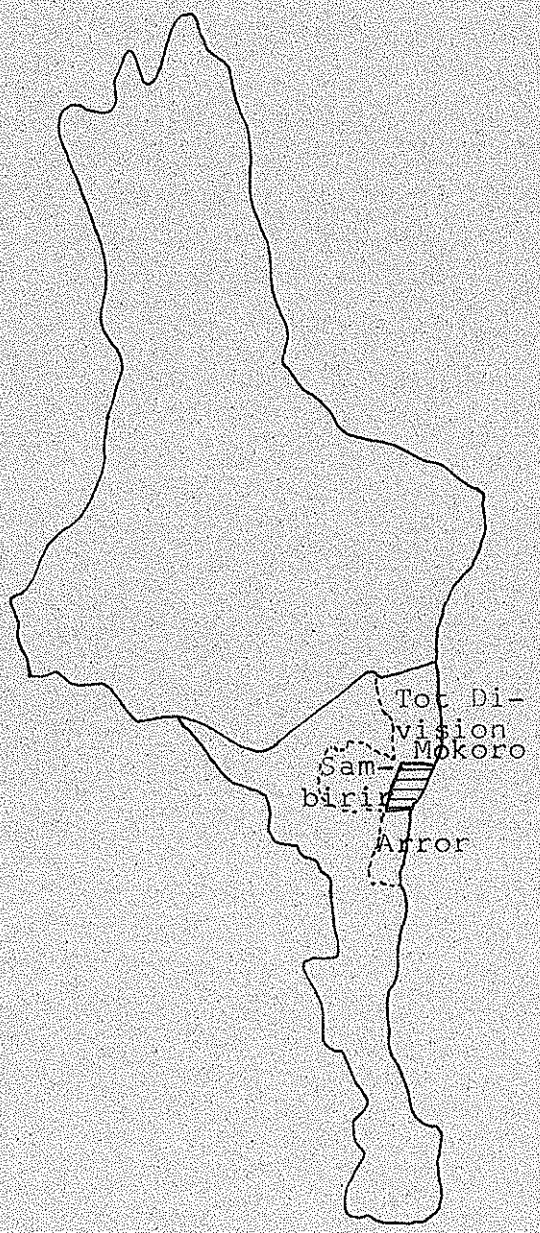
LOCATIONAL DEVELOPMENT PROFILE



MON LOCATION

ELGEYO MARAKWET

DISTRICT

KENYA

Regional Development Research
West Pokot Elgeyo Marakwet
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0. INTRODUCTION AND SOURCES

This Locational Development Profile is part of a group of profiles about locations in West Pokot and Elgeyo Marakwet Districts. They give a summary of the history and situation of administration, population, physical geography, economy and social geography. The various profiles are written for people working in the location and for government employees at the divisional and district level.

The information presented will not be 100% complete nor 100% reliable. Readers are asked to use the text as a work edition and to make as many additions and corrections as they like. It will be very useful if you present your comments to the ASAL Programme Coordinator, P.O. Box 287 Kapenguria.

We give a summary of the sources we used for this development profile.

During the colonial period the people living in the Kerio Valley received attention in two publications:
'African Morning', by R.O. Hennings, and 'The cliff-dwellers of Kenya', by J.A. Massam. The first book about the Marakwet 'from within' was published in the 1970's: The Marakwet of Kenya, written by B.E. Kipkorir. Recently much research has been done on the Kerio Valley. For the larger part this has been carried out in other locations than Mon, but we think that some of the findings are valid for Mon location as well.
However, the papers presented on the seminar 'Kerio Valley-Past, present and future', by W. Critchley, J.W. Ssenyonga and R. Soper contain some information referring particularly to the area of Mon, as well as Critchley's report on the Chesongoch Agricultural Project does.
Next to this some written information from the government was available:

- District Development Plans
- Annual Reports
- Population Censuses
- Publications by various government departments in Iten
- Provincial Irrigation Unit, Rift Valley Province archives
- Kenya Soil Survey Material

Moreover we used information collected by extensive interviewing in eight households and by discussions with other key-persons during a field-research done in the area by Irene Dubel and Marjanne de Kwaasteniet in September 1982. 1)

1. THE AREA OF MON LOCATION

1.1 SITUATION

Mon location belongs to the recently established Tot-division (March 1982). Before this date it formed part of Northern Division. In the north it borders on Mokorro location, in the south on Arror location. In the east the Kerio river forms the district boundary between Elgeyo Marakwet and Baringo, in the west the Elgeyo Escarpment separates Mon from Sambirir location. The main road runs along the foot of the escarpment, coming from Tambach in the south, passing Mogil, and going to Sigor in the north. The road which descends from Chesoi on top of the escarpment to Chesongoch in the valley passes Mon location halfway the escarpment. The main town which serves Mon location is Eldoret. But because of the long distance and the rough roads the influence of the town is still small. The towns of Kitale and Nakuru are of lesser importance because distances to these cities are even longer. No matatus were running in the valley in 1982.
Officially Mon location is divided into three sublocations: Lukuket, Chesetan and Mogil, but because of the establishment of another sublocation, Kipyebo, in the near future, people actually speak of four sublocations and so we will do.

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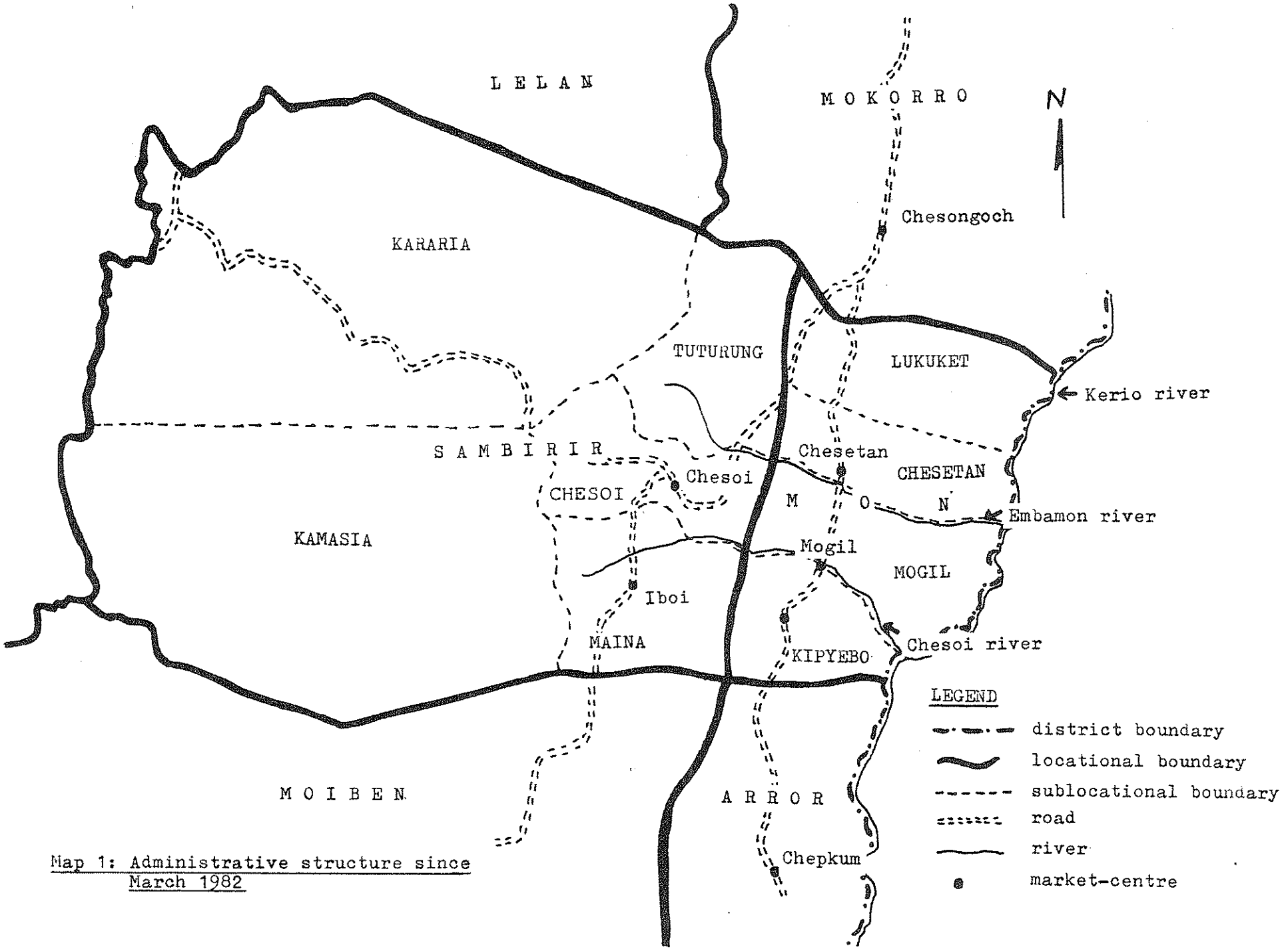
1) This field research was done for the Provincial Irrigation Unit, Rift Valley Province, Nakuru.
Irene Dubel and Marjanne de Kwaasteniet: "Government assistance to traditional irrigation systems. The cases of the Pokot and the Marakwet with reference to the labour of women". Amsterdam, March 1983.



