WELCOME TO NAKURU
DISTRICT

UNIVERSITY OF NAIROBI

DEPARTMENT OF URBAN AND REGIONAL PLANNING



# THE IMPACT OF SETTLEMENTS ON THE DEVELOPMENT OF NAKURU DISTRICT

( A dissertation presented in partial fulfilment of the requirements of the Degree of Master of Arts in Planning )

E.N.D. NDEGWA



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This dissertation is my original work and has not been presented for a degree in any other University.

Signed.....

This dissertation has been submitted for examination with my approval as University supervisor.

Signed.....

FOR WAMBUI

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## ABSTRACT

This study examines the impact of settlements in Nakuru District an area which prior to independence was reserved for white settlement. With independence, the District was opened for settlement of all Kenyans. This action set in motion a set of developments which have had a significant impact on the economy and the pattern of settlements that have evolved.

The physical diversity of the area has presented man with almost unlimited agricultural opportunities and scope for a wide range of activities.

The reliable rainfall, the generally good soils and a moderate climate make the highland region one of the most congenial environments for farming and human settlement. The bold topography exerts a strong influence on land-use and on communication routes into the District which have had to adjust to the manageable natural gaps. Into this area, at about the beginning of this century, white settlement was established. For the next sixty years, white settlers practised a scientific export oriented farming system which became the mainstay of Kenya's economy.

In 1960, the British Government passed an Order in Council terminating an original reservation of a huge part of the Kenya Highlands for exclusive "white settlement". The flood gates were open. All races of Kenya could from then on own farms and settle in Nakuru District.

Responsibility for the implementation of a resettlement programme which was necessitated by the departure

of many European farmers at independence was entrusted to the Department of Settlement of the Ministry of Lands and Settlement. The Department launched two schemes: a high density settlement scheme and a low density scheme. With the assistance of extension officers, farmers in the high density schemes have to a large extent maintained production levels on former European farms. The same favourable developments have not been observed in the low density schemes.

A great number of farms have been purchased by co-operative societies, companies, partnerships and by individuals. On co-operative, company and partnership farms as was the case in high and low density settlement schemes, the immediate result of resettlement was the establishment of numerous rural settlements to cater for the incoming population and farm subdivision.

In some instances, entry of the new settlers is reported to have created farming problems, such as the threat to sheep industry by farm subdivisions. Silting of rivers, deforestation and other environmental problems have been reported and observed in the field.

Employment opportunities seem to be sloved down by a number of factors among them being rapid population increase, poor farm management, an apparent lov purchasing power among many of the new settlers and by the scattering of development projects which militates against the creation of viable growth centres capable of generating employment opportunities.

Important policy issues requiring immediate attention include: a clearly defined land policy for the former scheduled area, a realistic policy on population acceptable to the people and their leaders in the absence of which planning will be difficult. Of equal importance is a programme to educate the people so as to make them aware of their environmental responsibilities.

# CHAPTER I

## INTRODUCTION

### 1:1:0 The study area:

This study covers the administrative District of Nakuru. The District formed part of the historically famous 'White Highlands' which prior to independence had attained a very high level of scientific farming on large-scale farms. Since independence in 1963, like the rest of the former scheduled areas it has been opened to all Kenyans, including small-scale farmers from the former African Reserves, where the majority of them were engaged in subsistence farming. The entry of small-scale farmers in the District occasioned the sub-division of many large farms whose scale and mode of operation was beyond the experience and capacity of small-scale farmers. A second development has been the emergence of new settlements in the District. Development planners have been engaged in efforts to ensure that previous levels of resource use, wage employment opportunities and the quality of the physical environment are maintained and improved upon. However, if their efforts are to bear fruit, the new settlers must be oriented and integrated into the District's economy. This study sets out to examine the factors which have influenced the establishment

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of settlements in the District and their impact on the development of the District.

1:1:1 Reasons for the study:

Besides looking at the policies which have guided the establishment of settlements in the District, the study will make proposals on some aspects of district planning. The first district plan for Nakuru was released in January 1976. The findings of this study should hopefully provide a useful feedback to the plan during its revision in the near future when development proposals in the fourth National Development Plan are incorporated in the current District Development Plan.

It is also hoped that the lessons learnt in Nakuru District will be useful to other districts especially those in the former scheduled areas.

Because of their ample relief, which is partly responsible for the good rainfall, and the generally good soils, the former scheduled areas constitute the 'buttered slice' of Kenya. The moderate climate, which is cool in some places embraces some of the most congenial environments for farming and settlements. The bold topography naturally exerts a strong influence on land use. Communication routes have had to adjust to the more manageable and natural gaps. The great physical diversity has also provided man with

almost unlimited agricultural opportunities and the scope for a wide range of land uses.

Such diverse environmental conditions have accounted for the establishment of numerous settlements in the District. Before 1963, outside the townships, the only types of settlements in the rural areas were isolated farm houses and workers' housing. After independence, following the purchase of farms in the District by companies and co-operative societies, members of these bodies have established various forms of settlements in the rural areas. In the early period of settlements development, there was little consideration of the effect of settlements on the environment. Secondly, the settlements which were established had the sole aim of facilitating the extraction of basic resources of the District and although the original settlers hoped to establish a self-supporting colony, utilising the cheap local labour, machinery, by working on a large-scale and by orienting production to the export market, the end result was a dependent territory where even the larger industries have very little contact with the surrounding areas except that these areas provide cheap labour. Thirdly, employment opportunities for Africans were largely restricted to unskilled farm labourers and to domestic servants.

With independence, some changes have become necessary. A fundamental policy change was the opening of the District to Kenyans of all races. With the entry of a growing population into the District, the problem of unemployment

has become acute. It has therefore become imperative to look for ways to generate employment opportunities in the District. Secondly, resource use policies previously developed with British interests in mind have had to be reviewed and in some instances changed so as to reflect the political and economic aspirations of the people of Kenya.

This study looks at two problems facing the District viz. poor management of the agricultural land and unemployment, and suggests solutions to them. The findings of the study must not however be looked at in isolation. The experience of field officers as well as the findings of other research workers must all be harmonised by the District Development Committee.

The problems:

Two major problems facing Nakuru District are: poor management of agricultural land and unemployment. These two problems are closely related since poor farm management often results in an inefficient mix of factors of production which include labour. The causes of these two problems need to be identified and solutions have to be found out.

1:1:2 That the problem of unemployment merits attention is shown by the fact that out of a potential labour force (i.e. population aged between 15-59 years numbering 146,429, only

about 50,000 persons are employed in the modern sector in the District. Whereas some people from the District are employed outside, it is difficult to conceive a situation where more people than those employed in it would be employed outside the District, even after making allowance for those who may be in education institutions.

1:1:3 The problem of poor farm management attracted the writer during the two-year period 1972-74 when the author worked as a Physical Planning Officer in the Rift Valley Province. In 1974, the writer together with other members of the Provincial Planning Committee visited farms in the Province where former European farms had been bought by companies and co-operative societies in order to acquaint themselves with the problem. Although the Committee did not make final recommendations on this matter, their work has contributed to the Ministry of Agriculture's commissioning of a team of experts to study the problem and make recommendations to the Government.

1:1:4 One general observation in the District has been that there is a general correlation between the managed farms and the creation of job opportunities on farms. Where a farm is well managed, it is observed that relatively more labour units have been employed, the converse has also been observed. This is beside the high income returns

of well managed farms when compared with poorly managed farms.

1:1:5 The purpose of this study therefore is to examine how the present situation has come about and to suggest a framework within which measures can be taken not only to ensure that agricultural land is put into full use, but also to ensure that more employment opportunities are generated in the District. The study will attempt to indicate the major factors which in the past have influenced the course of development in the District since some of them are likely to exert some degree of influence on future patterns of development. The aim of such an exercise is to identify the factors which have had positive influences on development with a view to making proposals on how these might be reinforced while at the same time indicating factors which have had negative influences and which must be controlled and ultimately eliminated.

1:1:6 In this study, the general working assumption has been that the large settlements established in the District during the colonial period have had little positive impact on the general development of Nakuru District

The settlements that were established had the sole aim of exploiting the local resources for the British industries and for providing markets for the British manufacturers. The towns that were

established along the railway line were convenient raw material collecting centres and distribution centres for British manufactured goods. Others were established as administrative centres from which the rule of law could be spread to their hinterlands. Consequently, most of the centres were not planned as centres of employment for the local population whose services were required on the farms than in the towns.

1:1:7 The first important limitation to this study has been a general lack of information on the interaction of the settlements and their hinterland. This problem was aggravated by the fact that no household survey has been conducted in Nakuru District. Such a survey would have provided useful information on the income characteristics of the population. It has therefore been difficult to quantify accurately the impact of the small settlements. This should not however be taken to mean that data was available for the larger settlements. Some information was available but could not be used to measure the impact of settlements on employment generation or on the use of local resources, issues which are the central concern of this study.

1:1:8 In order to obtain information on the impact of settlements on the District's economy, two questionnaires were drawn up, one for the working

population, the other for students. The administration of the questionnaire for the working population presented some problems. In the first place, there were considerable delays in receiving completed questionnaires but in the end 75 per cent of them were returned. In the second place, there was a general lack of basic information such as investments in the District. This made it very difficult to get the full picture.

1:1:9 An elaboration of some terms used in this study is necessary. Those requiring clarification are: human settlements, environment, and impact.

Human settlements: The word is used to refer to built up locations in space designated for various activities of man. A settlement in this context may be a farm-house, a road and other structures from which or where people provide for themselves the necessities of life. It is also taken to stand for trading centres from the local centres to the urban centres.

Individual settlements and centres below the level of rural centres are treated in the unity of block areas such as the administrative divisions. This is necessary because in the absence of data on settlements of this level, generalisations can only be made for blocks of areas.

Although the District has a whole range of settlements from the isolated farm-house to

designated growth centres, this study examines in some detail rural and urban centres located along the trunk road and railway system of the District.

Environment: Although this word is taken to denote the sum total of physical and social phenomena at a given moment of time, which influence or result from man's activities in a given area, in this study, attention will only be paid to the impact of settlements on the physical phenomena.

Impact: This word is used to refer to the chain of events set in motion by the establishment of settlements in the District.

1:2:1 Design of the study:

This study falls into four parts. The first part deals with the bio-geographical background information to the District. This part examines aspects of the geology, physical features, soils, climate, vegetation and ecological zones of the District.

1:2:2 The second part looks at the development of settlements in the District. It examines the factors which have influenced the establishment of settlements in this area. The first section deals with the evolution of settlements in the District and attempts to assess their impact on the general development of the District as well as their impact on the environment. The second section examines the post-independence development of settlements in

the District. This section examines the factors which have influenced the pattern of settlements that has emerged. An attempt is made to assess the impact of these settlements on the development of Nakuru District. The section closes with a look at the impact of these settlements on the environment.

1:2:3 The third part deals with the larger settlements of the District i.e. the designated growth centres. It starts with a general statement of the planned role of these centres in the development of the District. An attempt is made to assess the present role of the larger settlements i.e. the rural and urban centres in employment and the use of the resources in their immediate hinterlands. This part of the study also examines the inter-relationships between various settlements. This part will close with an examination of the role of Nakuru Town in the development of the District.

1:2:4 The final part of the study aims at synthesising the findings of the study in relation to the two problems looked at in this study. This part examines the practical measures that could be taken to ensure rational management of the resources and the likely effects of these measures on employment. The chapter closes with a set of recommendations on what is considered the most effective strategy for the development of the District.

1:3:0 Data for this study has come from three main sources. These are: Government publications, questionnaires, interviews with officers working in the District and personal observations.

