarming the Turkana. This, however, led in return to many attacks on the Turkana by still armed neighbouring tribes like the Nyangatom and Dasanetch (see Gulliver, 1955).

### 5.2.3 Post-colonial period (1963- )

The situation began to change after independence in 1963. Missions and local government gained in importance and international aid organizations also played an important role. Social services and economic activities other than livestock keeping were introduced. As we shall see, these new developments had their impact on the way the Turkana cope with their environment.

## 5.3 Economic profile of Turkana District

Turkana society might be characterized as pre-capitalistic in nature. However, relations with outside capitalist markets were forcefully imposed by the colonial administration in the early twentieth century: 'The government bought the livestock for less than the open market price. This lowered price amounted to an additional, indirect form of taxation. The colonial government apparently put the purchased stock at the disposal of the army and administrations in Turkanaland' (Snow, 1982, p. 6).

After the defeat of the Turkana in 1926, they began to barter their animals with Somali livestock traders, who own shops throughout Turkana District. Goods from the shops are exchanged for sheep and goats. Trucks which bring up goods from Nairobi and Mombasa carry a return load of animals. This development led to an increase in the price of animals in Turkana District. Moreover the bartering of goats for food stopped and was replaced by selling for Kenyan Shillings. The Turkana are still much less involved in the cash economy than other pastoralists in Kenya, however, and barter is still the most common way of buying and selling in areas remote from the larger towns.

With wage-employment restricted to government or mission-paid jobs in the administration, police, health sector, education etc, the most important market-oriented activities, besides the livestock sector, are now the fishing industry and irrigation agriculture. Both were started in response to the famine of 1960 in order to broaden the production base of the District. Fishing is now the largest commercial enterprise in the District. However, most fishermen live at a subsistence level and augment their income by re-investing in livestock. According to the District Development Plan (1980) some 4,500 people make their livelihoods on the irrigation schemes located in Southern Turkana. There are almost no alternative investment opportunities besides livestock. Animals are considered to be productive capital and are said by the Turkana to be a better investment than bringing one's money to the bank. Although non-pastoralists are investing into the livestock sector as well (e.g. fishermen), they do not appear to be of much significance at present. Control over animals, land and labour is still largely in the hands of the nomadic pastoralists themselves.

In conclusion it may be said that, although relations have been established with the broader national capitalist markets, the scale of operation is still very modest. It does not seem that the Turkana social economy has been transformed into one with a market-oriented production and the dominant mode of production is still subsistence nomadic pastoralism.



## 5.4 Socio-political profile of Turkana District

Following the defeat of the Turkana most of the policy measures in the district were aimed at keeping the Turkana area quiet. The central government in Nairobi tried to keep order and peace in its peripheral regions by setting restrictions on the nomadic pastoralists. International boundaries were drawn, taxes collected and grazing patterns controlled (2). These can be seen as strictly political military measures, but it has also been suggested that they were part of a well-defined policy to protect the 'White Settlers' economy in Central Kenya. 'The extreme case was northern Kenya, where the colonial government was still subjugating pastoralists military during the 1920's, while at the same time excluding their cattle from markets through quarantine regulations designed primarily to protect European beef producers from competition. The result was accelerated overgrazing' (Raikes, 1981, p. 96). Other writers (Sorrenson, 1967; Tignor, 1976; Zwanenberg & King, 1975) confirm this statement (3).

British control over Turkana meant, in the juridical sphere, that the district was declared Crown Land. Effectively, this was of no importance, although officially the customary law of the Turkana was overruled by the regulations of the statutory law of the government. Since the 1960s, however, the Kenyan government has been taking high-potential land when it needs it for forestry, range development or irrigation projects.

The traditional, highly individualistic and loose-knit socio-political system of the Turkana has now come under pressure. From the beginning of this century the Turkana were confronted with a new top-down management of government-appointed chiefs. Only since the 1979/80 disaster, however, have the chiefs obtained real power, because of the settlement of many people in famine camps. Aid organizations have also laid down a new network of area co-ordinators and site facilitators, mainly young, literate Turkana.