Map 1: Administrative structure since March 1982

1.2 ADMINISTRATIVE HISTORY

Under British colonial rule the Kerio Valley remained outside the scope of government policies because of its harsh ecological conditions, its inaccessibility and low economic potential.
For administrative purposes some material infrastructure was laid out. This enabled the British government to levy the poll-tax, which forced many Marakwet-men to seek employment as wage labourer at the European farms in the highland from the beginning of the 1920's onwards.
The measures undertaken in the field of agriculture were scarse. A number of demonstration plots were established throughout the valley where the cultivation of new crops (like cotton, chillies, mangoes, pawpaws, bananas, cassava) was introduced, and from where seeds were distributed. Although none of these plots were situated in the present Mon location many inhabitants of this area started the cultivation of cassava and bananas after their introduction.
During the 1940's and 1950's the then Assistant Agricultural Officer of Chebiemit was rather active in the Kerio Valley, Mon location inclusive. His main point was to check the soil erosion. He forced people to dig terraces on the lower slopes of the escarpment, and they were forbidden to cultivate along streams and irrigation channels, under penalty of being fined. This A.A.O. also introduced maize in the Kerio Valley, but its cultivation spread only very slowly.
The most important project during colonial times for the people inhabiting the present Mon location was the construction of the Chemwaror furrow. Around 1930 they decided to make a furrow in the highlands between the perennial river Arror and the two seasonal Embamon and Chesoi rivers to increase the amount of water available in the valley for irrigation purposes. They asked the then District Commissionor of Elgeyo Marakwet for help and a European expert, working within the Ministry of Agriculture, came to advise them. In October 1937 the furrow was put into use. Later the people tried to construct a second feeder canal from Arror river to Embamon river. Funds were supplied by the African Development Council.

The new furrow was used for some years but soon fell into disuse because it frequently broke down by cross-drainages and because it was not as well surveyed as the lower furrow. More attention was given to the potential for irrigated agriculture in the valley during the ALDEV-period (in the end of the 50's), but these projects did not concern our area of study.
Until recently this area belonged administratively to Sambirir location embracing both highland and valley land. To make administration more easy Sambirir was split into two in August 1981. Mogil (including Kipyebo) and Chesetan (including Lukuket) sub-locations together constituted the new Mon location. (See Map 6, p. 15). Mogil became the administrative centre and trade centre.

1.3 NATURAL RESOURCES

In the maps Sambirir location is included in order to get a better picture of the environment.

Geology

The higher area (the escarpment) is occupied by the oldest rocks found at the Earth's surface all over the world: the Precambrium Basement System Rocks. The rocks are metamorphic: formed during a situation in which existing rocks are changed, because of high temperatures, high pressures and chemically active fluids. This occurs during tectonical movements in the Earth's crust. Metamorphic rocks have a relatively high resistance to erosion/denudation (more than their originating rocks) and are characterized by flowing layers. The geological map does not give any detailed information on differentiation in mineral compositition.
The lower area/valley floor is covered by alluvial and colluvial deposits (deposited by water and because of massmovements respectively). In the centre of the two locations the Elgeyo Escarpment stretches out from North to South. The escarpment originates from a major fault which runs all through the Kerio Valley and is part of the great Rift Valley Fault System.

Reliëf

Mon location itself is situated at the foot of the escarpment: West of the main road we find the lower part of the escarpment, East of the road the Kerio Valley floor. This flat area is mainly occupied by footslopes, only a narrow alluvial zone can be distinguished along the Kerio river (see map 2, p.9).

Hydrology

All the rivers in this location drain into the Kerio river which finally drains into Lake Turkana. The streams only have a small catchment area, reason why most of them are seasonal rivers. In some of the minor streams the water has penetrated into the loose material cover and/or evaporated before they even reach the Kerio river. The major part of Sambirir location (in the Cherangani Hills) is drained by Arror river, which entres the Kerio river some ten kilometers South of Mon location. This river with its much larger catchment area does carry water all through the year (perennial) (see map 3, p. 9).

Erosion

Especially in the valley itself erosion is severe at many places. Due to overgrazing and to the semi-arid conditions the vegetation cover is sparce and consequently sheetwash and run off through gullies can be severe after heavy showers (especially on the slightly sloping footslopes): processes during which the water takes a lot of loose (soil) material with it.
But also on the escarpment the erosion hazard is high: the equilibrium is not very stable. Human influences (cultivation, livestock keeping etc.) can distroy the equilibrium easily.
From a Landsat (satellite) image (1979) we made an interpretation for the actual erosion status (see map 4, page 10). Also from the top of the escarpment (near Chesoi) one can get a good overal picture of the erosion status in the valley.

Soils

According to the "Exploratory Soil Map of Kenya, 1980", scale 1 : 1 000,000 (Kenya Soil Survey) four soil group units can be distinguished (see map 5, page 10). The first symbol in the code stands for a certain agro-climatic zone (see page 12), the second symbol gives the soil group number (see below).

A descriptive characterization is given, for which also general literature, applicable to Kenya as a whole, is used. It should be stated explicitly that this information is not based on a local survey and should be interpreted with care. The official classification (soil group name) also used by the Kenya Soil Survey is added, in case one wants more information.

Soils no. 2, 6, 14 and 15 occur in this area, the other numbers are found elsewhere in Elgeyo Marakwet District.

2. Soils developed in the mountainous areas. The soils are well drained, which means that water is removed from the soil (deeper into the earth) readily but not rapidly. These soils commonly retain optimum amounts of water for plant growth after rains or addition of irrigation water. It is an area with a complex of shallow (0-50 cm deep, which can cause problems for deep rooting plants), rocky and stony (can cause problems while working on them with simple tools) to deep, non-rocky and non-stony soils.

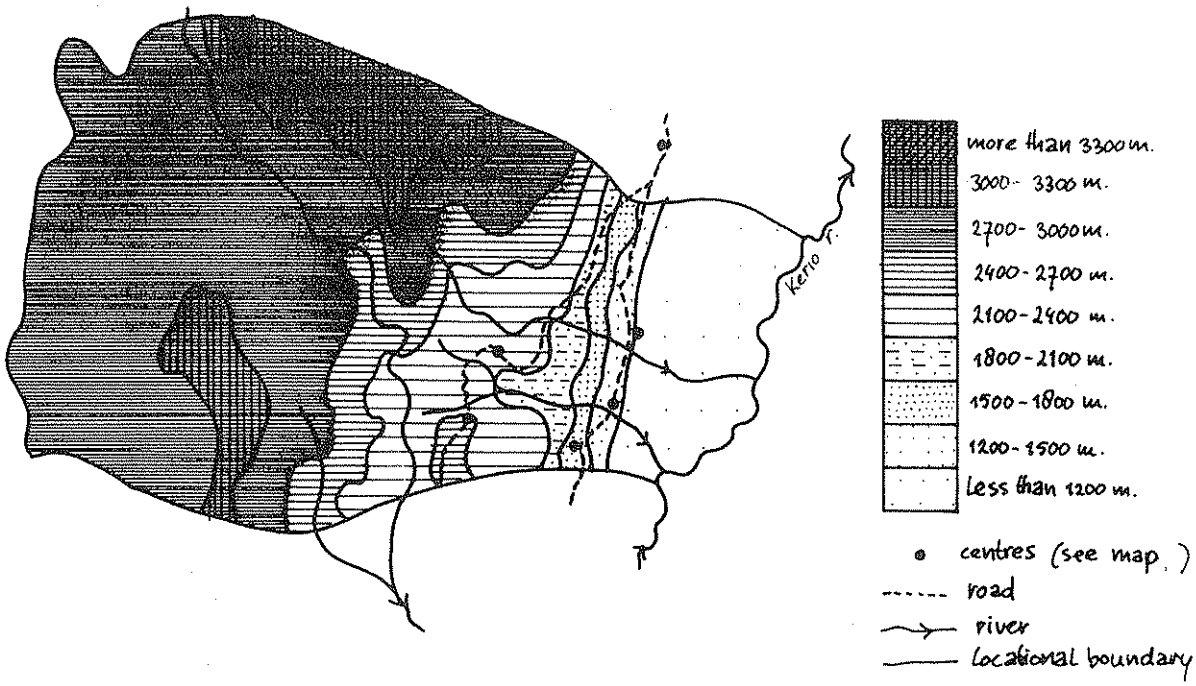
Natural fertility is moderately good, but if the land is used regularly, additional fertilizers are recommended. Erosion susceptability is rather high, conservation practices are recommended if cultivation is practiced on these steeper slopes of these escarpments.
Classification: MFbc, chromic Cambisols-partly with lithic phase; with eutric Regosols and Rock Outcrops.