1:3:1 Government publications:

These have provided very useful materials used in this study. Of special value have been publications by the Ministry of Finance and Planning, those by the Ministry of Agriculture and those by the Ministry of Lands and Settlement. Most reports by these Ministries have sections devoted to Nakuru District. The main problem here, besides those of lack of data, has been boundary changes in the past. For example, parts of a District previously known as Naivasha are now included within the present boundaries of Nakuru District. This makes it almost impossible to be precise in establishing trends. The southern boundary which marked the southern extent of the former scheduled areas has remained constant and has in some cases been used in delimiting the northern boundaries of the District especially where it was necessary to extract information from maps prepared in the earlier period. This procedure could not however be used where the spatial distribution of phenomena was not illustrated by means of maps.

1:3:2 A few non-Governmental publications have provided useful information on the historical development of settlements in the District.

1:3:3 Questionnaire:

The second main source of information was three sets of questionnaire. The first questionnaire was designed for students in the schools located in rural and urban centres along the trunk road and rail route. As it happens, all the rural and urban centres of Nakuru District except Mau Narok are located along this trunk route. The students' questionnaire was administered to form three pupils in Naivasha, Gilgil, Nakuru, Njoro, Elburgon and Molo townships. As there is no secondary school at Mau Narok, no questionnaire was administered at that centre. The form three class was selected on the basis that they had been longer in the school. Unlike the form four students, they had more time to themselves. Besides, as the schools' use the same criteria for selecting students, it was felt that any one class would be representative of the school population.

A second questionnaire was designed for the working population. The questionnaire was originally intended for employees of the large industries in Nakuru Town. The questionnaire was also completed by teachers in Menengai and Njoro High Schools. It was however only possible to interview employees of Nakuru Blankets Industry and the Pyrethrum Processing Industry.

The third questionnaire was designed for the management of the large industries in Nakuru. It was

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quite difficult for the management to assess accurately the district origin of their employees or the market of their finished products. Nevertheless, it was possible to get useful information from Nakuru Blankets Industry, Pyrethrum Processing Industry and from Londra Ltd. These first two industries employ over 360 employees each while the third one employs 140 persons.

The final questionnaire was designed for Government Ministries in Nakuru District. The questionnaire was sent to the Provincial Water Officer, the District Agricultural Officer, and to the Game Warden in charge of the South West Division. These questionnaires were supplemented with discussions with these officers. Discussions with other officers working in the District were quite useful in eliciting information on various aspects of development in the District.

1:3:4 Finally, observations in the District which are recorded in photographs have supplemented the information.

1:4:0 There has been little work done in Kenya on assessing the impact of settlements in the development of specific areas. However, there have been useful studies particularly by the Ministry of Works on the impact of roads in the development of various areas. The Ministry of Finance and Planning has also been engaged in

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various feasibility studies which also try to assess the impacts of various projects on the economy. However, this study is different from most of these studies in that it attempts to assess the cycle of events set in motion by groups of projects and human activities in various centres of one administrative unit - Nakuru District.

NOTES

1. The Fourth Kenya National Development Plan 1979-1982

2. Nakuru District Development Plan 1974-1978 P.5

3. The term designated growth centre refers to a hierarchy of centres in the District ranging from local centres, market centres, rural centres, and urban centres into which public bodies and private investors are encouraged to locate development projects, infrastructure, and services in order to make it economical to provide basic facilities to the people.

4. The questionnaires used in the study are appended to this report.

5. At the Nakuru Blankets Industry, the management was most co-operative. Besides advising on the best way of getting as representative a sample as possible, they also released their employees to complete the questionnaire in the management office in groups of five. The management suggested that the author could distribute the questionnaires to all the section heads who would distribute them to employees under their charge and release them in groups of five. With the help of the Personnel Officer, the first group completed their questionnaires.

At the Pyrethrum Processing Factory, the management suggested the same procedure of distributing

the questionnaires to various sections, except that it was not possible to get employees complete the questionnaires during office hours. Employees took them home. Unlike the first case, it was not possible to get completed questionnaires easily. Out of 78 questionnaires distributed, 50 were eventually returned. At Nakuru Blankets, all the questionnaires were completed and returned.

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## CHAPTER II

### BACKGROUND INFORMATION

2:0:0 Regional setting:

2:0:1 Nakuru District is located between 35° 27' and 35° 35' east of longitude and 0° south and 0° 13' north. The location of the District in relation to the rest of the country is shown in figure 1.

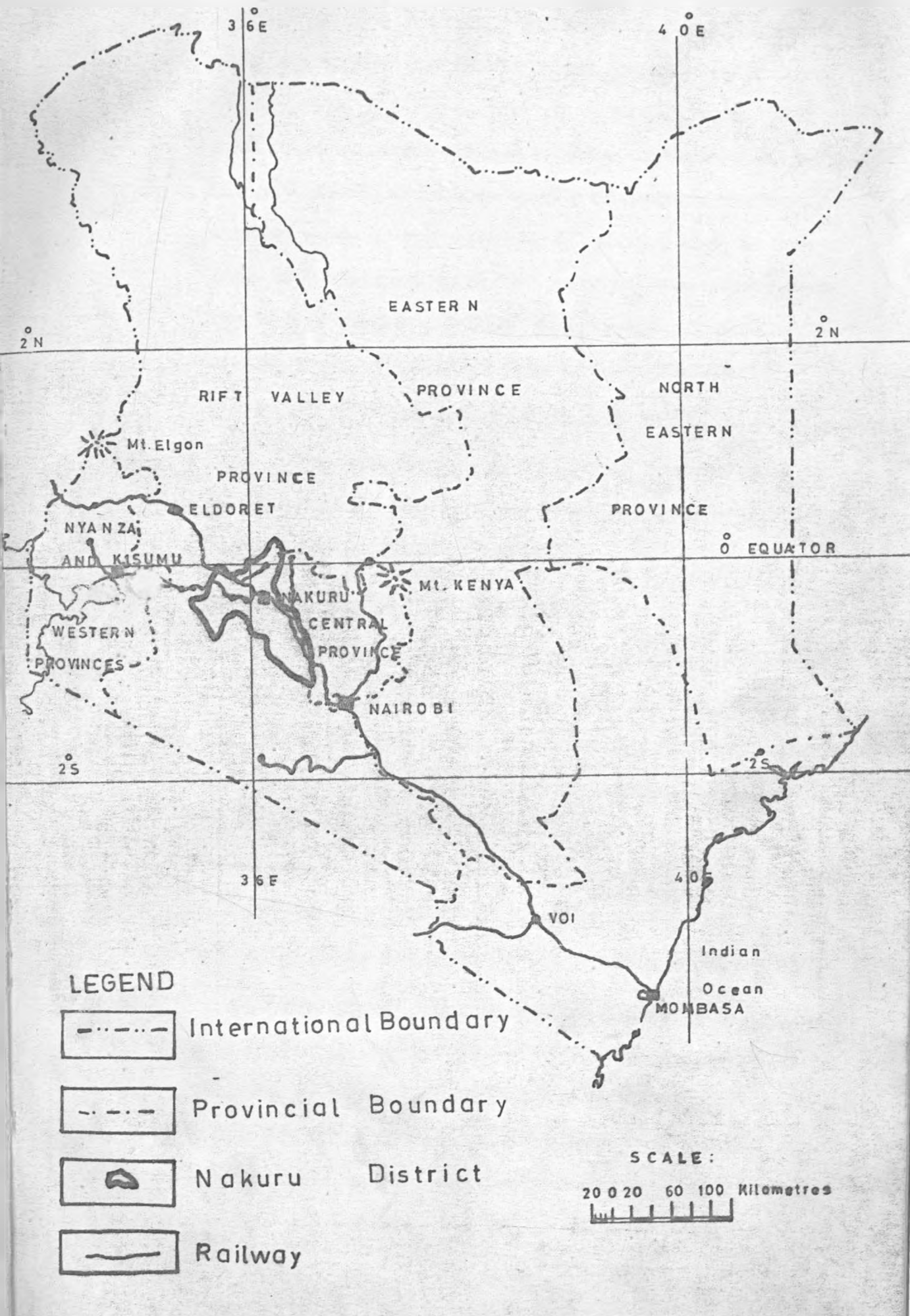
2:0:2 Historically, the District lies in the famous "White Highlands", an area which until 1960 was reserved for European farming. The District is characterised by large-scale farming which is a common feature of the former scheduled areas. The distinguishing feature of the District from the other former scheduled areas is the dominance of mixed farming.

2:0:3 Geologically, the District falls within the Great Rift Valley: a trough stretching southwards from the vicinity of the Red Sea in the north to the area around Beira in Mozambique. This geological setting has greatly influenced the land forms associated with the Rift Valley region of Kenya.

2:0:4 In Kenya's economy, the District has been the chief supplier of high quality livestock products as well as other agricultural products which make an important contribution to the national economy.

2:0:5 The District is linked well with the National

# FIG·1 LOCATION OF NAKURU DISTRICT



Transportation System. The main National Trunk road A 104 linking Nairobi and Kampala as well as other towns in Kenya, and the Kenya-Uganda railway pass through the principal towns of Nakuru District. Air transport and other means of communications including an earth satellite located near Longonot link the District with the rest of the country and the wider world. At the local level, Nakuru District is linked with all her neighbouring districts through a system of all weather roads.

2:0:6 The attraction of the world famous flamingoes of Lake Nakuru have made Nakuru a partner of the Western Kenya tourist circuit.

2:1:0 Geology and physical features:

The geology and the physiographical features of the District have been greatly influenced by the tectonic activities associated with the evolution of the Rift Valley. It is postulated that the first continental surface, planed by the erosion cycle which moulded the sub-miocene erosion surface, was warped down prior to the first eruptions, along a zone corresponding with the present Rift Valley.

2:1:1 The first eruptions were the Samburu series of basalt and picrite lava flows together with showers of pumice. These were in part erupted from swams of dykes which can be recognised at the present day and in part from central sources. Some ponding in the Rift Valley at this time resulted

in localised deposits of lake beds, largely comprissing of graded pumice tuffs and diatomites.

2:1:3 This earliest eruptive series was followed by major faulting in the north of the area. The total vertical displacement of these earlier faults is represented by dissected scarps some of which reach a height of up to 1371 m. in the Lake Hannington area. Here, in the north, the Rift Valley was initiated by this faulting which resulted in a trough fifty miles wide which averages 1218 m. in depth. In the south, this first series of faults may have been absent.

2:1:4 A second series of eruptions followed this faulting after a long erosion interval. These second series of eruptions, the Turasha, Kwaibus and Goitumet basalts, appear to have been initiated by basalt eruptions. The basalts in the north-east of the area consist of cinder cones marking old vents and numerous successive lava flows.

2:1:5 These basalts were followed by phonolites and trachyte eruptions from centres in Menengai, Sirrkon, near Kariandusi, and from fissure sources away from the volcanic centres. The eruptions included pumice tuffs, lavas and ignimbrites (i.e. massive lava sheets of welded tuff with coarse fragmented, laminar and lenticular texture) all of which appear to have been erupted from both central volcanoes and dispersed fissure sources.

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2:1:6 There was again considerable ponding in the earlier depressions in the Rift Valley zone which had the definite form of a Rift Valley in the north. These volcanic rocks and the associated sediments believed to be of pleistocene age occupy the whole of the 50 miles width of the Rift Valley in Nakuru District.

2:1:7 Following these eruptions, extensive faulting, preserved in scarps much less dissected than those of the first major episode, roughed out the Rift Valley as we know it today. The floor of the Rift Valley was relatively displaced at least 1067 m. to the east of Menengai. In the north, this second major faulting produced only a single 609 m. scarp flanking Lake Hannington on the east.

2:1:8 After these fault movements, basalt lavas succeeded by trachytes and phonolites were erupted in a small area in Nakuru and Elmentaita basins. These appear to have been fissure erupted as no central source is visible. These basalt lavas are intercalated with succession of lake sediments.