Development efforts in Turkana District at present are mainly concerned with providing basic infrastructure, water, education, veterinary and health needs. In carrying out such schemes, the District Government has been assisted by different missions and foreign aid organizations, especially since the beginning of the 1960s. Particularly since the 1970s free food has been handed out by donor organizations to famine hit parts of Turkana District. According to Dietz, there are a number of reasons for this increase in government attention to the dryland areas in Kenya:

> 'The reasons are partly humanitarian: famine relief; 'alleviating poverty'; a 'welfare' approach of basic needs improvement for poor groups. There are economic reasons: meat supply of

urban centres; the diversion of migrants away from urban centres and large farm areas; the opening up of a potential market. There are cultural reasons: 'nation building'; cultural conformity. Finally there are political (military) reasons: the background of the ruling elite; the location of dry areas in troubled border zones. For the various semi-arid and arid districts the relative importance of the various reasons differ a lot. The reasons will also differ between the Kenyan Government and between the donors. Wiggins ..... suggests that the dominance of the various donors involved in dry area development means a dominance of humanitarian, 'welfare state' motives. If Wiggins is right, the dry area focus will be an unstable one, and very much donor-dependent' (Dietz, 1987, pp. 67-8).

As far as Turkana District is concerned, it can be stated that government attention is mainly focused on the infrastructural development of the district; transport and communications received 52 million Kenyan Shillings in 1985/86, which was approximately 70% of the total Kenyan Government Development Budget for Turkana District (1985/86). The Norwegian, German and Dutch Governments and the EEC provided approximately 42 million KSh, mainly for financing the water supply (15mKSh), transport (6mKSh), livestock (11mKSh), irrigated agriculture (5mKSh) and forestry (5mKSh) sectors of Turkana District. The Kenyan Government provided some 15 million KSh for these sectors (excluding transport) (4).

For Turkana District it may be accepted to state that development efforts are to a large extent donor-dependent. Humanitarian, 'welfare' motives are the major backgrounds to the aid provided, although economic reasons seem to be gaining importance (livestock marketing). It is still too premature to assess the long-term assistance to be received from the donors. The growing interest of the Kenyan Government in Turkana District is explicable, in my opinion, mainly from economic (livestock and oil), cultural and military (troubles in Northern Uganda and Southern Sudan) motives. The opening up of the District by investing in the physical infrastructure (motor highways) is a major prerequisite to serving these motives.

## 5.5 Demographic profile of Turkana District

Unfortunately, no reliable figures are available of the number of people living in Turkana District. Estimates range between 140,000 and 233,000 (or even 260,000) inhabitants (see table 5.1) (5). This lack of accurate information not only hinders any analysis of Turkana history, but it also vitally impedes development planning.



Table 5.1 gives an overview of several sources providing population figures for Turkana District covering the period from 1962 to the present.

Table 5.1: Number of people in Turkana District (x 1000), 1962-1988

| Source | 1962 | 1969 | 1979 | 1982 | 1983 | 1984 | 1985 | 1988 |
|---|---|---|---|---|---|---|---|---|
| CBS Census | 159 | 165 | 143 | | | | | |
| Hogg | | | | 180 | | | | |
| Ecosystems (1) | | | | | | 233 | | |
| TDDP (projection) | | | | | 150 | | 150 | 148 |

(1) Ecosystems Ltd has published several reports on population numbers. The enormous variation in these figures shows the difficulty of getting reliable data for the Turkana population, even when using sophisticated methods as Ecosystems did. For example, 1982: 169,400 or 227,193; 1984: 263,162 or 232,740 (of which 70,000 settlers and 163,000 nomadic pastoralists).

Sources: Republic, 1981; Hogg, 1982; Ecosystems 1985; TDDP 1984.

This table suggests a negative growth rate of 1.29% p.a. between 1969 and 1979, while the average growth rate of Kenya's population in that period was +3.41% ! This negative growth rate is the result of temporary migration of Turkana tribesmen to other districts and countries (especially Uganda) during the drought of 1979. To get a more realistic growth rate figure one should look at the growth of the total number of Turkana tribesmen living in the whole of Kenya over the ten year period. This would give a 0.2% p.a. growth rate. Still, some blurring factors remain, like the outmigration to other countries (especially Uganda) and a small percentage (1-4%) non-Turkana in the district.

Comparison of population figures for the years 1962 and 1969, gives a growth rate of 0.5% p.a. Within limits, these figures are about the most reliable we can obtain. And even if they are doubled or trebled, the growth of the Turkana population still seems to be modest. One should also take into consideration the population density figure of 3.6 persons per $km^2$. This is comparable with the average for other pastoral people in Kenya (3.7 pp/$km^2$ in 1979).