6. Soils developed on the footslopes. These soils are well drained, very deep and the structure is rather loose. Natural fertility is rather good, though extra fertilizers are recommended if the plots are intensively used. Erosion usually is no problem on these soils because they are situated on flat surfaces and they have a good infiltration capacity.
Classification: FUlc, chromic Luvisols; with rhodic Ferralsols and luvic/ferralic Arenosols.

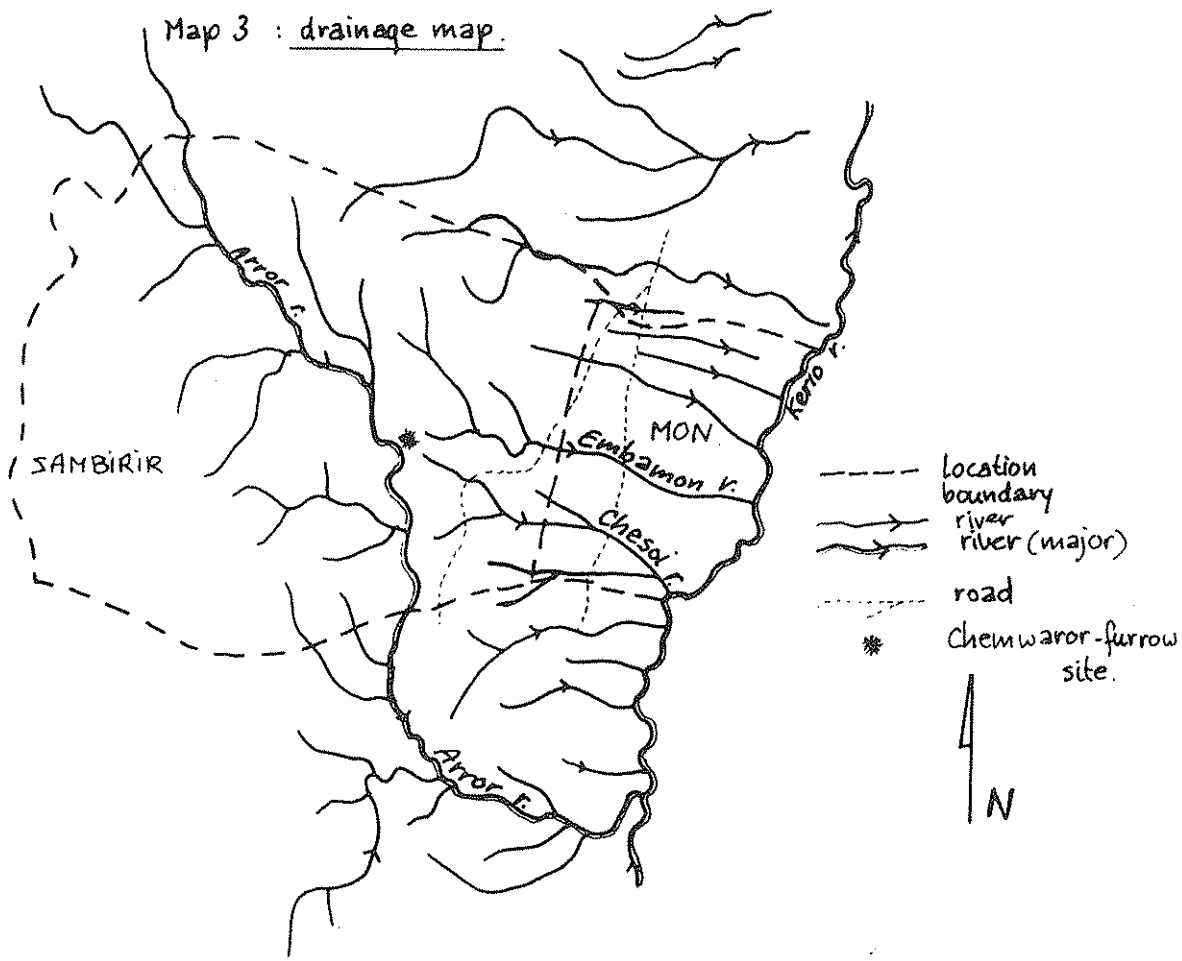
14. Soils developed on upper river terraces. These soils are dark brown, deep and well drained to moderately well drained. The latter means that water is removed from the soil somewhat slowly, so that the soil is wet for a small but significant time of the year. For certain plants these soils might be too wet (too little oxygen, which is of vital importance for plant growth). The soils are slightly calcareous. Fertility is moderate. Erosion is not a real problem on these flat areas.
Classification: eutric Cambisols, PtUbe.

15. Soils developed on flat areas along the rivers (alluvial deposits). The soils are well drained to imperfectly drained. The latter means that water is removed from the soil slowly enough to keep it wet for significant periods. This can result in a shortage of oxygen, while, as said before, oxygen is of vital importance to plant growth. The soils are very deep and they show stratification due to sedimentation processes (finer and coarser material is deposited on top of each other by the flooding river). The soils are calcareous and have a rather good soil fertility, though additional fertilizers are recommended if intensively used. Under arid conditions these soils can have saline properties. There hardly is any erosion in these flat areas also because the infiltration capacity is good. Flooding and consequently accumulation of new material can cause problems.
Classification: AAjc, calcaric Fluvisols.

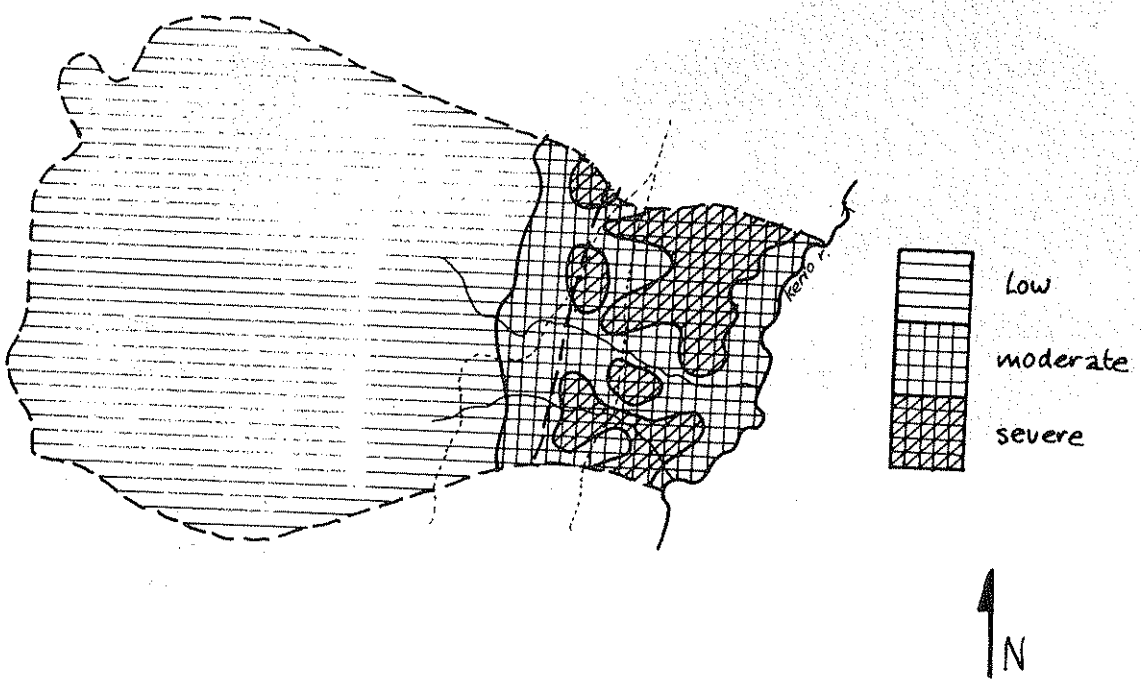
Map 2 : Altitude map.



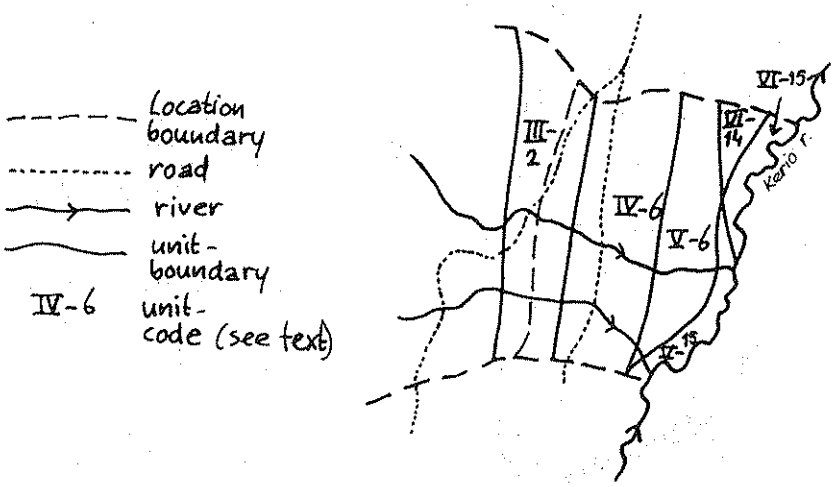
Map 3 : drainage map.