2:1:9 These movements were followed-up by the third major faulting episode which originated closely spaced 'grids' in which the numerous faults, preserved in abrupt cliff scarps have displacements of a few hundred metres; but tend to cancel one another out in horsts and grabben structure. The total displacement in the faulting

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was rather small compared with the two previous major episodes.

2:1:10 The grid-faulting tends to be concentrated in the basins and to die out the volcanic massifs of Menengai and Eburru. In the Nakuru basin, the displacement produced may be as much as 305 m., but this strong development is only local. The Caldera of Menengai could be a reflection of this faulting on the circular volcanic pile of Menengai. This grid-faulting renewing movements produced a low-faced scarp at the floor of the Bahati escarpment at Mbaruk and this low-faced scarp clearly demonstrates the insignificance of these movements as compared with the second major episode.

2:1:11 After this last major movement, there was minor vulcanicity at Elmentaita as and in Menengai. There are lacustrine sediments which include thick diatomite beds of middle pleistocene age at Kariandusi and Soyosambu in the Elmentaita basin. Later, lake beds, fluviatile, and terrestrial deposits with tuff occur in the Nakuru, Elmentaita and Solai basins. All these deposits are probably related to pluvial conditions in the upper pleistocene period.

2:1:12 The malian beds, deltaic or estuarine silts of epipleistocene age are restricted to the Nakuru basin, but similar formations are also seen in the Baringo-Hannington area to the north of the District.

2:2:0 Physical features:

The amazing topography of this area owes its diversity to the tectonic and volcanic disturbances which have dislocated the peneplained surfaces of the African shield forming separate ridges and troughs, tending for the most part to assume a N - S - orientation and piling up great masses of volcanic rock on these structures. The result is a complex serrated topography. There are two basic land surfaces in the District. These are the highland masses forming the shoulders of the Rift Valley and the Rift Valley floor.

2:2:1 The highland masses:

These are confined to the eastern and western boundaries of the District. The eastern shoulders of the Rift Valley are dominated by the Kikuyu escarpment. This plateau, which is deeply incised by tributaries of the Turasha river rises to 2440 metres above sea level. The rocks forming the plateau are down faulted to form a series of steps through which rivers have carved deep valleys. The Kikuyu plateau which is the result of fault displacement comprises three tiers of steps which rise to 2608 metres.

The western wall of the Rift Valley is dominated by the Mau escarpment. Here, the volcanic ashes and tuffs reach a height of 3050 metres. The escarpment is linked to the volcanic pile of Eburru

which rises to 2706 metres above sea level. The whole escarpment is deeply dissected by streams which drain the area. The divides separating drainage into lakes Victoria, Nakuru and Natron are very sharp. Headwater incision of river Siyabei tributaries is actively running down the escarpment from the south west where valleys ranging from 92-122 metres in depth are common.

2:2:2 The Rift Valley floor:

The volcanic activity has also left its mark on the Rift Valley floor. There are numerous volcanic cones and hills which dot the Valley floor. The notable cones are Mt. Longonot rising to 2776 metres, Mt. Suswa 2357 metres and the Menengai Crater which rises to 2278 metres. The majestic nature of Mt. Longonot is shown in the photograph below.

To the south of Menengai Crater is Lake Nakuru which lies at an altitude of 1758 m. above sea level in a grabben between the Lion Hill volcano standing at 2097 m. and the Mau escarpment to the west. To the east of the Lion Hill, is Lake Elmentaita situated in a complex trough at an altitude of 1776 m. This trough is bounded to the north by the southern end of the Bahati escarpment separating it from the northern end of the Lake Naivasha basin in which Gilgil Township lies. The Elmentaita basin is bounded to the south by the volcanic pile of Eburru. Between Eburru and Elmentaita are some basalt cones and very recent lava flows which form 'pock-marked' rocky areas known as the Elmentaita badlands. These and other cones on the valley floor break the monotony in the landscape.

To the south of Lake Naivasha is Hell's Gate (Njorowa gorge) which is said to have been formed by an overflow channel from Lake Naivasha during the pluvial period. The gorge's steep walls expose stratified deposits which together with stream jets create an impressive topography. However, plugs and dykes in the middle of the gorge hinder through passage down the gorge. This gorge together with the scenic attractions of Lake Naivasha and the surrounding areas are important recreational areas.

Elsewhere, the valley floor is characterised by rolling plateaux. The most extensive one extends northwards from the Njoro-Elburgon road through Rongai and into Baringo District. From Rongai, the plateau extends to Subukia before the land begins to rise to form the Bahati escarpment. A much smaller plateau extends from Longonot westwards through

Naivasha to Gilgil and Elmentaita. These physiographic features are shown in figure 2. (See page 27).

2:3:0 Drainage:

The drainage of the District like that of the Rift Valley region is internal centring around the Rift Valley Lakes. Five drainage areas are identified.

2:3:1 Drainage into Lake Solai:

The rivers entering the Solai drainage area come from the Solai escarpment and from the Bahati forest. Further south, the streams flow from the scarp and disappear underground near Miltons Sidings. There are several hot springs along the foot of the escarpment near Solai station. Most of the surface streams around this area are liable to dry up in times of drought. The Tindaress and Watkins streams are however fairly reliable.

2:3:2 Drainage into Ol Punyatta Swamp:

The Olobonaita stream, a permanent stream flows off the Solai escarpment, draining highground in the Bahati forest further to the east. It tapers considerably before it reaches the Ol Punyatta Swamp - a flat pan with a flood spill channel into the Rongai-Molo drainage system of the Baringo basin.

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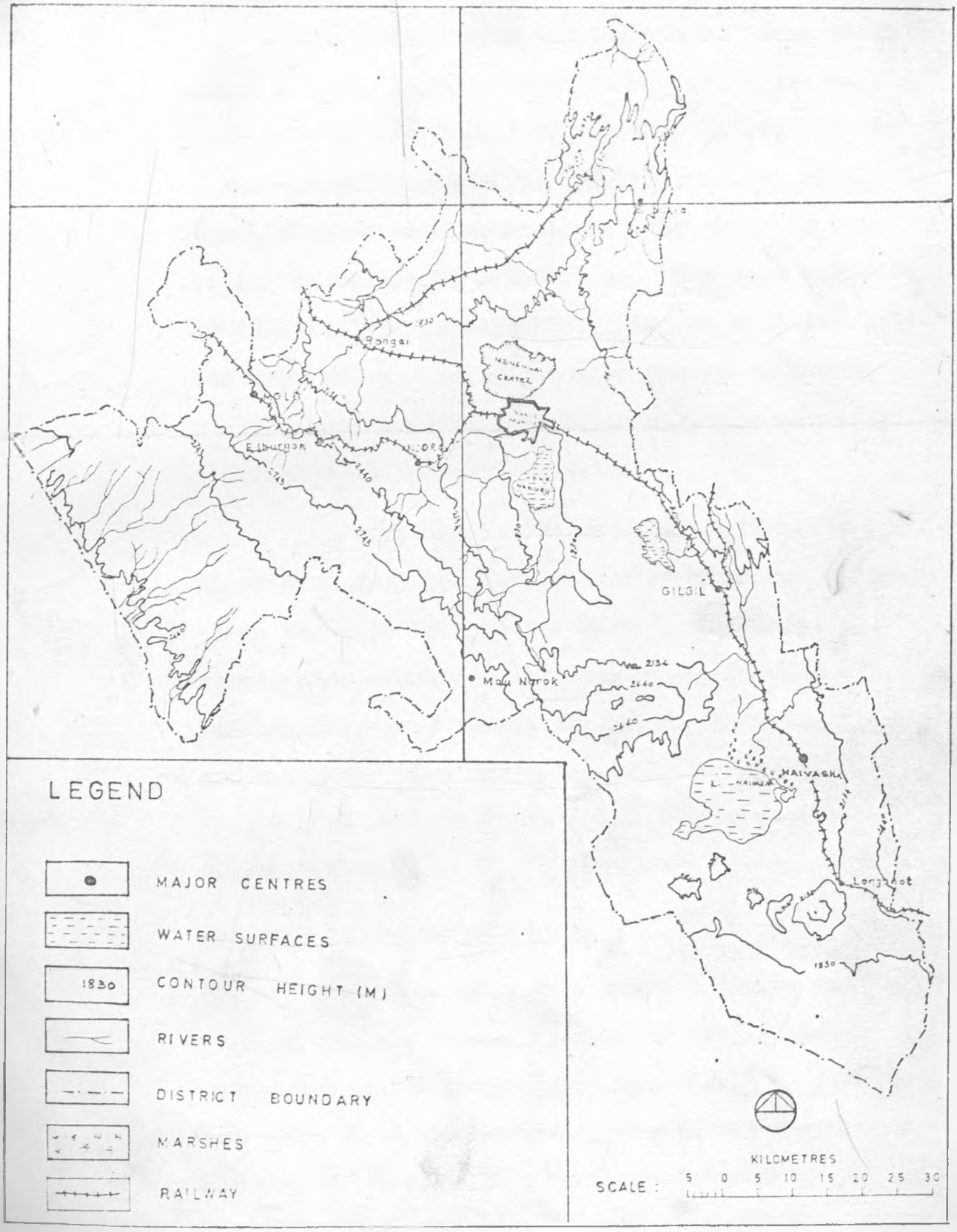
FIG.2 NAKURU DISTRICT: MAJOR RELIEF FEATURES.



2:3:3 Drainage into Lake Nakuru:

Lake Nakuru is a shallow pan of water which never fills a depth of more than a few metres. The lake is a little deeper at the "hippopools" at the north eastern corner allowing the survival of a small hippopotamus population. The water is very saline due to rapid evaporation. The lake consists of this shallow pan of water lying on salt impregnated clay which retains a coarse porous sediments a water body under a low artesian head completely distinct from the surface water.

The lake pan is recharged by rainfall and increments from the surface drainage in wet weather while the underlying water body is recharged by groundwater accruing from losses underground of surface streams - Njoro, Larmudiac, Makalia, Nderit and Ngosur - which drain the Mau escarpment. These rivers lose much of their water in porous or fissure zones.

2:3:4 Drainage into Lake Elmentaita:

Lake Elmentaita is a shallow saline pan similar to Lake Nakuru floored by rather coarse salt-impregnated sedimentary material. It receives its water from the Mereroni, Mbaruk and Kariandusi streams which flow from the Bahati escarpment. It is also fed from water tables below. Like other rivers on the rift floor, the rivers taper off shoving a considerable decrement shoving loss underground.

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2:3:5 Drainage into Lake Naivasha:

Lake Naivasha standing at an altitude of 1884 m., is fed by rivers draining the Kinangop Plateau. The Malewa drains the eastern highland mass. The river plunges down the Sattima escarpment through a magnificent steep walled gorge with walls nearly 305 m. high at Malewa Ndogo gorge. The river turns south and cuts another gorge - the lower Malewa gorge along a fault line to the confluence with the Turasha river just south of the Malewa Water Scheme intake. It follows a - U - shaped course flowing northwards from the Kinangop plateau before joining the southward flowing Malewa. Like the Malewa river, the Turasha and its tributaries have excavated deep steep valleys in the flat topped tuff plateau. The steep walled incisions of these river valleys appear to be due to the sudden lowering of the base level in the Rift Valley consequent on major fault movements.

2:4:0 Soils:

The distribution of soils in the District is shown in figure 3. (See page 30) On the whole, the soils of the District are suitable for agriculture except in a few localised areas. Eight soil groups have been identified.