Besides the actual number of people, the pressure of a population on its environment is also determined by the kind of economic activities they perform. For Turkana

District this means that the number of livestock is of major importance in determining the need for land and the ability to provide a living for its inhabitants. The number of livestock a region can carry is determined in turn by its ecological capacity.

## 5.6 Ecological profile of Turkana District

The ecological potential of Turkana District is very low. Though the district occupies 11% of Kenya's total area, it represents only 0.6% of the country's ecological potential (TDDP, 1980, p. 3). Being a semi-desert it is among the most harsh places on earth to live in. Turkana people themselves are certainly aware of the restrictions of their environment and ecological classifications made for Turkana District by different authors (e.g. Pratt and Gwynne, Olang, Ecosystems) also characterize it as a low-potential area on the whole (see table 5.2).

Table 5.2: Ecological zones in Turkana District, in % of total area

| | | |
|---|---|---|
| Zone III | (agriculture, forestry, intensive grazing) | 2 |
| Zone IV | (high-potential grazing) | 8 |
| Zone V | (medium-potential grazing) | 49 |
| Zone VI | (low-potential grazing) | 41 |

Source: Pratt & Gwynne, 1977; Olang, 1983.

The problem however is that opinions differ about the exact ecological potential. This is caused by the way information concerning the ecological features of Turkana is obtained, treated and evaluated. In trying to establish the stocking potential or grazing capacity of the district, Pratt and Gwynne (1977) give general estimates for the livestock carrying capacity of each ecological zone within Kenya (6). According to these figures Turkana District should be able to support approximately 548,428 TLU (7). Using the 1:1,000,000 Agro-Climatic Zone Map of Kenya (1980), a stocking potential figure of between 377,500 and 986,625 livestock units can be calculated. The variation depends on actual rainfall, fertility etc (8).

More detailed information can be obtained from specific studies carried out in Turkana District by Olang (1983) and Ecosystems in the early 1980s. Using Olang's data on vegetation availability and livestock requirements, it can be calculated that Turkana District is able to support approximately 804,404 LSU (a 350 kg animal requiring 3194 kg dry matter forage per year). Ecosystems estimates the total fodder produced in Turkana to be 7,437,290,000 kg dry matter (DM) per year. Using a



'proper use factor' of 40%, approximately 2,974,896,000 kg DM consumable forage is available for the animals (9). In terms of Ecosystems' Tropical Livestock Units (1 TLU is a 250 kg animal using 2500 kg forage annually), the grazing capacity of Turkana District is put at 1,189,792 TLU. Ecosystems also provides more detailed information about forage availability (77% graze, i.e. grass and herbs, and 23% browse, i.e. shrub, bush and forest) and specific animal species requirements in the district. On the basis of this specific information, the mean populations during 1982 and 1984 of cattle, sheep, goats and camels represent, according to Ecosystems, only 19%, 6%, 13% and 16% respectively of the theoretical livestock carrying capacity (10).

The typical match between available forage and the specific diet of each species influences the total grazing capacity. For example, cattle only graze, which means that their forage availability in Turkana District is reduced to 77% of the district's area. Sheep, however, divide their diet into 67% graze and 33% browse, which is more in accordance with the forage supply. Starting from the livestock numbers in 1982-1984 and raising the number of sheep until the forage supply is totally used would mean an overall stocking potential of 1,047,322 TLU (11).

Coming to a conclusion concerning the potential (!) livestock carrying capacity of Turkana District, Olang's and Ecosystems' estimates of approximately 800,000-1,000,000 livestock units seem fairly reliable. Table 5.3 gives the livestock numbers (in TLU) for Turkana District in 1978 and 1982-1984. If the potential livestock carrying capacity (800,000 to 1,000,000) is related to the actual livestock totals (TLU) found in the district in 1978, when the herds were relatively large, the district cannot in general be considered to have been overstocked. However, we should not forget that, in the above, we assumed a theoretical situation of an ideal relationship between fodder availability, animal requirements, optimal use of the total area of the district, lack of competition for fodder or land by wildlife, agriculture, etc.

Table 5.3: Livestock numbers in Turkana District, 1978 and 1982-1984, in TLU

| | 1978 | 1982-1984 |
|---|---|---|
| Cattle | 345,110 | 103,511 |
| Shoats | 253,419 | 123,155 |
| Camels | 134,859 | 114,770 |
| Donkeys | 43,876 | 37,758 |
| Total | 777,264 | 379,194 |

Source: Ecosystems, 1985; TDDP, 1984.