Map 4 : Actual erosion map.

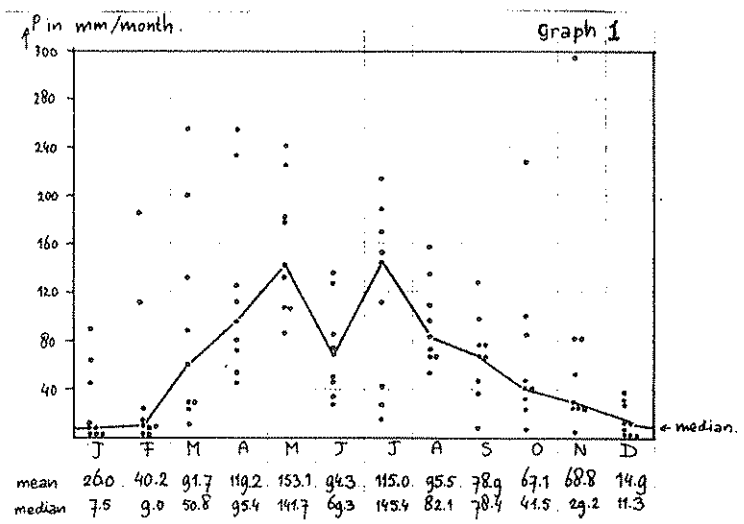


Map 5 : Combined soil- and agro-climatic zone map.

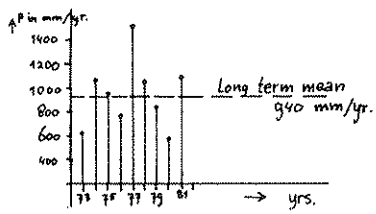


Climate

There are no climatological stations in the area. In Chesongoch however (just outside the location, in the North) rainfall has been measured for 9 years. Two graphs for this station are included (graph 1 and 2, below).
The average annual rainfall is approximately 940 mm./yr. Temperature and consequently evaporation is high however: reason why in the valley itself the climatic condition is semi-arid (even arid in the very East). From the graphs one can read that the variation in rainfall is large. The monthly figures vary much over the years, the variation in one year is large and the variation of annual totals is considerable over the years.
Some more information can be obtained from the "Agro-Climatic Zone Map of Kenya, 1980", scale 1 : 1,000,000 (Kenya Soil Survey). According to this map the two locations are covered by six agro-climatic zones (I to VI). See map 5, page 10.



Graph 1:
Dispersion graph for Chesongoch station. Every dot corresponds with the rainfall figure in that particular month in a particular year. Rainfall has been recorded for 9 years, so every month has 9 dots.



graph 2

Graph 2:
Long term mean for Chesongoch station, using yearly averages.

The characteristics of the zones are given in table 1 (below).

table 1 AGRO-CLIMATIC-ZONE CHARACTERISTICS:

zone	r/E_0^*-ratio in %	climatic designation	mean annual temperature in C	climatical designation	average number of growing days	major limitations to maximum production in approximate order of importance
I	more than 80	humid	less than 10 to 12	very cold to very cool	365	soil fertility, farm management, drainage
II	65 to 80	sub-humid	12 to 16	cool to fairly cool	290 to 365	soil fertility, farm management, drainage
III	50 to 65	semi-humid	14 to 20	fairly cool to warm temporate	235 to 290	soil fertility, farm management, rainfall
IV	40 to 50	semi-humid to semi-arid	18 to 22	warm temperate to fairly warm	180 to 235	farm management, rainfall, soil fertility
V	25 to 40	semi-arid	20 to 24	fairly warm to warm	110 to 180	rainfall, farm management, soil fertility
VI	15 to 25	arid	22 to 30	warm to very hot	75 to 110	rainfall

* r = rainfall, E_0 = potential evaporation

2 POPULATION

The Valley Marakwet are sedentary agriculturalists. For an unknown period they have been living in the lagam, the residential zone on the escarpment, between 1300 and 1400 m. They live in territorial groups (villages) of at most 50 homesteads. The main area of cultivation, however, is the kew, the lowland which extends from the bottom of the escarpment (at 1150 m) to the Kerio river (at 970 m). Cultivation can only take place here by means of a complicated irrigation system tapping water from the streams which descend from the escarpment.
The principal reasons to choose the escarpment as zone of habitation are the absence of mosquitoes and tsetse-flies, the cooler climate (compared to the valley) and protection against Pokot raids. Also, the social aspect of living close together in villages (so uncommon in rural Kenya) is very important to the people. They associate living in the valley with being lonely and mention this as another reason to prefer the lagam to the valley as dwelling place. Certainly they do not visualize the whole village moving down.
Between 1969 and 1979 (the years of the last two censuses) the boundaries of Sambirir-location, of which the area that is now called Mon still formed part then, changed considerably (see map 6, p. 15). Fortunately, these changes did not concern our area of study, but only the highland sublocations. Therefore we are able to compare the figures. 1)
In 1969 Chesetan sublocation, corresponding to the present Mon location, had 6037 inhabitants. In 1979 only 5279 persons were counted in the same area, constituting a 13% decline compared to 1969. This decline is probably attributable to migration of the valley people. Most likely the families which left the area went to the higher parts of the district, i.e. Cherangani and Lelan locations. The actual flow of migration, however, was much larger than the difference between the 1969 and 1979 figures suggests: we also have to take into account the natural population growth.

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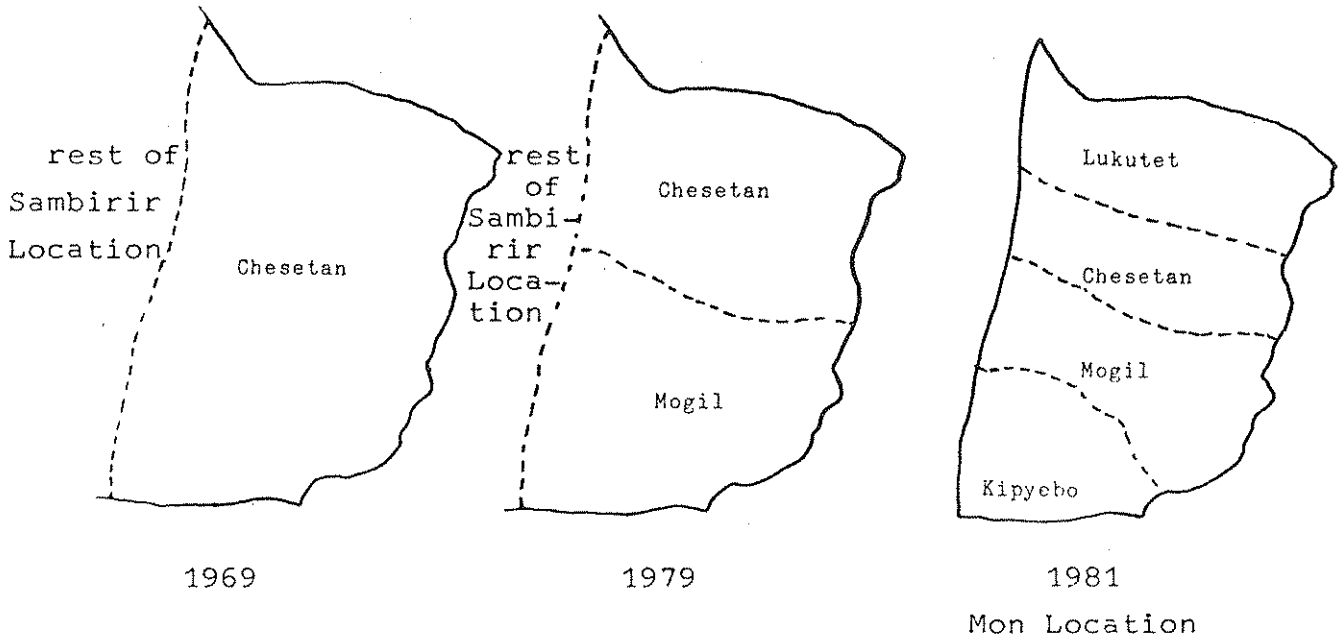
1) The surface of 1969 Chesetan sublocation = 1979 Chesetan + Mogil sublocations = 1981 Lukuket + Chesetan + Kipyebo + Mogil sublocations (= Mon Location).