2:4:1 Group 1 soils:

These soils are deep, slightly acid to

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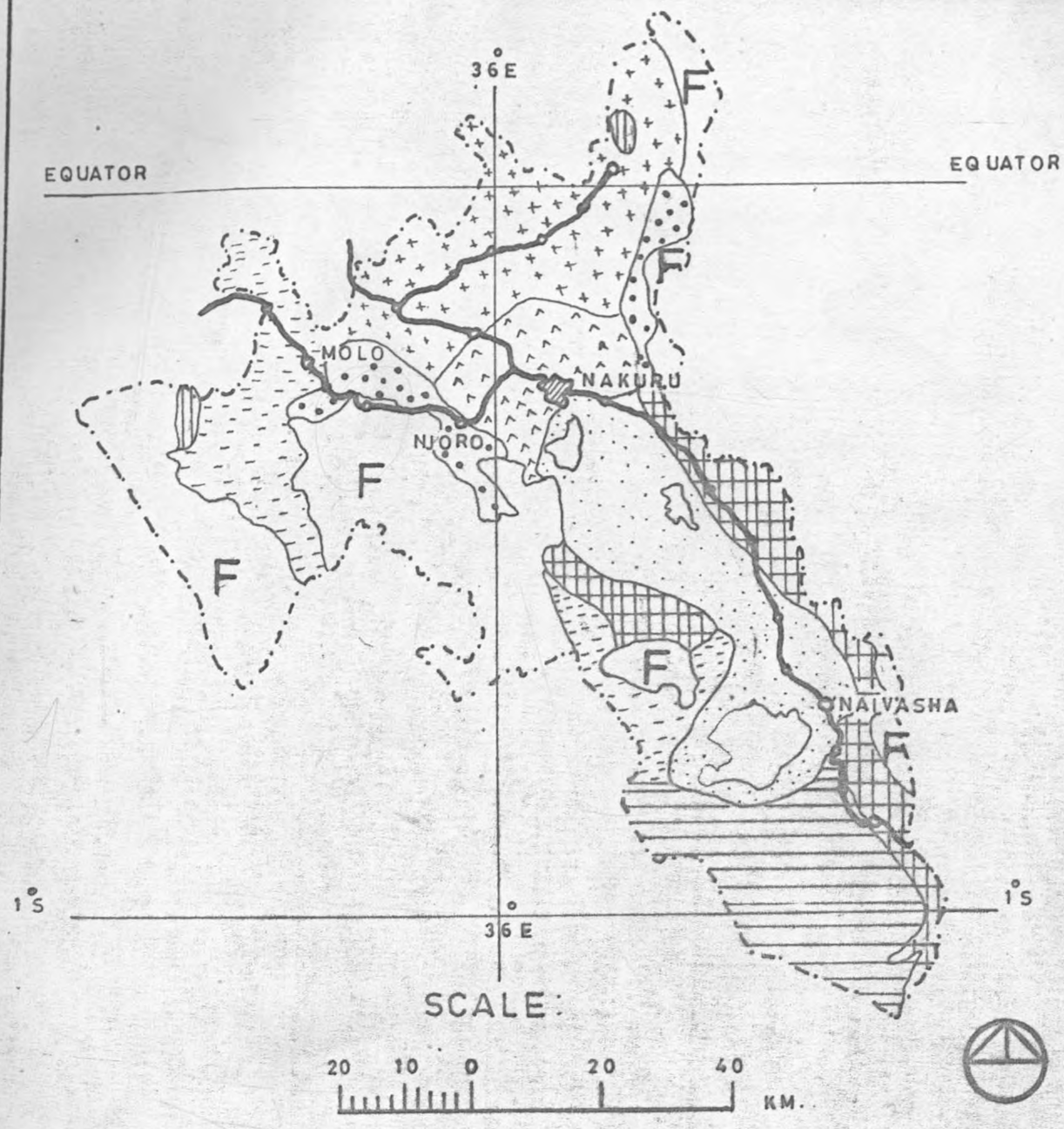
# FIG·3 MAIN SOIL GROPS AND THEIR USE




MAJOR LAND USE: Dairy ranching. Others beef & sheep ranching & fodder.

" : Dairy farming, cereals, pyrethrum, coffee.

" : Fine grained cereals, pyrethrum, sheep, dairy farming.

" : Cereals, mixed farming, sisal, coffee, pyrethrum.

" : Maize, dairy farming, fodder crops.

" : Beef, dairy & sheep ranching.

" : Extensive dairy farming, wheat & essential oils.

" : Extensive grazing, cereals

" : Forests

Source: L. G. TROUP REPORT 1953

alkaline (pH 6.4–8.5 with localised areas up to 10.5) clay loams found on lacustrine plains round the lakes in the floor of the Rift Valley. Rainfall which is between 510 - 760 mm, limits crop potential except in favoured areas where irrigation is possible. In some locations, the alkalinity of the soil is so great as to render it infertile. The pains in which these lacustrine soils are found are broken in parts by boulder-strewn lava flows and volcanic outcrops carrying shallow stony bush-covered soils. The main land uses are:

| | |
|---|---|
| Major land-use: | Dairy ranching |
| Secondary: | Beef and sheep ranching |
| Minor: | Fodder (particularly lucern production) |

2:4:2 Group 2 soils:

Group 2 soils comprise very deep dark-red to red, well structured, acid (pH 5.6 - 6.4) loams with dark red or chocolate topsoils derived from deeply weathered rocks and are found generally on ancient forest-clad hillsides under rainfall between 835 - 1140 mm. These soils have very large nutrient reserves and provided care is taken of their water-absorption powers and they are protected from water erosion, they have a high fertility and are able to withstand prolonged intensive cropping; they respond well to organic dressings as mulch or manure, but have high phosphate-fixation

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powers.

Crop production, particularly wheat production on this soil is limited by topography, due to the relative scarcity of flat land and the steepness of the slopes on which the soil occurs.

| | |
|---|---|
| Major land-use: | Coffee, sisal, farming, cereals. |
| Secondary: | Pyrethrum. |
| Minor: | Fruit, flowers, vegetables. |

2:4:3 Group 3 soils:

Above 2439 m., where rainfall is between 1015 - 1140 mm., there are extensive upland areas of smooth relief with deep-yellow orange-brown, yellowish-brown and brown phosphate deficient loams over orangered and black mottling (but no hard pellets) below 62 cm. These soils are derived in situ from gray-white tuff and conglomerate on hill crests and gentle slopes and from creep material in the lower slopes towards the river channels. On steeper upper slopes there is a reddish-brown topsoil over a shallow orange-red subsoil with less mottling and on the summits of the hills the soil is markedly red. The lowermost slopes often have slightly impeded drainage with seepage water in the subsoil and a high runoff on the surface; such areas need cut-off drains if they are to be cultivated. The soil has high phosphate fixation powers and residual effects from phosphate applications are small. Once the natural ground

cover is broken, the soil, particularly on steeper slopes, is susceptible to severe gully erosion.

Major land-use: Fine-grained cereals; dairy farming, pyrethrum

Secondary: Wattle.

Minor: Peas, maize.

2:4:4 Group 4 soils:

Group 4 comprises well-drained reddish-brown, brown and grey-brown sandy loams to loams slightly phosphate deficient over a slightly reddish-brown and brown subsoil often with a range of textural differences in the profile. Though the parent material is mainly fine ash and pumice, the soils have been reassorted and contain considerable admixtures of water borne deposits. These soils occur in undulating country.

Major land-use: Cereals, mixed-farming, sisal.

Secondary: Coffee, pyrethrum.

Minor: Citrus.

2:4:5 Soil Group 5:

This soil group comprises a group of brown to dark-brown loams, whose surface soil becomes more orange under prolonged cultivation. The soils are mainly derived from dark tuff, pumice and ash. This group is of very recent origin and the profiles of its soils are built of layers of volcanic ejectate which have largely retained their original textures. The occurrence of this soil group is

believed to coincide with the occurrence of a wasting disease in stock known as Nakuruitis, for control of which inclusion of cobalt in stock-lick is essential. The soil carries good crop of maize (1½ tons per acre being obtainable); optimum yields being secured when phosphates are given; fine grain cereals, on the other hand, do poorly and react adversely to dressings of phosphate. The reason for this peculiar behaviour of fine grained cereals is suspected to be due to a trace element imbalance in which copper deficiency is indicated.

Major land-use: Maize; dairy farming.

Secondary: Fodder crops.

2:4:6 Soil Group 6:

This soil group is found in the bed of the rift between 1829 and 2134 m. where rainfall is between 510 - 635 mm. The soil occurs around Mt. Longonot where there are gently sloping plains on recently deposited deep coarse-textured ash soils rising to high rock outcrops around the mountain crater.

Major land-use: Beef; dairy and sheep ranching.

Secondary: Sisal.

2:4:7 Soil Group 7:

The occurrence of this soil group is limited

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to areas between 1829 - 2134 m. under a rainfall of 1270 mm. on fairly steep slopes. The soil is characterised by a reddish-brown to dark-brown to chocolate brown crumbly loam which is usually shallow over greyish phonolite but which on shelves, hill tops and valley bottoms may develop a good depth of moderately acid (pH 5.8 6.5) loam with adequate phosphate reserves.

Major land-use: Extensive dairy farming.

Secondary: Wheat, essential oils, pyrethrum.

2:4:8 Soil Group 8:

The last soil group is found on the eastern and parts of the western wall of the Rift Valley. These soils vary from place to place. Below the Kinangop plateau, they resemble siliceous brownish-grey silt loams of seasonally water logged soils of parts of the highland region. In the much dissected country north of Gilgil, they are dark-brown, nearly neutral, chemically rich clay loams over lighter coloured zones of calcareous accumulations. Within the limits permitted by local rainfall (about 760 mm.) such soils are used for wheat growing. Escarpment side soils of agricultural value are found only in shelves and pockets.

Major land-use: Extensive grazing.

Secondary: Cereals, pyrethrum.

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1:5:0 Climate:

The climate of the District is greatly influenced by the relief. Both the temperatures and the rainfall reflect the contrasting conditions between the Rift Valley floor and the valley shoulders. The distribution of rainfall and the climate of a few selected towns is shown in Figure 4. (See page 37)

1:5:1 Temperatures:

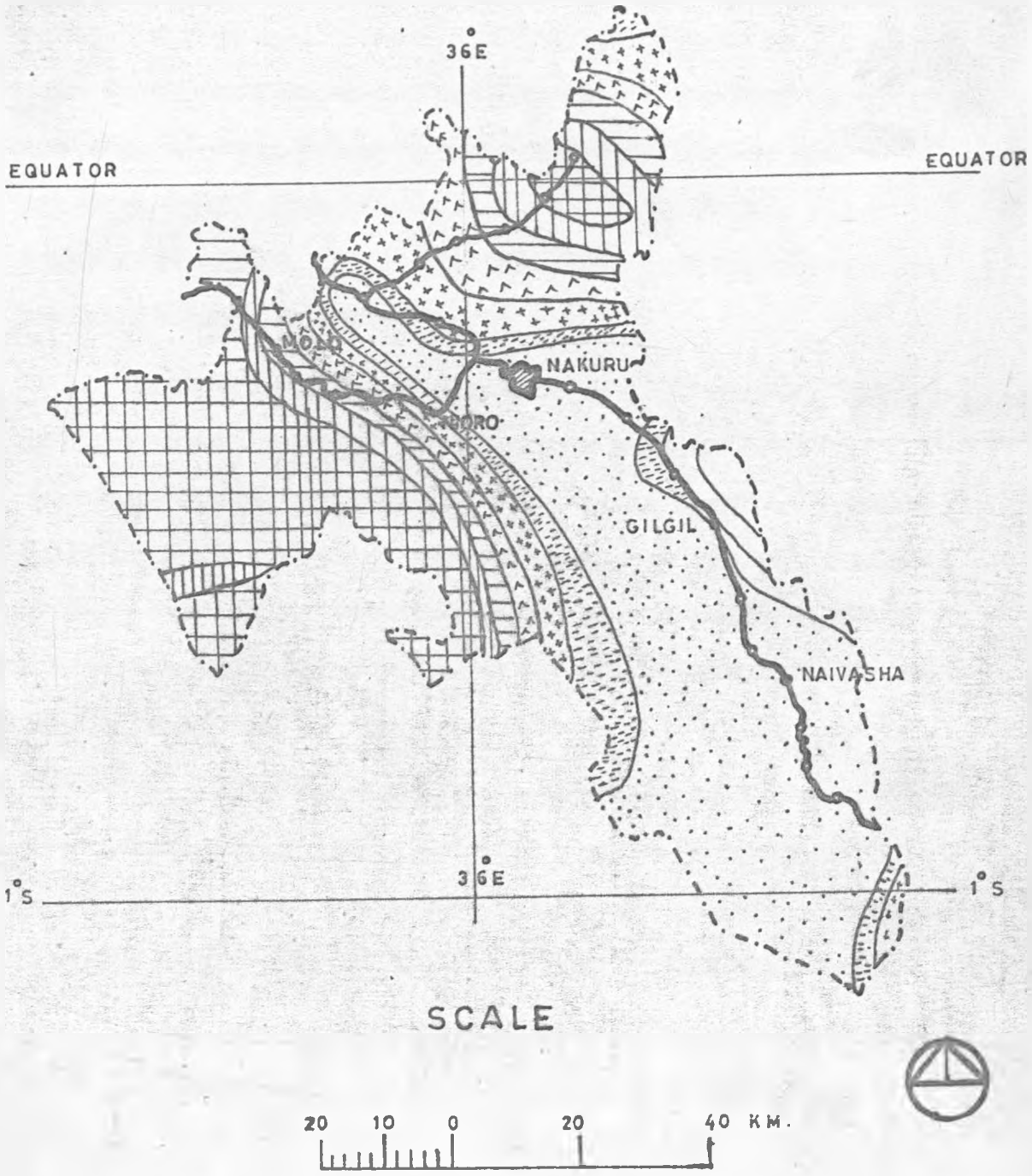
The relief of the District has had a great influence on the temperatures of the District. The valley floor is quite hot. The uplands of the shoulders are quite cool with temperatures approaching freezing point on the Mau and Kikuyu escarpments at night particularly during the cool season.