The actual carrying capacity is consequently lower and also fluctuates within a year and between different parts of the district (12). The grazing capacity is at its maximum during the wet season when the forage availability (especially graze) is much higher and all animals stay in the district. During the dry season it is lower and some herds (especially cattle and sheep) have to move out of the district in search of other grazing areas. Consequently, the real grazing area used by the Turkana herds goes beyond the boundaries of the district. Besides this mathematical analysis, it is also important to consider the actual livestock carrying capacity of Turkana District. Recent research has shown that a structural decrease in this capacity is not occurring in Turkana District (see TDLDP, 1984, p. 11).

With regard to the human carrying capacity in relation to the ecological potential of the district it can be stated that, according to Ecosystems, a Turkana family needs approximately 4 livestock units (TLU) per person. It can then be calculated that, assuming a pastoral population of 163,000 people, about 652,000 TLU are needed. In many years the actual livestock numbers belonging to the Turkana are lower than 652,000 TLU. This confirms the statement made by several observers that the Turkana are indigent pastoralists. They have to supplement their diet with agricultural products, wild fruits etc. In this way they try to make a living in what the British colonialists characterized as the most worthless district of Kenya.

The Turkana economic system nevertheless collapsed during severe droughts in the years 1930-33, 1960-61 and, most recently, in 1979-80, when approximately 80,000 people needed famine relief. According to Best, who studied Turkana nomads who replaced their pastoral existence for fishing in Lake Turkana, the main reasons for the massacres of dying animals and hunger for many Turkana are the fast-growing population (13), the resulting growth of herds in quantity (not quality) and the longer lasting drought periods (Best, 1978, p. 46). However, our analysis of the most relevant issues concerning the situation in Turkana District at present and in the past, certainly does not completely confirm this view. The not always successful struggle for land and livestock by the Turkana nomads is not simply and solely caused by a growth in numbers of people and/or livestock and deteriorating ecological conditions. Let us now examine more closely the causes of the collapse of the nomadic system in Turkana in 1979-80.



## 5.7 The causes of the breakdown of the nomadic system in 1979-1980 and the resultant struggle for land

One of the main areas affected by the breakdown of the nomadic pastoral system in 1979-80 was the Kakuma Division, situated in north-western Turkana. Because of higher mean rainfall figures compared to the central-southern part of the district, this region is characterized by relatively good ecological conditions, especially towards the Ugandan border. This centre and south of Turkana, however, did not show such a dramatic collapse of the nomadic system. There are no large differences in the rainfall figures in those years and population and livestock numbers for the two areas, so there must be another explanation for this local collapse.

The northern region is mainly used as a grazing area for cattle, which are less drought-resistant. Table 5.4 shows the larger numbers of cattle and the consequent greater need for grasslands in the northern region. The figures given are actually under-estimates as, before the drought, the absolute and relative numbers of cattle were much larger. Thus food problems for northern herds are relatively high in the late dry season, because the annual grasses have by then disappeared in the northern area. The dry season in the southern area is less of a problem, as it is mainly a browsing area for camels.

Table 5.4: Livestock numbers (TLU) in South and North Turkana, 1982

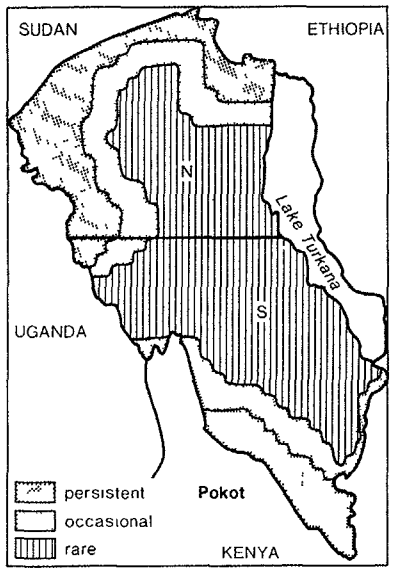
| | NORTH | % Dist. | % North herd | SOUTH | % Dist. | % South herd |
|---|---|---|---|---|---|---|
| Cattle | 70,653 | 68 | 36 | 32,637 | 32 | 18 |
| Camels | 52,737 | 44 | 27 | 65,520 | 56 | 37 |
| Shoats | 43,975 | 45 | 23 | 62,617 | 55 | 35 |
| Donkeys | 27,932 | 62 | 14 | 17,371 | 38 | 10 |
| Total | 195,297 | 52 | 100 | 178,145 | 48 | 100 |
| Human pop. | 76,000 | 45 | | 93,400 | 55 | |
| Area km2 | 29,000 | 47 | | 37,000 | 53 | |