If we estimate this rate to be 2% per year (which is a low estimate compared to the rest of rural Kenya) the population should have increased from 6037 to about 7250 in ten years. Thus we may assume that actually some 2000 people moved away in the period between the two census years, which is a considerable number.
In 1979 the population was distributed over the sublocations as follows:

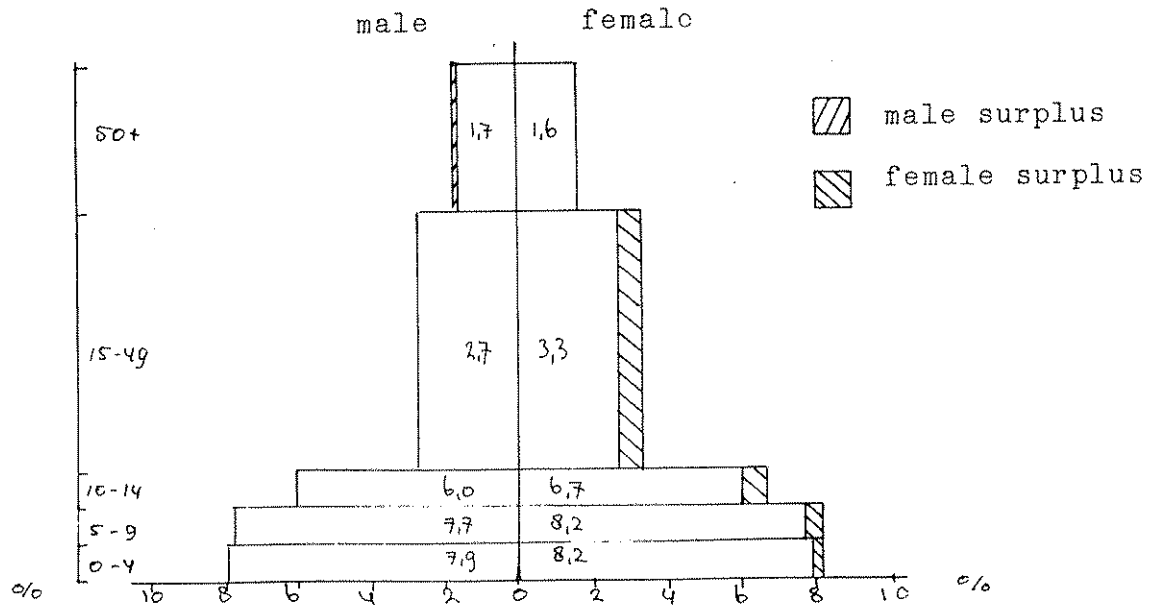
Chesetan: 1,439 people)
Lukuket: 1,609 people) area 31 km², density 96 p/km²
Mogil : 1,123 people)
Kipyebo: 1,222 people) area 30 km², density 74 p/km²

The population pyramid (see Graph 3, p.15) of Mogil and Chesetan sublocations in 1979 shows - when compared to Elgeyo Marakwet as a whole-an underrepresentation of children under 15 years of age and an overrepresentation of persons of 50 years and above. The group of children between 0 and 4 years of age is hardly larger than the group in the age of 5 to 9, which points to the tendency (or taboo) not to talk about young children. For the over-representation of older people we cannot offer an explanation except that the young ones leave the area and that old people return to the area after having spent their working age somewhere else. Females in the age-groups up to 49 years of age show a surplus over the males.
The sex-ratio (male/female) in Sambirir as a whole was 0.97 for Chesetan and Mogil respectively 0.94 and 0.85. The low ratio for Mogil is striking. This is most probably due to non-permanent labour-migration to the highlands of Uasin Gishu and Trans Nzoia. Also emigration of men who start living with a second wife on a plot in the highland could be an explanation. We do not know the reasons for the considerable surplus of females in the lower age-groups.
A small surplus of males in the age-group 50 and above is characteristic for the whole of Elgeyo Marakwet and Rift Valley Province. The lifeof women - with much heavy agricultural and household work and the risks of childbearing in this area - seems heavier than that of men resulting in a lower life-expectancy for women than for men.
If the declining trend of the population figure has not changed, the total population of Mon location will be about 4400 persons in 1983. But because of the oncoming land registration some families

Map 6 : Administrative history



Graph 3 : Population Pyramid Mogil and Chesetan sublocations 1979



Source: Kenya Population Census 1979

who moved to the highland in the past now return to the villages where they lived before, and where they still own land. This movement may become stronger in the next years and may (temporarily?) check the population decline.

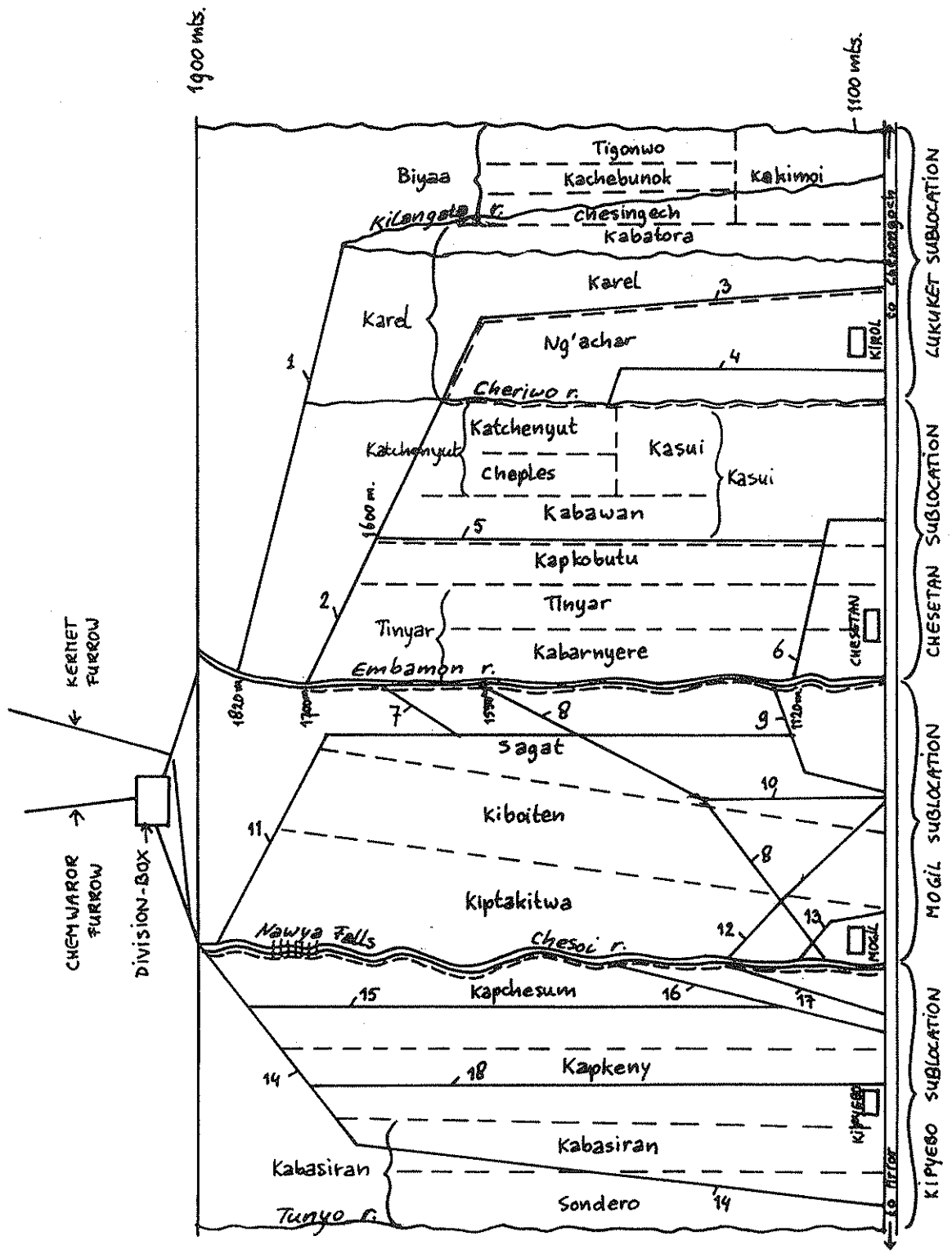
3. ECONOMIC SITUATION IN 1982

The people living in Mon location depend to a high degree on their agricultural activities. Fingermillet, maize and sorghum are the main graincrops and are largely used for subsistence-needs.
Fingermillet, the most important staple crop, is only sold when a household badly needs some money and has no other means of income at that time (1 kg Kimbo tin is sold for Ksh 3.-). Maize, which is grown much less, is sometimes bartered for milk with the Pokot (1 kg Kimbo-tin = 1 Treetop (0,7 l) bottle of milk). Nowadays sorghum is cultivated by only very few households. The main reason to abandon sorghum cultivation is the lack of necessary labour force, especially for the task of bird scaring, since primary education has become general.
Besides these graincrops, cassava and bananas are grown by almost every household. Cassava is of particular importance as a staple crop in years of drought. In years of relative abundance it is often sold or exchanged, like bananas. Both are sold or exchanged either in the highland (for maize/beans) or in the valley (for milk). Most cultivation takes place at the valley-floor. But some villages have small plots of fingermillet in the lagam itself. If a household owns land on top of the escarpment is is used for maize cultivation.
All the land used for cultivation is still traditionally owned, either individually or communally. It belongs to the male patrilineal descendants. Women only have usufructory rights to the pieces of land allocated to them upon their marriage. They are not allowed to sell this land, but they can lend out the land to someone else if they want to. Due to increasing land pressure and selling of land in the past (e.g. in times of hunger) some villages and families have less land than others, consequently begging of land is quite common.