In the valley floor, maximum temperatures are between 26°c - 30°c. On the Mau and Kikuyu escarpments however, maximum temperatures are only 18°c. The minimum temperatures show the same trend being 10°c - 14°c on the valley floor and 6°c - 10°c over higher grounds on the shoulders of the Rift Valley.

1:5:2 Rainfall:

Rainfall distribution follows the physiographical regions. On the valley floor, there is little rainfall being as low as 510 mm. while on the higher grounds, totals of over 1270 mm. p.a.

# FIG.4 ANNUAL RAINFALL




LEGEND:

- 30% OR MORE (where rainfall is likely to be below 30" for at least 6 out of 20 years)
- 25 - 30 %
- 20 - 25 %
- 15 - 20 %
- 10 - 15 %
- 5 - 10 %
- 5% OR LESS (where the rainfall is reliably 30 or more)

Source: L. G. TROUP REPORT 1953

are recorded.

There is a marked seasonality in the annual distribution of rainfall. To the south of Nakuru town, the rain falls between March and May with a maximum in April. Another rainfall season occurs between October and December with another peak in November. To the north of Nakuru town, rain falls between March and September with maxima in May and August.

Nakuru town at an altitude of 1850 metres, situated at the central part of the District receives 862 mm. per annum, with maxima in the months of April - May and again in July - August. The highest rainfall is recorded in the month of May when 100 mm. may be received. The driest month is January when rainfall totals for the month may be as low as 25 mm., or lower.

The rainfall increases westwards towards the Mau escarpment and in other elevated parts of the District. As can be observed the distribution of rainfall corresponds with the relief map of the District. (Figure 2).

The 1015 - 1525 mm. isohyets roughly corresponds with the 1829 - 2439 m. land mass. The 760 - 1015 mm. isohyets follow the 1524 - 1829 m. contours. Those areas which receive under 760 mm. are those that are generally in the rain shadow of the rain-bearing winds which deposit much of their moisture on the Kikuyu escarpment. The Mau escarpment and the highland masses directly in the path of the easterly winds receive much rainfall.

1:1:0 Vegetation and ecological zones:

There are two broad vegetation types in the District which correspond with the two physiographic regions. These are the highland grassland and highland forest covering the Rift Valley shoulders and the scattered tree grassland and open grassland (Acacia Themeda) occupying the Rift Valley floor. However, a much useful indicator of the District's agricultural potential is the ecological potential which has been determined by taking into account the rainfall, soils, vegetation and animal life as well as the altitude. There exists a close relationship between altitude and the rainfall received which is often reflected by the plant life and which in turn supports various forms of animal life. Three ecological zones have been identified in the District.

1:6:1 Highland forest - Grassland zone:

This zone is found on escarpments and on mountains at altitudes of 1672 - 2745 m. and higher elevations. The zone is found on the Mau and Kikuyu escarpments. The characteristic trees are podos, cedars and camphors found mainly in forest reserves. The characteristic grasses are Kikuyu grass at higher altitudes and star grass at lower elevations. Indications are that the Kikuyu grass

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and star grass zones were once either a forest of Acacia - Abyssinia - Vernomia - Hyperrhenia - Cymbaria associations or a mixed evergreen forest. The Kikuyu grass zone lies typically between 1672 - 2674 metres. At higher altitudes, there are large areas of bracken and glades of grazing land dominated by Kikuyu grass.

Within the star grass zone, various species of star grasses grow forming excellent pasture for livestock. The star grasses are gradually replaced by guinea grass (panicum maximum) and hyperrhenia species on the lower fringe which marks the lower limit of the zone. The chief management problem of the area is the prevention of the spread of mediocre-coarse grasses dominated by wire grass both in the main community and in the transitional belt. In the transitional belt, periodic burning of herbage generally checks the advance of coarse grasses while promoting the dominance of the useful red oat grass (Themeda triandra).

This zone is suitable for forestry, or intensive agriculture including pyrethrum, coffee, dairy farming and tea at higher altitudes. The natural grasses under intensive management can support one stock unit per 1½ hectares depending on the grass species.

1:6:2 Combretum hyparrhenia: (Scattered tree grasslands)

Much of what has been said regarding the above zone applies here except that this zone has

less rainfall and experiences higher temperatures. The dominant trees are combretum, ballhinia, erythrina and terminalia species. The dominant grass is hyperrhenia. Other grasses are sword grass (Imperata cylindrica) and in certain places red oat grass which is not characteristic of this zone. The zone merges with the Acacia themeda zone discussed below.

The agricultural potential is high, soil and topography permitting with emphasis on ley farming. Under close management the stock carrying capacity is at least two hectares per stock unit.

1:6:3 Acacia themeda zone:

This is a sub-type of scattered tree grasslands which is essentially an association of the oleleshwa shrubs and species of star grass. The zone covers much of the Rift Valley floor particularly around the lake beds. In this zone, the constituent plant communities are very much influenced by fires and impended drainage. The dominant grass is the red oat grass and the common star grasses. The zone is potentially productive rangeland where one stock unit requires about four hectares.

The distribution of the ecological zones in the District is shown in Figure 5. (See page 42)

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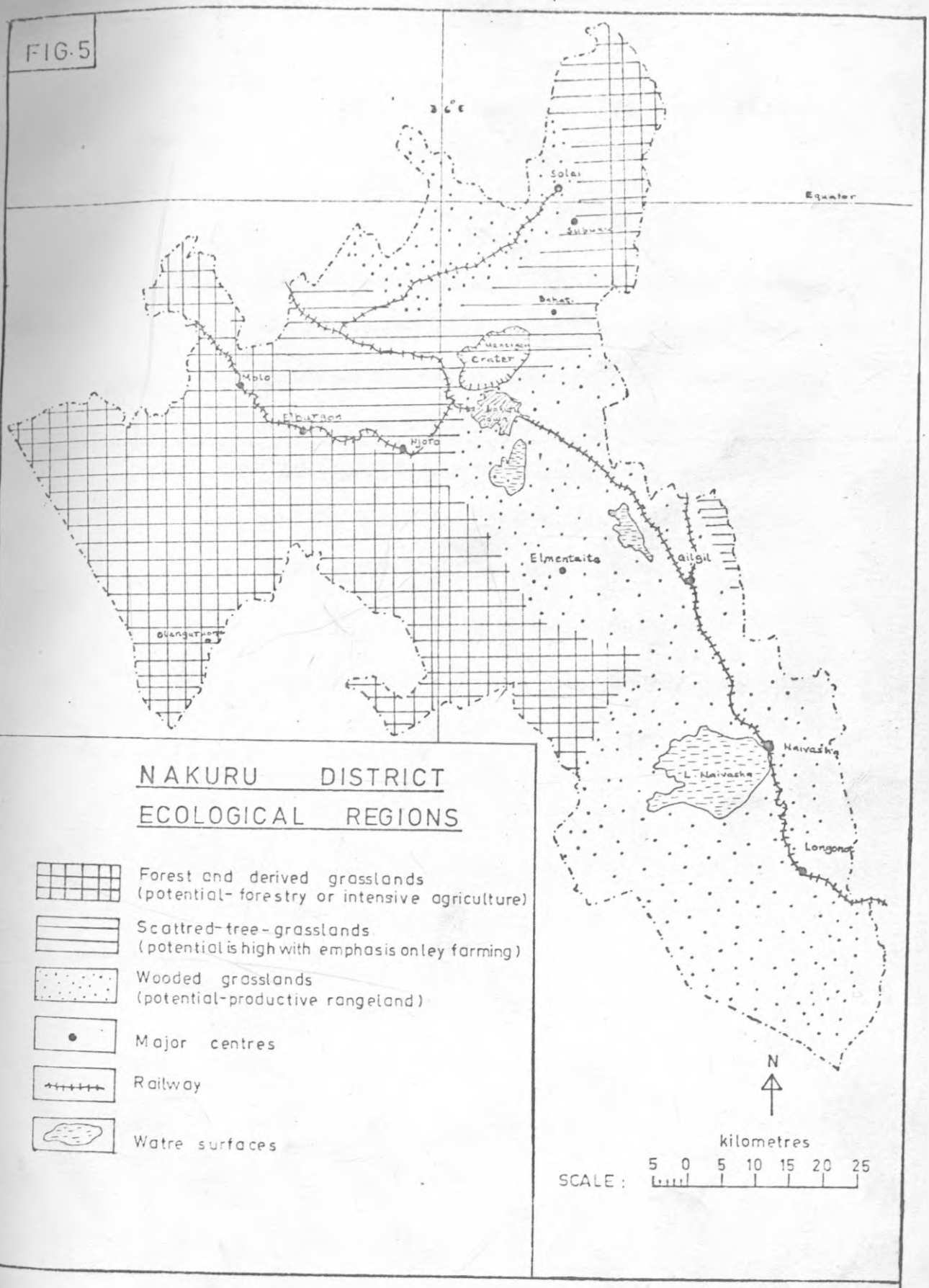
FIG.5




## NAKURU DISTRICT
## ECOLOGICAL REGIONS

- Forest and derived grasslands (potential- forestry or intensive agriculture)
- Scattred-tree-grasslands (potential is high with emphasis on ley farming)
- Wooded grasslands (potential-productive rangeland)
- Major centres
- Railway
- Watre surfaces

## REFERENCES

1. Geology of the Nakuru - Thomson's Falls Lake Hannington Area

G.J.H. McCall, 1967

2. Report on inquiry into the General Economy of farming in the highlands having regard to capital invested and long-and short-term financial commitments, whether secured or unsecured; excluding farming enterprises solely concerned with the production of sisal, wattle, tea and coffee.

L.G. Troup, 1953

3. National Atlas of Kenya 3rd Edition 1970

## CHAPTER III

## SETTLEMENTS IN NAKURU DISTRICT

3:0 There are two basic types of settlements in Nakuru District i.e. the dispersed settlements comprising in the main, the rural homesteads and the nucleated settlements consisting mainly of the designated growth centres. The rate at which these types of settlements have grown has been influenced by two factors. These are population and the resources of the District.