Source: author's own calculations based on Ecosystems, 1982

A second problem is the availability of safe grazing areas. The northern Turkana are forced to move their cattle into insecure areas along the borders of Uganda, Sudan and Ethiopia, because these are their dry-season grazing areas. To overcome the dry season, the southern

herds, however, can concentrate into the central part of their area along the major rivers. Another disadvantage of having many cattle in one's herd is that these animals are particularly valued as possible raiding targets. Map 5.2 shows the difference in occurrence of local raiding problems between the two regions.

Map 5.2: Occurrence of raiding in North and South Turkana District




| Raiding | North | South |
|---|---|---|
| Persistent | 33% | 17% |
| Occasional | 25% | 17% |
| Rare | 42% | 66% |

Source: Ecosystems, 1982.

During 1979 and 1980, the northern area was also more than normally affected by livestock raids, because a civil war was underway at that time in Uganda. The fall of dictator Idi Amin provided the Ugandan tribes with highly sophisticated weapons. The Turkana had no effective answer



to these superior forces. Research carried out by the author in 1984 among the settled destitute in the Kakuma Division showed that 35% of the families lost most of their animals through raiding, leaving a balance of 65% of families who lost their herds mainly, but not exclusively, through starvation because of disease and/or exhaustion. The Toposa of Sudan and the Dodos of Uganda, in particular, raided the Turkana. Animals could graze safely only in areas of neighbouring groups with whom the Turkana still had good relations.

A third factor explaining the more severe suffering in the North during 1979-80 is the lack of alternative foodstuffs. The traditional grain trade in Uganda collapsed because of several problems, while little food was available from the local shops.

> 'Grain imports from the South (MR:from Central Kenya) were slowed by the nationwide shortage in 1979, and by government regulations aimed at controlling the movements of grain to discourage its smuggling across the borders. One irony is that, when their livestock first began dying in early 1980, the Turkana had large amounts of cash from the sale of the animals' skins. However, traders could not obtain permits from the District government to import grain. They could and did, however, bring in soft drinks. The already weakened population was further affected by a cholera outbreak in March-April 1980, and attacks of measles. The missions began to respond to the need for food in February 1980, and the Government of Kenya around October 1980, but large scale supplies of relief food did not begin arriving until the TRP's efforts got underway in January 1981' (Morris & Snow, 1983, p. 3).

Cereals were probably more easy to obtain in South Turkana, as it is located nearer to the Kenyan grain producing areas and by itself also produces more cereals than the north of Turkana because of some irrigation agriculture in the South along the rivers Kerio and Turkwell.

The above account shows that quantitative information about numbers of animals, people and ecological features should be carefully analysed and used only in relation to other aspects of reality when dealing with such complicated issues as the dysfunctioning of a nomadic pastoral system. Characteristics which fluctuate in time, like specific production needs and outputs, location features, mobility, and actual opportunities to practise a certain activity under the influence of government regulations, legal rights and social relations with other groups, seem to be of more importance in explaining the periodical collapse of the pastoral system. At least for the 1979-80 famine, socio-political factors were the main cause of the ultimate breakdown of the system.

Recent developments in the district also show the importance of socio-political aspects in dealing with the dysfunctioning of the system. Since the end of the famine, aid and development programmes in North Turkana have concentrated on agricultural and forestry schemes, for which land has been used mainly along the major rivers, where the destitute were settled in small villages. The EEC-funded Turkana Rehabilitation Programme (TRP) introduced a new technique of bund building in order to catch runoff water and raise the potential yield of cultivation. The area under cultivation in the Kakuma Division increased by approximately 71% between 1981 and 1984. This expansion took place along the rivers at the expense of the riverine forest (browse potential) and into the adjacent grasslands (graze potential) and generated three types of conflict over the possession or user rights of land.