Irrigation

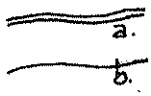
As said before, cultivation in the valley can only result in a good harvest with the supply of irrigation water in addition to rainfall. Although the total rainfall per year is rather high it is its unpredictability which causes a critical stress for the farmers.

A delay in the onset of the rain or severe dry spells during the growing season are quite often the case. This forced the Marakwet to develop an ingenious irrigation system, utilizing the small streams which run down the escarpment. In graph 4. p.19 we give a schematic picture of the villages and irrigation furrows in Mon location. The furrows are gravity fed from the different escarpment streams and all branch off from the two main watercourses, the Embamon and Chesoi rivers, which are additionally supplied with water from the Upper Arror through the Chemwaror furrow. Using Sopers map at the end of "Kerio Valley, Past, Present and Future" (Kipkorir B.E. C.S. Nairobi, 1983) we also present a real map. In addition we give Sopers details on the irrigation furrows (R. Soper: A Survey of the Irrigation Systems of the Marakwet, p. 94 of the book) see page 21.



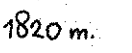
Graph 4 : Villages and irrigation furrows in Mon location.

LEGEND:



natural drainage: a. major river, b. minor stream

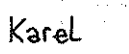
furrow, number corresponds with list below



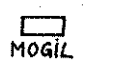
height in meters

boundary between villages/sub-villages

road



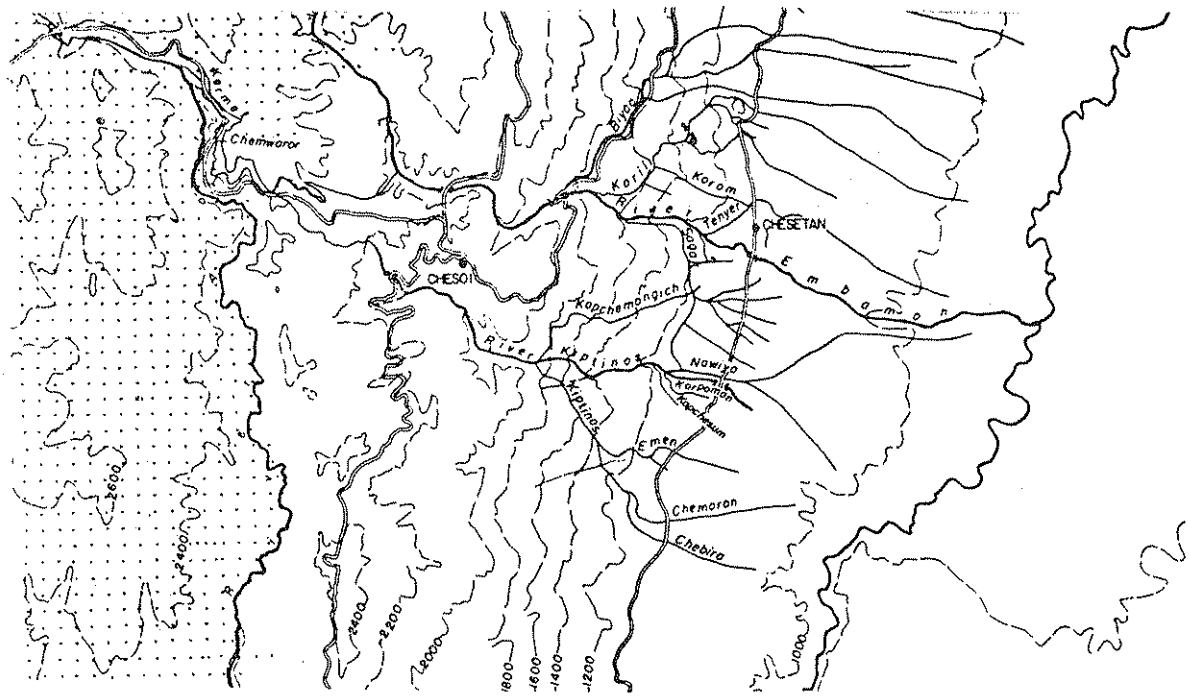
village



market centre

Names of the furrows	Names of the villages and sub-villages
1. Ara Biyaa	Lukuket sub-location:
2. Ara Karel	Biyaa village with Kakimoi, Tigonwo,
3. Ara Chepkaremba	Kachebunok and Chesingech as sub-villages
4. Ara Kachenyut	Karel village with Ng'achar, Karel and
5. Ara Korom	Kabatora as sub-villages.
6. Ara Ber	Chesetan sub-location:
7. Ara Kamukure	Katchenyut village with Cheples and
8. Ara Sagat	Katchenyut as sub-villages.
9. Ara Kimanantany	Kasui village with Kabawan and Kasui as sub-villages.
10. Ara Kisumber	Kapkobutu.
11. Ara Kiboiten	Tinyar village with Kabarnyere and Tinyar
12. Ara Kabou	as sub-villages.
13. Ara Kisiakwa	Mogil sub-location:
14. Ara Kabasiran	Sagat village.
15. Ara Kapchsum	Kiboiten village
16. Ara Kilakan	Kiptakitwa village
17. Ara Chesorwo	Kipyebo sub-location:
18. Ara Kapkeny	Kapchesum village.
	Kapkeny "
	Kabasiran village with Sondero and Kabasiran as sub-villages.

Map 7: The location of the Irrigation Furrows according to R.Soper.



furrow

Table 1a: Some details of the irrigation furrows in MON (according to R.Soper)

River and position		*Furrow*	*Owned by*	*Ht of take-off m*	*Vert. Fall m*	*Length km*	*Potential delivery² l/sec*
EMBAMON	N1	Biyaa	Biyaa Karel	1820	790	7.5	c. 120?
	N2	Karel	Karel Kachenyot Kasuhi Tenyer	1700	720	8	c. 120?
		Korom	Kasuhi	1600	620	5	c. 100?
	N3	Tenyer (Sekon, Chemwonapei)	Tenyer	1100	80	3	c. 200?³
	S2	Kimanan-tainy	Sagat	1120	70	1	c. 15??³
	S1	Sagat (Kosobir, Kisalam)	Sagat, Kipoiten Kiptagitwa	1550	550	6.5	c. 200?
KIPTINOS	N1	Kapcheman gich	Sagat, Kipoiten Kiptagitwa	1900	740	3	?⁵
	N2	Nawiya	Kiptagitwa Kakipkeiny	1130	130	3.5	c. 200?³
	S3	Korpoman	Kapchesum	1130	90	1.5	c. 40?³
	S2	Kapchesum	Kapchesum	?	?	?	small
	S1	Kiptinos	Kabarsiran Kakipkeiny	1900	880	4.5	c.100??⁵

On the escarpment the water is used for domestic purposes when the furrows pass through the villages, and for irrigation in those villages where land in the lagam is cultivated as well.
In Mon location we find two distribution systems. The first one deals with the traditional allocation of the natural river water of the river Embamon. The second one distributes the water derived from the Arror through the Chemwaror Furrow.
In the rainy season the total supply of Embamon and Chemwaror water amounts to about 400 l/sec. but the amount reduces when the rains stop. Theoretically this means that the same number of hectares can be continuously irrigated. But the serious losses of water during its course down the escarpment, which may amount to 30-40% of the potential flow, due to spillage, leakage and seepage to subsoil on the sandy soils of the valley floor and also evaporation result in a much smaller acreage that can be continuously supplied with irrigation water. This contrasts strongly with the potential arable area of Mon location, some 4700 ha. We estimate that in fact only about 1000 ha of land in Mon location receive - not very large - amounts of water. To indicate the availability of irrigation water we collected information from the farmers on the frequency of access to this irrigation water and the number of hours they receive water each turn. All households in Mon location have access to Chemwaror water each year. One individual household, depending on the size of the village, on the average has right to a supply of irrigation water for a few hours every three to six weeks during the main growing season April-August. It is of importance whether this supply will be at the right time to overcome the dry spells. After the harvest of the two staple crops, fingermillet and maize, the rotation of the water supply will be more frequent for the irrigation of bananas and cassava as not all the households grow these crops and the plots are smaller. With regard to Embamon water the households of only a few, 2-6, clans will have rights during one year. These rights differ between households of different clans and the supply can vary between once every three weeks and once in three months.
We may conclude that irrigation is essential to secure subsistence crop production in Mon. But as the supply of irrigation water is very low it is not a determining factor for the cultivated area per household.