3:1:0 Population:

A discussion on settlements must start with a re-examination of population characteristics, because settlements are a reflection of man's interaction with his environment. According to the population census of 1948, Nakuru District had 208,192 persons, settled on an area of 4,468 sq. miles giving a population density of 47 persons per sq. mile. In 1962, the population had risen to 237,395 persons living on an area of 2456 sq, miles thereby giving a population density of 97 persons per sq. mile. By 1969, the population stood at 290,853 persons settled on an area of 2730 sq. miles giving a population density of 104 persons per sq. mile. It is evident therefore that with every passing decade, the population of the District has increased quite rapidly.

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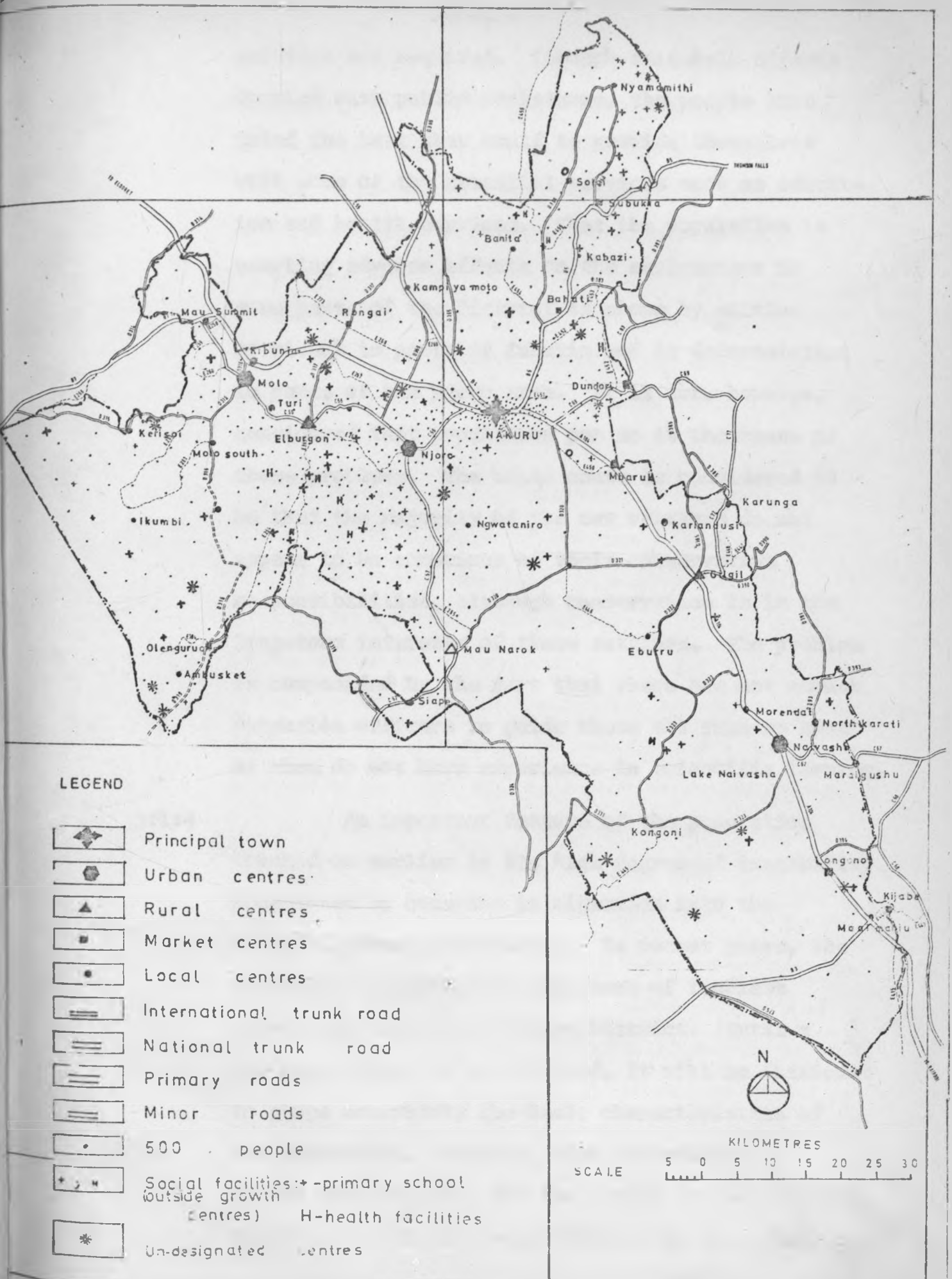
3:1:1 According to estimates of the Ministry of Finance and Planning, the population will grow from 290,853 to 435,000 persons between 1969 and 1980.[1] Estimates of the Physical Planning Department of the Ministry of Lands and Settlement indicate that the population will have risen to 727,500 persons by the year 2000 A.D.[2] Indications are that immigration into the District will probably continue into the early 1980's as there are still some farms on which further resettlement is planned, but it is likely that the population will be much more stable by the late 1980's as it is likely that the population will have taken root in the District. At present, population mobility in the District is quite high.

3:1:2 The spatial distribution of the population corresponds with the occurrence of the good agricultural land. Population is concentrated in the high potential agricultural areas, and around the townships. A corridor of low population concentration stretches from south of Lake Nakuru to the eastern boundary of the District. This area roughly corresponds with the 510 mm. isohyet. The distribution of population is shown in figure 6. (See page 46)

3:1:3 The population exerts an increasing demand on the resources as well as on the services most of which were provided for a smaller population. With the influx of people into the District more

FIG.6 POPULATION AND GROWTH CENTRES DISTRIBUTION




LEGEND

- Principal town
- Urban centres
- Rural centres
- Market centres
- Local centres
- International trunk road
- National trunk road
- Primary roads
- Minor roads
- 500 people
- Social facilities: +-primary school (outside growth centres) H-health facilities
- Un-designated centres

services are required. Through self-help efforts coupled with public assistance, the people have tried the best they could to provide themselves with some of the essential services such as education and health services. That the population is exerting adverse effects on the environment in some parts of the District is shown by silting of rivers in parts of Subukia and in deforestation in parts of the Njoro area. It is not, however, considered that population per se is the cause of these problems. The basic cause is considered to be that the majority of the new settlers do not appear to be conscious of their conservation responsibilities, although conservation is in the long-term interests of these settlers. The problem is compounded by the fact that there are not enough extension officers to guide these new farmers most of whom do not have experience in scientific farming.

3:1:4 An important feature of the population touched on earlier is its high degree of instability occasioned by constant in migration into the District after independence. In recent years, the Government resettlement programme of landless people has centred on Nakuru District. Until a new equilibrium is established, it will be difficult to gauge accurately the basic characteristics of the population. However, such information is needed when planning for the people in the District. Interview conducted among students in the urban

and rural centres indicated that about 50% of them had moved once from one centre in the District to another, 33% had moved twice; 16% had moved three times; 3% had moved four times while about 1% had moved five times within the District. Even if it is assumed that up to two movements could be related to the pursuit of education involving the students only, the rest or about 20% could be due to the guardians' movement from one centre to another within the District.

3:1:5 According to an analysis of the 1962 population movements in Kenya by Professor Ominde,[3] the Rift Valley Province emerged as the most important destination of the migrating population of Kenya. It accounted for approximately 44% of a total population of 604,700 persons distributed between various destinations throughout the country. The Provincial sources of the Rift Valley stream were dominated by the Central Province which contributed 48.24% of the total while the Nyanza Province contributed 43.58% only 8.18% came from the other Provinces.

3:1:6 The distribution of the incoming population within the Rift Valley underlie the importance of Nakuru District which received 44% of the total Rift Valley population stream. The allocation of the remainder showed the importance of Laikipia District which took 12.3%; Naivasha District 13.3%; Trans Nzoia 14.8% and Uasin Gishu 11.7%.

3:1:7 The 'African' Districts within the Rift Valley

attracted a very small part of the flow. Nandi District attracted 1.6%; Baringo District 1.0%; Elgeyo Marakwet District 0.6% and West Pokot District 0.6%. This distribution followed the expected pattern that the migrating population would select to go where economic opportunities were greatest. It also brought out the emphasised contrast between the former African Districts and those which formerly were within the 'White Highlands' of Kenya. The Age-Sex pyramid showed that the movement into Nakuru was dominated by the male group in the 15 - 54 years of age and the 15 - 44 years of age bracket for females. The Age-sex structure of the population in 1962 and 1969 is summarised in figure 7.at appendix 4.

3:1:8 The other characteristic of the population is that it is very youthful. According to the 1969 population census, out of a population of 290,853 persons, 144,424 or just about 50% were children. It is also observed that only 23,123 persons or 8% of the population were above 50 years of age. Such a youthful population requires a lot of investments in basic services.

3:1:9 A final feature of the population that merits consideration is that 85,587 persons above 14 years of age or about 58.6% of the adult population had only nursery school education or no formal education at all. At the other end of the scale, only 9,918 persons had secondary education. With the Presidential decree of 1974 which committed the Government to

providing free four-year primary school education for all the children in Kenya, there will be significant improvements at the lower end of the education scale in future.

3:2:0 Resources:

The District's economy is based on agriculture. There are no major minerals except for diatomite, mined near Gilgil. Other mineral deposits are too small to justify economic exploitation. The only other significant resource is forest. A few of the larger settlements discussed in this report have large industries based on forest products. The most important is Elburgon where 853 persons were employed in the timber industry in 1976.

3:2:1 There are indications that geothermal energy resources around Hell's Gate could be important in future. Of growing importance are activities related to tourist attraction centred on the bird life especially the flamingoes of Lake Nakuru, and the scenic beauty of the Longonot-Naivasha recreation area. The District Development Committee has recommended that Hell's Gate L. Elmentaita, Mt. Longonot and Maai Mahiu areas be acquired and gazetted as National Parks or Game Reserves because of their high potential for tourist development.

3:2:2 However, the most important resource, besides the human resources discussed above, is the rich agricultural land. The development of agriculture

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in the District reflects farming trends in the former 'White Highlands'. The categories of land in the District and their potential are discussed in the following sections.