First of all, it gave rise to a conflict between nomadic pastoralists and the TRP destitutes working on their new 'shambas' (cultivation plots): damage was done to crops and access to watering points (river) and grazing became more difficult (14). Respondents also expected an increase in the occurrence of this kind of conflict in the near future, especially because the herd population still was only half its normal size at the beginning of the 1980s.

A second kind of conflict is centred around the right of possession of the 'shambas'. TRP, when creating the new 'shambas', gave scant regard to the traditional customary rights which existed in the traditional 'shamba' area along the rivers. Many Turkana returning from Uganda in 1982 after the drought found their 'shamba' taken over by destitutes under the umbrella of TRP.

A third kind of conflict is that between afforestation and livestock. The destitutes are building micro-catchments to plant trees. Young trees are eaten by the animals and the nomadic pastoralists are temporarily not allowed to enter parts of the riverine zone. Moreover, animals could be hurt by falling into a micro-catchment.

A final kind of conflict, between different actors in the livestock sector, has its roots in the past. Huge conflicts over the use of grazing areas and as a result of cattle raids exist between the Turkana and other ethnic groups. As we have seen this has been, to a certain extent, the result of a colonial policy in which Turkana's neighbours were even forced to fight the Turkana (15). At present, because of the threat of cattle raids, high-potential (dry-season) grazing areas are left unused or underused (up to one third of the district's area!; see TDLDP, 1984, p. 10). This leads not only to increasing competition between the Turkana members over the remaining pastures, but weakens the base of the nomadic pastoral system and thus contributes to the temporary collapse of the livestock sector in years of ecological stress.



## 5.8 Summary and conclusion

During 1961-62, Turkana District received some famine relief, although the major famine-struck areas were Machakos, Kajiado, Kitui and other districts in south-east and central Kenya. Free food was also distributed in the early 1930s and 1970s. The biggest operation within the field of famine relief in Turkana District was the Turkana Rehabilitation Programme (TRP) established after the collapse of 1979-1980.

Drought was the initial factor leading to the ultimate collapse of an important part of the nomadic pastoral system. However, the real reasons for the 1979-1980 disaster were the raiding of animals by neighbouring groups, the nationwide shortage of grain, and transport problems, which finally resulted in a precarious situation for about 80,000 Turkana. Over 90% of cattle herds, 78% of sheep and goats, 38% of camels and 45% of donkeys were lost in North Turkana. The defensive mechanisms of the Turkana: herding five different kinds of animals in different regions, locating animals with friends in other parts of the district, reserving the best grazing areas (mountains and border region) until the end of the dry season, selling hides of dead animals for grain (money) etc, were unable to withstand a combination of natural and, especially man-made problems during those years.

The relative importance of nomadic pastoralism is dwindling. During recent decades signs of a diversified economy again began to appear among the Turkana as it had existed 300 years ago. As a result of the efforts of the Mission and aid organizations, traditional supplementary activities like hunting, gathering, rainfed agriculture and traditional fishing are now being supplemented by irrigation agriculture, commercial fishing and public works. In 1980 some 4,500 people were dependent on irrigation and a further 12,000 or so on fishing in Lake Turkana (Hogg, 1982, p. 164). However, these people have not chosen to make a livelihood from these economic activities. Sometimes Turkana are only part-time fishermen or part-time farmers; money is invested in livestock in order to rebuild their herds (16). It should be borne in mind that this process of rebuilding herds is mainly a matter of changing ownership among the Turkana. Turkana do not buy animals from outside the district. Raids are the only way in which extra animals are brought in (and go out!). For this reason one could question the statement made by Best for example, that a growth of the human population will automatically lead to a growth in the number of animals. It is thought that a greater demand for subsistence could, in fact, have a decreasing effect on the growth of the herds. More animals will be eaten and competition for milk between young animals and the human population will lead to a higher level of young animal mortality.

On the other hand, a further development of agriculture and fishing may lead to a growth in animal numbers, as other sources of food will relieve pressure on the herds (see Henriksen, 1974). Instead of people leaving the livestock sector in order to minimize or reduce the number of animals, the opposite is happening. Moreover, as we have seen, a threat to the overall existence of the pastoral system will arise from the loss of high-potential grazing and browsing areas along the major rivers; settlement of people in this zone is leading to a local destruction of the environment (more wood needed for housing, fencing, cooking etc) and limiting fodder availability, especially in the critical dry season. This loss of high-potential grazing and browsing areas, either through cattle raids or through the introduction of agriculture will undoubtedly lead to more collapses in the near future when herds have been rebuilt to their full potential.