An economic household profile

In Marakwet it is quite common for a man to marry more than one woman. However, we consider a household consisting of a man, (one of) his wife(ves) and their children to be the main unit of production and reproduction because cultivation of fingermillet (the most important subsistence crop) is the responsibility of an individual woman plus her children, just like all tasks in reproduction.
In the course of her life the woman will go through many pregnancies but three to five children born will stay alive. Therefore an established household will generally consist of five to seven persons: a man, a woman and three to five children of which two to four attend school.

Crops

An established household in Mon location cultivated 1.5 to 2 acres of fingermillet, 1 acre of maize and small fields of cassava and bananas in 1982. Because of the different ownership relations (part of the arable land is individually held, part is communally held) it is difficult to determine the total number of acres which a household has access to. But according to Crichley a household has, besides the cultivated area, access to another 5 acres of communally owned land in the valley and 0.75 acres of communally own land on the escarpment face.
Yields are low most of the time. The fingermillet yield varies between 200-300 kg of grains per acre, but the figure can even be lower in very dry years. As fingermillet is the principal food crop it will be irrigated prior to the maize. After one, or at the most two years of cultivation the plot is left idle or is cultivated with another crop. It takes four to five years before fingermillet can be grown in the same plot again.
The maize yield varies between 300 and 500 kg of grains/acre. Information about a fallow period in maize cultivation is unclear. Plots in the highland (mosop) seem to be cultivated continuously. In the valley it is sometimes planted two subsequent years in the same field, but in general it is rotated with fingermillet, sorghum and fallow periods.
The average yield/acre of cassava is not known. Still it is an important 'crisis crop' in years of drought (like 1980) when the grain crops fail, and in every pre-harvest period it helps people to cope with grain scarcity.
The majority of the households has only a small garden of

bananatrees or even a few stems. Bananas do not form part of the staple diet, they are mostly sold in the markets.
A small variety of other crops, like beans, cowpeas and pawpaws is grown in Mon, but at the most by one third of the households.

Inputs: seeds, tools, insecticides, fertilizer

The use of certified seeds is not general. The households which cultivate maize in the highland do buy maize seeds, but in the valley the local varieties are still often planted. Some households can afford to buy maize seeds only once in a few years and they will keep part of the harvest as seeds for the next year.
In fingermillet and sorghum cultivation only traditional varieties are used. The shops of Mon location do not sell maize seeds but to obtain them is not a problem because they are sold in the highland. In cultivation both indigenous and modern tools are used. Every woman in a household has her own mkombo (traditional jembe) and her own rotwo (small knife used for the harvest of fingermillet). These tools are seldom used by men.
Besides these traditional tools a typical household has at its disposal 2 to 3 pangas, 2 to 4 jembes and an axe. Modern tools can be bought in Chesongoch, where shopkeepers are supplied by the wholesale store of the Catholic mission, or in the highland (Chesoi, Kapsowar). The only insecticide which is used is DDT 5% against stalk borer in maize. Half of the farmers we interviewed mentioned this chemical. The last time they boutht it households spent on the average Ksh 15 to 25.-. DDT 5% is available in Kapsowar and Maina.
Artificial fertilizer is not used, neither in the valley nor in the highland. Likewise people do not apply manure to their fields. The distance between the bomas and the fields makes it difficult to do so, apart from the fact that they do not see any point in applying the manure to the fields.

Livestock

Cattle is kept by few families. Raiding by the Pokot in the years 1976-1977 and the outbreak of foot-and-mouth disease in the same period diminished the number of cows in the area considerably. Although the Marakwet value cattle highly, in reality goats are of much more importance to them because they better resist

droughts and are used for katunisio[1] and all other kinds of ceremonies.
An established household will own 20 to 25 goats. In the wet season, in a herd of 25 goats, some 8 to 12 goats have to be milked, and each will give one cup (0.2-0.25 litre) of milk per day. This milk is used for home consumption, but it is given to children only. Sheep are not kept as often as goats, because the area is not suitable for them. The households who do own sheep have them in a smaller number than goats.
It is the man of the household who has decision-making power concerning livestock. The woman can only decide on the stock allocated to her when she enters her husband's hut for the first time.
The only cattle-dip in Mon location (at Kiroll, Lukuket sub-location) is out of use due to a non-functioning committee.
In most households the animals are treated with chemicals added to water once in a few weeks. People living in the northern part of the location can bring their livestock to the Chesongoch cattle-dip. No treatment against other diseases was mentioned and no salt has to be bought as there are salt-licks near the Kerio river.

Bee-hives

It is still very popular to place bee-hives although nowadays it appears to be done by older men mainly. About half of the households own bee-hives, and the average number of bee-hives they have is 20. Most of the years only part of the hives contain honey. A bee-hive can hold 4,5 to 8 litres of honey, but generally they yield much less.

Labour division and availability of labour within the household

The following table shows the division of labour within the household in the cultivation of the four most important crops: finger-millet, maize, cassava and bananas.

(1) Ceremony held in confirmation of marriage after a woman has had at least one child.

Table 2: division of labour within the household in cultivation

tasks	finger-millet			maize			cassava			bananas		
	F	M	Ch	F	M	Ch	F	M	Ch	F	M	Ch
clearing	-	xx	-	-	xx	-	-	xx	-			
fencing	-	xx	-	-	xx	-	-	xx	-			
digging	xx	-	-	-	xx	-						
planting				xx	xx	x						
broadcasting	xx	-	-									
weeding	xx	-	-	xx	xx	xx	xx	xx	xx	-	xx	-
birdscaring	xx	xx	x									
irrigating	-	xx	-	-	xx	-	-	xx	-	-	xx	-
harvesting/ uprooting	xx	-	x	xx	x	x	xx	xx	xx	xx	xx	xx
carrying harvest home/store	xx	-	-	xx	-	-						

xx = largely done by F = female Ch = children
x = also done by M = male

As can be read in the table all the work involved in irrigation, that is the distribution of water, the maintenance of the furrows, the opening and closing of furrows and the appliance to the fields, is exclusively men's work. All the decision-making concerning the water rights excludes women as this takes place during kokwet, the meeting of elders, where water will be divided between villages. Within the villages the men will meet to divide the water between clans and clan members.
Not all labour involved in cultivation is performed by the household itself. The decreasing share of labour done by the children probably makes it necessary to rely more on labour from outside the household. Outside labour does not yet take the form of wage labour in this area but the form of the traditional labour party, sikom. Sikom is mainly organized in the cultivation of fingermillet, especially for the tasks of clearing and fencing (these groups consist of men only) and broadcasting and weeding (groups of women). Participants are remunerated with goat-meat,busaa, other food or a small amount of money (Ksh 2 to 4.- for one day help). Compared to other parts of rural Kenya the acreage cultivated per household is on the high side, and this raises the question whether enough labour force is available. Actually people do mention shortage of labour, but this seems only to be a barrier to cultivate more land than they do now. Shortage of labour is in fact a very relative concept, depending on the agricultural

practices that exist. If agricultural practices will be intensified in Mon location (better digging, more weeding, more efficient and less erosive use of irrigation-water, more birdscaring) most likely there will not be enough labour to cultivate the acreage people do now.
Finally we have to say something about the relation farm labour-wage labour. Wage labour in areas at a greater distance from Mon location does not compete with farm labour as it is undertaken only in the dry season. As there are no possibilities for wage labour in the valley itself men leave the area for the highland around Eldoret to earn some cash with the maize harvest. This takes place in the period October-January, thus after the harvest of grain crops in the valley. This seasonal migration, which involves 50-70% of all men between 20 and 45 years old, lasts normally for about three months but in years of drought men can stay away up to six months.
If the cultivation of a second crop in the dry season would become possible (through an increase in the amount of water available), labour involved in earning cash would compete seriously with farm labour, but as long as farm produce cannot be marketed seasonal labour migration will continue to exist.
On a much smaller scale men from the valley go for work at the farms in the near highland, i.e. around Chesoi. They are employed for different tasks such as the planting, weeding or harvesting of maize and beans, and the weeding of pyrethrum. The advantage of this work is that it can be done throughout a larger part of the year: if a household suddenly needs an amount of money the man always has the opportunity to look for a short-time job in the vicinity.
But concerning their own agricultural activities this advantage is at the same time a disadvantage, as it causes households to cultivate their own plots less intensively.

Income and expenditure

As indicated in the foregoing pages only few farm products are marketed. Fingermillet and sorghum are not sold at all, bananas and cassava only in small quantities, yielding a few shillings. The households which grow maize in mosop and have a higher yield sometimes sell part of this yield to the valley people in the next year's pre-harvest period.