3:2:3 The various categories of land in the District are presented in table III:1

TABLE III:I CATEGORIES AND SIZES OF LAND IN NAKURU DISTRICT AS AT 31/12/1974

| LAND CATEGORY | SIZE SQ. KILOMETRES |
|---|---|
| Forest Reserve | 1277 |
| Government Reserve | 54 |
| Townships | 120 |
| Alienated land | 4833 |
| Unalienated land | 196 |
| National Park | 32 |
| Open water | 176 |
| Freehold land | 402 |
| Trust land | 130 |
| TOTAL | 7220 |

SOURCE: Table 5 on pages 4 and 5 of Statistical Abstract 1975

3:2:4 The available agricultural land has further been subdivided according to its potential for agriculture. This has been divided into three categories according to the amount of rainfall received. The high potential area is defined as land receiving an annual rainfall of 857.5 mm. or more; medium

potential land is defined as land receiving 735 - 857.5 mm. of rainfalls while low potential land is defined as that land receiving an annual rainfall of 612.5 mm. or less. According to this classification, agricultural land in the District is distributed as follows:

TABLE III:II AGRICULTURAL LAND POTENTIAL

| | | |
|---|---|---|
| (a) High potential land | 291,000 | hectares |
| (b) Medium potential land | 39,000 | " |
| (c) Low potential land | 231,000 | " |
| SUB-TOTAL | 561,000 | " |
| (d) All other land | 141,000 | " |
| TOTAL LAND AREA | 702,000 | " |

SOURCE: Table 76 Page 103
Statistical Abstract 1975

3:2:5 Using information from the Ministry of Agriculture, the Physical Planning Department has prepared an agricultural potential map for Kenya. The figure II map was prepared using rainfall figures as well as information on soils. According to the Department's analysis, five categories of agricultural land were identified in the District delimited as follows:

TABLE III: III CLASSIFICATION OF AGRICULTURAL LAND IN NAKURU DISTRICT

| | |
|---|---|
| Category I | Well drained soils, receiving more than 40" per year. The principal cash crops are tea, pyrethrum and barley while dairying is also favourable. |
| Category II | Medium quality soils: More than 40" per year. Crops grown include maize, sisal, coffee, and pulses. Cattle can be kept. |
| Category III | Medium quality soils with 30" - 40" per annum. Crops include maize, wheat and oil seed. Dairying and beef ranching are important. |
| Category IV | Good or medium quality soils with 20" - 30" per annum. Lack of water is the only constraint otherwise cereals and ranching are possible. |
| Category V | Poor soils and excessive steep slopes. Rainfall is more than 20" per annum. The poor soil development is the major constraint. |

This information is summarised in the table below:

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TABLE III: IV CATEGORIES AND AREAS OF AGRICULTURAL LAND

| Land category | Area in sq. kilometres |
|---|---|
| I | 1000 |
| II | 370 |
| III | 1150 |
| IV | 1090 |
| V | 2020 |
| TOTAL | 5630 |

SOURCE: Notes on the agricultural potential Map Department of Urban and Rural Physical Planning

3:2:6 According to estimates by the Ministry of Agriculture with a proper land, capital, labour and entrepreneurial the net returns from the various categories of land would be as shown below:

TABLE III: V NET RETURNS FROM VARIOUS CATEGORIES OF LAND, AT 1972 PRICES

| | | | |
|---|---|---|---|
| Category I | £ 100 | per hectare | per annum |
| Category II | £ 50 | " | " |
| Category III | £ 15 | " | " |
| Category IV | £ 0.5 | " | " |
| Category V | £ 0.1 | " | " |

The potential output value of agricultural land in Nakuru would be as presented below:

| Land category | Potential Gross income |
|---|---|
| I | £ 10,000,000 |
| II | £ 185,000 |
| III | £ 1,825,000 |
| IV | £ 545,000 |
| V | £ 2,020 |
| TOTAL 563,000 hectares | £ 12,557,020 |

SOURCE: Notes on agricultural potential Map Department of Urban and Rural Physical Planning, at 1972 prices

3:2:7 The role of agriculture in the economy of the District can also be appreciated when it is realised that over 75% of the District's population lives and works in the rural areas engaged in agricultural production, in terms of employment, agriculture accounts, for over 50% of wage employment in the modern sector. This aspect will be dealt with at length in chapter four.

3:3:0 Origin of settlements:

3:3:1 The interplay of physical and biological factors in the District has resulted in an environment with a wide scope for human habitation. To the primeval Dorobo, the rich plant and animal life provided unlimited opportunities for hunting and gathering. To the Masai pastoralists, the extensive grasslands of the Rift Valley floor provided sufficient pasture for their livestock.

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3:3:2 The only forms of settlements that existed then were the temporary huts which the Masai constructed whenever they encamped for pasture. As soon as any area showed signs of exhaustion, or whenever disease struck, they moved away. This mode of life depended on nature's own way of maintaining ecological balances between the resources and the demands made upon them by man and his stock.

3:3:3 This state of affairs changed after 1897. In that year, Lord Delamere set foot on the Kenya highlands during his expedition from Berbera on the gulf of Aden to Eldama Ravine, now in Baringo District which lies to the north of Nakuru District. Lord Delamere saw the Kenya highlands "as a country of great latent wealth only waiting for development; a friendly and temperate patch of Africa where a white man could feel alive and invigorated and could keep healthy; an empty land under-populated everywhere and uninhabited altogether; a place, in short, of fine possibilities - but possibilities that could only be realised by large-scale development." [4] This idea of development animated Lord Delamere during the rest of his life. It was however through the efforts of Sir Charles Eliot, the then Commissioner of the East African Protectorate from 1901 to 1904 that this idea of development was translated into Government policy.

3:3:4 European settlement on the Kenya highlands had first been advocated in print in 1893 by Lord Lugard

who considered that the Mau escarpment was the best place to make a start. "This area is uninhabited (he wrote) and of great extent, it consequently offers unlimited room for the location of agricultural settlements or stock raising farms. Here, if anywhere, in Central Africa, in my opinion, would be the site upon which to attempt the experiment of European settlements. The soil is extremely rich and covered with an excellent and luxuriant pasture throughout the year with which is mixed white clover and trefoil. I think it not impossible that a fruit export, such as has so successfully been developed in New Zealand and California might prove one of the industries of the future settlers.... The speciality of this District would, I think, be the establishment of ranches and cattle runs on rolling savanna of rich pasture. Stock rearing and sheep farming would be suitable employment for European settlers."[5]

3:3:5 When Lord Delamere returned to the Kenya highlands in 1899, reports from missionaries and explorers had encouraged white settlers to venture into the East African highlands. Here was good soil, adequate rainfall, a healthy climate, unoccupied land - all prerequisites of settlement. Here was a new corner of the earth where men of enterprise might find opportunity, new spaces into which Britain's still rising population might overflow, and new markets which might be developed for her industries.

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3:3:6 The first step in the promotion of white settlement was the re-organisation of the administration of East Africa. The British Government had by 1901 built 580 expensive miles of railway line and every train that ran along it did so at a heavy loss. Somehow or other, the railway had got to be made to pay. The British taxpayer could not go on making good the loss for ever. Once the railway had arrived, it was obvious that the uninhabited country through which it passed would somehow be filled up and utilised. Good land could not be left fallow for ever when a £ 9500 a mile line passed through it.

3:3:7 To Sir Charles Eliot, the only hope for this territory "was to fill up the empty dead spaces along the railway line with settlers who would turn the fertile but now wasted soil to useful account; who would grow crops for the railway to carry out and buy machinery and other goods for it to carry in. Settlers must somehow be found, attracted, encouraged and started off. East Africa could be transformed from a liability into an asset only if the Government could succeed in getting a thriving white population established to add to the wealth still wanted and was prepared to pay for; to feed the railway; to buy goods from Britain's factories; to provide the outlet of employment for the surplus energies of the young tribesmen whose only occupation of fighting and raiding were barred from them by the spread of

law and order; to start the wheels of trade by employing natives and so circulating among them money with which they could buy imported goods and pay hut tax; to bring capital into the country....in short to build by their own efforts a self-supporting colony".[6]

3:3:8 In order to attract settlers, two measures were taken. In 1902, the Crown Ordinance Act was passed. This Act provided that land could be sold by the Crown on freehold tenure and a number of freeholds were in fact made. Leases were also granted for 99 years upon payment of premiums and an annual rent. Under the Crown Ordinance of 1915, agricultural land was leased by the Crown for 999 years with provision for further revision of rents on certain specific dates and thereafter every 30 years.

3:3:9 With the backing of this Act, Sir Charles Eliot requested Lord Delamere to avertise the country abroad. In 1904, Lord Delamere wrote to a Mr. Jackson in London sending him some notices of the grants of 640 acres of land in this country. The Commissioner had guaranteed him fifty lots of 640 acres so that he could help in getting some settlers. He advised Mr. Jackson that the most beautiful country imaginable, with enormous trees, evergreen grasses and clovers, perennial streams everywhere and a temperate climate. The country could grow anything he said and that to his mind, it is a chance

in a thousand for a man with little money. Mr. Jackson held meetings all over Cheshire and Lancashire and spoke on prospects for settlers. About 200 settlers came out as a result of his efforts.[7]

3:3:10 A development that had great influence in the development of white settlements in Kenya was the railway. Commenting on the importance of the railway, Sir Edward Grigg, Governor of Kenya between 1925-1930, considered that Kenya was not conquered by force of arms. It was conquered by one of the greatest forces of modern civilisation. It was conquered by a railway. According to him, the railway had brought settlers and the British form of Government on its track.[8]

3:3:11 Along this railway line, settlers established centres which later developed into the present towns of Nakuru District. From these centres settlers obtained goods from the outside world; through them, they exported their produce to the markets outside the country.

When the railway was finished, the Indians who had come to provide labour for the construction of the railway declined to accept repatriation. Some of them were settled around Kibos in the Nyanza Province and started growing sugar. Most of the remainder became petty traders, filling a gap in the economic structure of the country by opening dukas in every embryonic township and trading

cheap blankets and trinkets to the natives; but draining money steadily out of the country to India.[9]

3:4:0 <u>The impact of the early settlements on the economy of Nakuru District:</u>

3:4:1 Information of the early settlements has been difficult to come by. However, some insight into the impact of the early settlements is provided by writers during the early years of this century. It is clear from these writings that the early settlements had in some instances quite adverse effects on the environment which no doubt had some influences on the economic path that the District has continued to follow. For instance, the possibility of developing tourist industry based on wildlife was closed after most of the larger animal species in the District were eliminated by the early settlers.

3:4:2 Some of the developments during the early period such as the introduction of scientific livestock, husbandry and cash crops such as wheat, maize and plantation crops have persisted to this day. In the early years of this century, Lord Delamere and the other settlers introduced these crops by trial and error until they finally succeeded in controlling the diseases that threatened farming in the District. By 1920, Nakuru District had 14,086 acres under maize and 13,142 acres under wheat respectively. The trend has somewhat

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changed since that time so that today, the acreage under wheat stands at 75,550 acres (1973) while acreage under maize has dropped to 26,325 acres (1973). This is largely due to the shift in emphasis from the Maize Monoculture of the 1930's to Mixed Farming which has since become the mainstay of the District's economy and the specialisation in maize production by Trans Nzoia and Uasin Gishu Districts. With increasing resettlement, however, increasing acreage is being put under maize for subsistence.

3:4:3 Another development that has persisted since the early days of settlement is the orientation of production for the export market. As early as 1908, a consignment of wood from Kenya was sold on the London Market at the 1908 September sales and was favourably reported on. Today, most of the wood produced in the District is largely for export. This aspect is discussed in chapter four.

3:4:4 The early settlements triggered off, migration of young and enterprising Africans from the 'Native Reserves' to the scheduled areas in search for employment. Through various means ranging from inducements to coercion, young Africans were made to work on European farms to earn money with which to pay hut tax. Some studies conducted after independence have indicated that migration of young, able bodied persons from the

former 'African Areas'. However, other studies have indicated that the results are not completely negative as people sent money to relatives in their home districts. Some of the findings of this study discussed in chapter four support these observations.

3:5:0 The establishment of new settlements in the District brought more land under cultivation. This section looks at the impact of these settlements on the environment.

3:5:1 When Lord Delamere arrived in Nakuru District, he established a ranch near Njoro. Behind his ranch, the Mau escarpment rose to over 10,000'. From the summit of one ridge, one could look down on the tree tops from above and see two shades of colour - sea deep of cedars and spring green of olives splashed with the racing shadows of clouds merging into a restless pattern of a leafy ocean. From the windows of his huts one could see slow moving and impact herds of zebras, gazelles, and hartebeests, mingling with awkward striding ostriches and occasionally a placid rhino, ruminating beneath a thorn tree on the flat plain. Wildlife posed a serious threat to farming but it is difficult to understand why nearly all of them had to be eliminated. A conservation conscious settler community could have considered means of controlling wildlife movements thereby conserving them for posterity at the same time eliminating wildlife threat to farming. Writing about Lord Delamere's experiences, Elspeth Huxley

had this to say: Delamere's major problem was to keep wild game such as zebra and antelope out of his crops fencing. But the more agile antelope could jump five foot fences and the zebra continually broke them down by sheer weight of their numbers. Enormous herds still roamed these open plains and ignored the studiest fences. "Fields of ripening wheat vanished before them like the dew before the sun. So much damage spelt the doom of the zebra. Tens of thousands were slaughtered and in the next years, Kongoni, Eland, Giraffe, Wildbeest and Gazelles also paid the price for incoveniencing mankind."[10] Today, except for a few giraffes occasionally seen near Maai Mahiu along the Nairobi-Nakuru road, one rarely sees other big game in the District.