The southern part of the district did not suffer so much, although its ecology has not an overall higher potential. As we have seen, the number and kind of animals should be considered in relation to the actual ecological situation. It seems that the vulnerability of the North is partly the result of the inheritance of the 'Karamojong-Koten Magos' period: cattle were and are the mainstay of the herds, whereas the camel is a much better suited animal for Turkana District. The Turkana did not fully adapt to this new situation. They mainly tried to widen their grazing area with high-potential (dry-season) grazing areas, even threatening the 'White Highlands' area of the white settlers. This was stopped by the British colonial power; the Turkana were driven back into their present-day area.

However, as we have seen, the Turkana people are trying, by all means, to survive in a very harsh environment. They take advantage of new opportunities to secure food supplies. They do not keep animals because they like them so much; nomadic pastoralism is simply the most appropriate activity for the district. First of all, milk, blood and meat are used to survive, secondly, animals are needed for social obligations and, thirdly, as an insurance against hard periods to come. However, a weakened base of subsistence, meaning less animal numbers per Turkana person, is becoming increasingly a grim reality during long periods of drought and it has the potential to become a disaster if socio-political factors undermine the Turkana nomadic system (17). What is needed now are stronger herds (camels) with a higher productive potentiality (simple veterinary measures), improvements in the relations with neighbouring people and a higher agricultural production in Kenya generally (not so much Turkana).



Notes

(1) In 1913 Captain Leeke wrote: 'The Turkana have issued a challenge through the Jie to the Government to come and fight' (Entebbe Archives 2957, R.H.Leeke Report, 30 August 1913).

(2) In 1948 District Commissioner Whitehouse wrote: 'Grazing control is still in the experimental stage and likely to be so for the time to come. Fortunately the chiefs and even the tribesmen themselves are not averse to the idea of control based, as it largely is at present, on their advice (!, MR). When we ourselves know more about it and put on the screw, their views may well change' (H.O.R., 1948, p. 43).

(3) However, we should keep in mind that the Turkana were by and large not in a position to sell their cattle on the market, as they lost most of it during those years. Remoteness from the central markets was also and is a huge obstacle. Only small livestock, which were not a threat for the interests of the European beef producers, were allowed to be transferred.

(4) The missions are not included in this overview. Still their contribution is of major importance. For example they finance 1 hospital, 8 health centres and 20 dispensaries, while the Kenyan Government runs 1 hospital, 1 subhospital and 3 dispensaries. Within the irrigated agriculture sector approximately 41% of the total irrigated area falls under the responsibility of the missions (e.g. African Inland Church, Catholic Diocese and Reformed Church of East Africa). These Churches are also active in education, social welfare and water development.

(5) See Appendix for a short overview of other population estimates, which also show typical difficulties facing and mistakes made by various authors in calculating the exact number of people in Turkana District.

(6) The stocking potential or grazing capacity or livestock carrying capacity refers to the specific number of animals which may graze on a unit of land year after year without injury to the land. According to Pratt & Gwynne (1977) the amount of land needed per livestock unit (a 450 kg animal with an annual dry matter requirement of 3650 kg) is 1.6 ha, 4.0 ha, 12.0 ha and 42.0 ha for zones III, IV, V and VI, respectively.

(7) A Tropical Livestock Unit (TLU) is a standardized unit to which different ages, types or species of livestock can be related for purposes of comparing different mixes of livestock in different places in terms of the animals' relative forage requirements, or the area's ability to support a pastoral economy (e.g. 1 TLU = 0.66 cow or 1.20 camel or 0.09 sheep or 0.10 goat or 0.56 donkey).

(8) The Agro-Climatic Zone Map uses slightly different ecological zones (IV to VI-I for Turkana), carrying capacity figures (0.5-1, 1-4, 4-20 and >20, respectively) and livestock units (an animal of 300 kg and a dry matter intake of 3000 kg forage per animal/year).

(9) 'Proper use factor' = maximum proportion of forage growth that can be grazed each year without inducing a downward trend in forage production.

(10) This understocking refers to the mean number of animals found during the survey in 1982-1984. Starting from this situation, a percentage is given for each species of the maximum number of animals of that type of livestock (= 100%) which could be present in the district provided that the other species remain at their 1982-1984 level!