The major sources of income are the selling of goats (only done when money is needed for a specific purpose e.g. schooluniforms) and wage labour. In Uasin Gishu a labourer can earn some K sh 1,000.- in three months' time.
The income per year acquired from these two sources will largely be determined by the immediate need of cash a household has.
A farmhousehold consisting of 6 persons (a man, a woman and four children of which three attend primary school) uses at the least some K sh 1300.- per year for the following purposes:

starch food	K sh 250.-
other food and household utensils	K sh 275.-
agricultural inputs	K sh 175.-
medical treatment	K sh 45.-
schooluniforms and schoolactivity fund	K sh 100.-
clothes	K sh 330.-
harambees	K sh 100.-
	K sh 1275.-

Generally speaking we can say that the more money income a household needs the more often a goat is sold and the longer is the period that the man performs wage labour.

3.1 Plans and planimplementation

This part of Elgeyo Marakwet did not receive extensive government attention (until recently). We know of only a few projects.

In 1965 there has been a plan for a shoats sale yard in Chesetan. What has been done with this plan is not clear. There is no such sale yard now.

In 1977 100,000/=shs were allocated for Chesetan Water Project by the Rural Development Fund. When the work started we do not know, but it seems that in may 1979 a harambee was organized by Arap Too for this project. In 1980 some work was done on the water supply. By 1983, but probably much earlier, the Chesetan water supply was operating.

The most important government project concerning Mon Location was the rehabilitation of the Chemwaror irrigation furrow, since 1978.

The Chemwaror project tried to rehabilitate a 7 km. long furrow connecting the permanent Arror River with the seasonal Chesoi and Embamon rivers. This Chemwaror Furrow was in use since a long time, often damaged but always repaired by the local people. It supplied water for traditional irrigation in the much lower situated Mon Location (see Map 3 p.9 and Graph 4, p.19).
The project comprises the improvement of the road to the construction site (E 352), the construction of a division-box, 11 spillways, 1 overflow structure combined with a spillway, a stream crossing structure, 3 piped sections and an intake.
Money for the project came from several sources (see Table 3, below).

Table 3 : Funds for the Chemwaror Project

Financial year	Allocation amount	Source	Expenditure (in shs)	Returned (in shs)
78/79	200,000.-	MOA	102,000.-	98,000.-
79/80	160,000.-	MOA	70,000.-	90,000.-
80/81	240,000.-	DDC	218,000.-	22,000.-
81/82	240,000.-	Dutch ASAL	240,000.-	-
	840,000.-		630,000.-	210,000.-

In 1982 all roads in the location were of poor quality, communication with main cities outside the location was difficult too. Bad communications is one of the most important factors hampering the development in the location. However some improvement of the roads in the location were planned in 1980 and 1981 by Rural Access Roads.
The following stretches were planned to be improved,

Chesoi-Mogil	12 km.
Mogil-Ketou	6 km.
Kipyebo-Chepteriony	6 km.
Lukutet-Kerio river	6 km.

In 1983 no evidence of these plans could be found.

4 SOCIAL DEVELOPMENT AND INFRASTRUCTURE

4.1 Survey of the services, October 1982

place	admin.	commerce	education	health	churches	other
Lukuket:						
Biyaa		-	-	-	-	-
Karel		-	-	-	-	-
Komboses	+sub-chief	-	+prim. school up to std II +nursery school (?)	-	-	-
Kiroll		+open-air market once a week +hoteli				+tap (?) +tree-nursery +cattle-dip
Chesetan:						
Katchenyut		-	-	-	-	-
Kasui		-	-	-	-	-
Kapkobutu		-	-	-	-	-
Tinyar		-	-	-	-	-
Chesetan	+T.A.		+full prim. school +adult education classes	-	+R.C.with building	+Maendeleo ya Wanawake group having group-plot +branch of the F.T.C (marketing of cotton) (empty building) +taps (?) +nursery(?
Mogil:						
Sagat	+subchief(?)	-	-	-	-	-
Kiboiten	-	-	-	-	-	-
Kiptagitwa	-	-	-	-	-	-
Mogil	+chiefs off. +policeman (1) +subordinate staff (1)	+4shops oper. +2 hotelis +open-air market	+full prim. school* +ad. edu-cat. off.	+mission (A.I.C. dispens. with 1 unqual.	+R.C.-church being built nurse	+3taps +tree-nursery
Kipyebo:						
Kipyebo	-	-	+full prim. school	-	-	-
Kapkeny	-	-	-	-	-	-
Kabasiran	-	-	-	-	-	-

* having a school plot

4.2 Education

The first primary school was founded in Chesetan in 1957. In 1972 a second primary school was started in Kipyebo and Mogil Primary was founded in 1976. By 1982 all these schools were full primary schools. Komboses Primary was up to standard II in the same year. It is planned to start a new school in Kiroll in 1983. All the schools are day-schools and run by the government, but sponsored by the R.C.M.
The nearest secondary school is Kerio Valley Harambee secondary school in Tot, started in 1980. But for the few pupils who pass the C.P.E. the costs of sec. education are a major obstacle.
In Mogil Full Primary there were 112 pupils in standard I and only 7 pupils in standard VII.
The age of the standard I pupils varies between 7 and 10 years. These figures show that schoolattendance is a relatively recent phenomenon in Mon Location.
We give some figures in table 4 about the four schools in Mon Location:

Table 4 : Primary schools in Mon 1982

name	year started	no of boys	no of girls	no of pupils	teachers rained	un-trained	total	pupils teachers
Chesetan	1957	253	191	444	2	4	6	74
Kipyebo	1972	124	162	286	2	5	7	41
Mogil	1976	130	149	279	4	3	7	40
Komboses	1982	105	142	247	1	1	2	124
		612	644	1256	9	13	22	57

We cannot give an exact figure about the percentage of children schooling in 1982 in Mon Location as we do not have population figures for that year. But when we make an estimate of the number of boys and girls in the age-groups 5-9 and 10-14 and combine these figures with the number of boys and girls schooling we find that at least 80% but probably more than 90% of the children are schooling. The percentage for boys is a bit higher than that for the girls.

The number of trained teachers as a percentage of all teachers is only 41%, a low percentage compared to Elgeyo Marakwet as a whole with 60%.
This is characteristic for a peripheral location. Besides the number of pupils per class is very high: 57 pupils per teacher. Both factors inevitably reduce the quality of education in Mon Location.
There is no feeding programm for the schools in Mon Location. Schoolmilk is distributed irregularly, depending on the condition of the road through the valley.
The activity fund is at every school K sh 7.-/year, but many pupils do not pay.
Absenteism is frequent, especially during peak-periods in cultivation and on market-days.

There is one adult education centre in Mon Location in Chesetan. It was already there in 1970. In the middle of the seventies there were 35 members. Adult literacy classes, handicraft and farming were organized there.

4.3 Health

Mogil dispensary was started in 1974 by the A.I. Church, after the R.C. Church opened health centres in Chesongoch (1973) and Arror (1974). Its staff consists of one ungraded nurse and its helper. Once a month the dispensary is visited by a graded nurse from the A.I.C.-hospital at Kapsowar to keep an ante-natal clinic. Dispensary fees are K sh 5.- per week for an adult and K sh 3.- per week for a child. Upon payment of the fee medicins are free. The fee forms a serious impediment for a visit to the dispensary.
In the District Development Plan of 1979-1983 it was proposed to take over Mogil Dispensary by the government to make an end to this "fee problem".
So far this has not been done.
The most common diseases in the area are malaria and amoebe dysentry. In 1981 a cholera epidemic broke out in the valley causing the death of an unknown number of people.

5. Main development problems

The development possibilities of Mon Location lie clearly in its agricultural potential. But there are a number of factors which hamper this development. The shortage of irrigation water, the inefficient agricultural practices and the lack of marketing possibilities are the most important of these.
The shortage of irrigation water can be reduced in two ways. The first is a more efficient use of the present amount of water available (technical improvements of the furrows to prevent losses, improvement of the spread and use of the water in the fields).
The second one is to increase the amount of water available by reconstructing the second feeder channel between Arror and Embamon rivers.
The most important efforts in the field of agricultural improvements have been undertaken by W. Critchley, an agriculturalist employed by Chesongoch Mission in the period 1977-1979. He taught people to plant more early, to use improved seeds, to weed more than one time, to grow small gardens with cash crops. The more widespread use of improved seeds was the only tangible result after the project had been stopped. Concerning the cultivation of cash crops Critchley was confronted with the difficult marketing of the products. The introduction of cotton, a good cash crop for the Kerio Valley failed twice, a.o. because the Cotton Lint & Seed Marketing Board did not buy in time. Red peppers seem to be a good cash crop too, as they have a high value/weight ratio. But marketing of crops outside the valley will be problematic as long as no improvement of the roads has taken place and no matatus regularly serve the area. Until this has been done the people of Mon location have to cope with the lack of opportunities in the Kerio Valley to obtain a cash income.