(11) The resulting maximum stocking potential when the number of animals of each species is raised is 797,886 TLU (goats), 817,058 TLU (cattle and donkeys) and 882,937 TLU (camels).

(12) Ecosystems states that, because of concentrations in the central parts of North and South Turkana, which comprise up to 9% of the total area, some areas could be susceptible to famine after one year of severe drought. For this reason the Turkana pastoralists need the high-potential dry-season grazing areas along the borders of the district where they sometimes stay for the whole year.

(13) According to Best's curve, 1900: 40,000; 1976: 200,000, which means that a 2.17% growth p.a. can be depicted.

(14) Damage done to 'shambas' increased from 14 times (before 1980) to 47 (after 1980) (n=224). It must be kept in mind that the periods under consideration are of different lengths and different periods of actual cultivation. The period before 1980 is an indefinite long time span with several years in which cultivation was practised. In the period from 1980 to 1984 cultivation was practised in 1981 and 1982 only, 1983 and 1984 being bad years, so the increase given is, in fact, an under-estimate of the degree of conflict proneness.

(15) In April 1988, some 200 Northern Turkana were killed and many animals taken away in a cattle raid by Toposa and Nyangatom groups from Sudan and Ethiopia. The Turkana evidently raid as well.

(16) This has also been practised in the past, e.g. when destitute Turkana went to the Dasanetch in Ethiopia to work for them on cultivation plots.

(17) Even in periods of 'good years', like 1975-1977, people suffered, because they lost their animals through disease and/or cattle raids.



## Appendix

Most writers dealing with the number and growth rate of the Turkana population use each other's figures without a thorough and critical examination of their reliability and validity. Here are some examples:

1. Vossen (1982, p. 165) makes a definitional as well as a mathematical mistake, when he states: 'Turkana was spoken by over 200,000 people (MR: in Kenya) in 1969. When comparing this figure with Tucker & Bryan who give c. 85,000 speakers (MR: for 1956, district based and probably far too low an estimate) the high population growth rate (MR: 6.9% per year?) which is however the lowest in Kenya (MR:sic!) becomes obvious'.
2. Gulliver, the overall accepted authority, as he was the first to make an impressive investigation among the Turkana, estimated the Turkana to number 80,000 people in 1948 on the basis of a tax-paying population of 21,041 adult males. Besides problems in using tax-paying figures for estimating a total population, especially in Turkana District among a nomadic people liable to wander into Uganda, Sudan and Ethiopia, the resultant 3.8 persons per household seems to be an under-estimate. Other figures given for a Turkana household size are 6.2 and 5.2 persons (Republic, 1981; Ecosystems, 1982). Moreover, Gulliver contradicts himself when he writes: 'There are now (MR: 1948) 26 headmen most of whom have also sub-headmen to assist them. It is impossible accurately to define the boundaries of their respective areas in accordance with the normal inability of the Turkana to recognize any boundaries. According to the registers the population under each headman vary between about 5,000 and 25,000' (Gulliver, 1951, p.159). This would mean that at least 26 x 5,000 = 130,000 people lived in Turkana District in 1948?
3. Best (1978, pp.31, 45) also made a collection of population figures found in the literature and, after matching the means, came to a growth curve which in his view clearly shows, especially after 1950 'eine auffallende Steigung; die Relation von Zeit und Bevölkerungszahl hat sich nunmehr fast umgekehrt proportional verändert' (p. 32). He quotes Brown stating that he (Brown) made: 'die ebenso falsche Annahme einer jährlichen Zuwachsrate der Turkana von nur 3%. Die Kurve zeigt, dass die Bevölkerungszuwachsrate zwischen den Jahren 1940-1960 weit höher lag.' However, looking carefully at Best's curve and using the given figures of 1940 (80,000 people) and 1960 (127,000 people), the annual growth rate of the Turkana population (according to Best's curve during the 1940-1960 period) was 2.3% (sic!).

An important complicating factor when dealing with population numbers in the past is the fact that the

Turkana expansion has been mainly a process of largescale assimilation of other tribes who 'became Turkana': 'There has probably been some increase in population of Turkana over the last 50-100 years when considerable intermarriage and absorption with Samburu people must have occurred' (Gulliver, 1955, p. 150). Even in 1973 the Nyangatom (Donyiro) have thought for a while of becoming Turkana en masse in order to raise their base of existence!

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