3:5:2 Writing about the destruction of big game by the early settlers, William T. Hornaday says: We may safely assume that all lands well suited to agriculture, mining and grazing will become populated by gun bearing men, with the usual result to the wild mammals and birds. Into the fine grasslands of East Africa suitable for crops and stock grazing, settlers are steadily going. Each one is armed and at one becomes a killer of big game. And all the time, the visiting sportsmen are increasing in numbers going further from the Uganda railway, and persistently seeking out the rarest and finest of the game. The buffalo has recovered from the slaughter of rinderpest only in time to meet the onset of overseas sportsmen.

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In British East Africa, each hunter may kill under licence costing only $ 250, a total of 300 large hoofed animals representing 44 species. Add to this, all the leopards, cheetahs, cape hunting dogs and hyenas that the hunter can kill and it will be enough to stock a zoological garden.[11]

3:5:3 The settlers had to deal with droughts and torrential rains. Since most of them had no experience of farming in the tropics, they adopted the square fields with which they were familiar from home. They also stuck to the dead straight furrow which was the sign of a first class ploughman in England. When the rains came, heavy downpours carried much silt blocking farm roads and forming deltas at the bottoms of fields. However, during the next years efforts were made to protect the soil. This led to the establishment of a soil conservation service within the Department of Agriculture by the end of 1937.

3:5:4 The early settlements introduced the local people to the monetary economy. An important factor affecting change was the introduction of a cash economy. The need was created for money. The acquisition of money often meant a departure from home. It meant a journey to the European farms. This caused disruption of tribal society. Some of the men were no longer at home to perform specific tasks which were their traditional functions. Women were left without husbands for long periods and the

men when they returned home had acquired a new independence and a disregard for the traditional ways.[12]

3:5:5 The African was of necessity a cultivator or a pastoralist or both. His agriculture implied temporary use of land and proprietary rights in land as a saleable asset were unknown to him. Working as a labourer on the European farm, the African came into contact with a static system of farming as opposed to shifting cultivation, furthermore he saw that land itself was bought and sold. At the same time, agricultural instructors were teaching a system of land-use which enabled a man to stay at one place instead of moving his dwelling house as the soil became exhausted. All these had an effect particularly where contact with European farms was close or where agricultural staff was concentrated. Traditional forms of farming were gradually changed in many area of Kipsigis country and Kikuyu land. More permanent homes were built, farm buildings began to appear and in some cases land was enclosed. This enclosure itself affected many communal aspects of rural society such as communal grazing cattle or uncultivated land.

3:5:6 Trends in settlements development and farming systems remained unchanged until after the 1952 Mau Mau uprising which forced Britain to pay attention to the development of African areas. That Britain did not conceive any change in these trends is shown

by her renewed pledge given in October 1954 to the effect that European settlement would continue in Kenya. This statement coming after the worst of the Mau Mau problems had passed, created a renewed surge of confidence and an increase in private investment in the scheduled areas. However, this surge of interest was short lived.

3:5:7 The political interest which had led to the Mau Mau uprising continued. Nothing short of political independence would appease the African population as they conceived that after independence they would have access to land and other economic opportunities hithertofore reserved for white settlers.

3:6:0 Post-independence period:

3:6:1 Although Kenya attained independence in 1963, the events considered in this section stretch from about 1960 to 1973. The developments which have taken place in all the former scheduled areas were triggered by the Order in Council in 1960, which ended the result of reservation of the Kenya highlands for European settlement. This action facilitated the acquisition of land in the Kenya highlands by all races. In the same year, the state of emergency in Kenya was officially ended, followed by agreement on constitutional talks of Kenya's independence.

3:6:2 These agreements, together with the lifting of a ban on political meetings coupled with the release of political detainees, opened the doors for more urgent calls for freedom. It is this upsurge of

political activities which on the one hand raised the fears of the settlers and raised the hopes of the African people that they would regain possession of their stolen lands.

3:6:3 With the specific intention of relieving the political tension that had been built up on account of land shortage in many parts of the African reserves, the Kenya Government approached the British Government for financial assistance to buy some of the European farms in order to settle people from the crowded districts. In addition to relieving land pressure, settlement schemes would be started of land from European to African ownerships with little or no drop in productivity. In 1961, the Government entered into financial negotiations with the British Government, the International Bank for Reconstruction and Development (IBRD) and the Commonwealth Development Corporation (CDC), to undertake a land resettlement programme. As a result of these negotiations, it was decided to settle 1800 assisted owner families designed to earn individual farmers a net income of £250 per annum or more and 6000 smallholders designed to earn a net income of £100 after meeting subsistence and all loan repayments. It is significant to note that this second figure was the target income proposed by the Swynnerton Plan in 1954 for prosective farmers in the African Reserves.[13] It was intended that the farmers who had benefited from

land consolidation and agricultural advice under the Swynnerton Plan should benefit from resettlements.

3:6:4 The two types of farmers were to be settled on an initial 180,000 acres of former European mixed farming lands, on what are generally referred to as low density schemes.

3:6:5 During the second constitutional talks in 1962, it had become clear that investments by Europeans as shown in the table III:VII below, had virtually stopped and would be unlikely to be resumed until a stable and independent Government emerged. It was also clear that land hunger was still a root cause of political instability and that the economy still dependent on European farming might collapse.

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TABLE III:VII

CAPITAL EXPENDITURE ON EUROPEAN FARMS 1960-1973

| YEAR | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K£ 000 | 5,588 | 4,880 | 3,854 | 2,955 | 3,355 | 4,072 | 4,358 | 4,942 | 4,635.1 | 5,309.8 | 5,265.1 | 5,882.8 | 6,197.3 | 6,825.6 |



SOURCE: Table 94 P. 127, Statistical Abstract 1975

N.B. Investments reached the 1960's level ten years later in 1971

3:6:6 In order to avert such an eventuality, the Kenya Government and the British Government agreed to embark on the "Million Acre Settlement Scheme" which allowed the purchase of 200,000 acres a year on a five-year period of European mixed farming for resettlement. This was a high density scheme where farms were designed with net incomes of £ 25, £ 40 or £ 70.[14] As the farm budgets indicate, the density of population was much higher and the average farm size lower. This scheme, together with the previous low density scheme was designed to settle 33,000 families on one million acres of land, over a five-year period. The chief aim was socio-political. It was intended that the transfer of one million acres of land from European settlers to Africans would satisfy the demands for land and thereby contribute to political stability of the country. Between 1962-1969, a large number of farms were settled each year. By mid 1969, all the low density schemes had been established while the Million Acre Scheme had also been virtually completed. The performance of the resettlement programme up to 1969 is shown in the table below. These figures cover the whole country.

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TABLE III:VIII

LAND RESETTLEMENT PROGRAMME IN KENYA 1968*

| TYPE OF SCHEME | NO OF SCHEMES | ESTIMATED FINAL ACREAGE | NO OF PLOTS SETTLED BY 30.6.1969 | ESTIMATED NO OF FINAL PLOTS |
|---|---|---|---|---|
| Low density | 35 | 178,509 | 4,979 | 4,983 |
| High density | 82 | 804,426 | 28,026 | 28,506 |
| High density not established | 2 | 7,906 | - | 110 |
| Others | 20 | 217,725 | - | 428 |
| Total | 139 | 1,208,566 | 33,005 | 34,027 |

SOURCE: Kenya Department of Settlement
Annual Report 1968 P. 66

* The programme covers the whole country

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3:6:7 One of the fundamental results of the resettlement programme has the introduction of small-scale farming in an area previously reserved for large-scale farming. The Director of Settlements had this to say in 1963:

"There is much comment on the breaking up of large units of land into peasant holdings. If these large units are maintained, can they be effectively run on a collective basis, by relatively inexperienced people, and will they satisfy the political aspirations of land ownership among the African people? The answer to the latter is in doubt".[15] With such convictions, the Department of Settlement of the Ministry of Lands and Settlement has proceeded with its programme of resettlement. It must be pointed out that the area under the Department's settlement scheme is quite small when compared with land under co-operatives, companies and partnerships. The Department has directed its main efforts to the economic aspects of the programme because it is considered that it is in the interests of individual settlers and the nation that the maximum output from the land be achieved.

3:6:8 Besides administering the two types of schemes, the Department of Settlement manages large farms purchased from foreigners before they are subdivided for resettlement. Studies conducted by the Ministry of Finance and Planning have shown

that with proper management, production need not drop after farms are subdivided. It has, however, been observed that in some instances when partnerships, co-operatives and companies purchase farms, production has dropped. This aspect is discussed further in the chapter.

3:6:9 The decision to settle Africans on former "White Highlands" was encouraged by the success of the Swynnerton Plan. The success of the land consolidation and registration programme had demonstrated that there was no reason why viable small-scale farms could not be established and indeed ensure that production on the former European farms did not drop.

3:6:10 The first action of the new settlers was to construct shelter for themselves. The result was that areas which previously had only been sparsely settled became dotted with new rural settlements. The photographs below show the contrast between two farms in Subukia. One is an individually owned farm which is still being farmed on a large-scale basis, while the other, is owned by a co-operative society. The third photograph shows emerging settlements in the area between Lanet and Dundori.

3:7:0 <u>The impact of post-independence settlements:</u>

3:7:1 In trying to assess the impact of the post-independence settlements on the economy of Nakuru District, one must appreciate the rationale behind

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their establishment. There is also a clear distinction between farm areas settled under the auspices of the Department of Settlement on the one hand; those settled under the supervision of the Ministry of Co-operative and those that have been settled by individual farmers, partnerships and companies.

3:7:2 The Department of Settlement Programmes:

The objective of all settlement schemes undertaken by this department is to provide subsistence, loan repayment together with a given net income. It is a basic objective of all schemes that gross production in the schemes should at least be maintained at its former levels. The fundamental requirement of the low density smallholder schemes was that the land to be subdivided and settled by Africans should have been under-developed though high potential land so that settlement should result in a substantial increase in production. This is the type of settlement which was undertaken in the early years of resettlement. In this way, a step was taken towards racial integration in the agricultural areas by breaking the colonially established racial land barriers while at the same time ensuring that this land was put into productive use. It will be recalled that this was a scheme designed for progressive African farmers. The result was as expected. Most of these farms increased the marketed agricultural products from these lands.

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They were also able to absorb agricultural labourers.

3:7:2 A second feature of the Department's resettlement programmes is that basic infrastructure and services such as water and access roads are provided to each holding before the farms are settled. In areas of high rainfall, loans are given for the purchase of corrugated iron roofing and storage tanks which will meet at least domestic requirements. Such measures have helped to ensure the success of the Department's schemes.

3:7:3 The performance of the Department's schemes is shown in Appendix 3. The chief explanation behind this success has been that the Department has the money to provide basic infrastructural facilities to the farmers as well as to provide its own extension officers to farmers in conjunction with the Ministry of Agriculture's extension officers. Furthermore, it should be realised that before some of these farms are passed on to new settlers, the Department's officers have often been running them for some time following their purchase from foreigners and in some instances after their abandonment by white settlers at independence. Hence, when these farms are settled, the Department's officers pass the knowledge gained to the new settlers. This arrangement has ensured that production on such farms does not drop.

3:7:4 A comprehensive survey of settlement schemes under the Department was carried out by the Ministry

of Finance and Planning in 1971. The survey established that settlement schemes have met their declared objective - demonstrating to the landless Africans the determination of the Government to open up new farming opportunities in once forbidden areas. By 1970, 1,216,983 acres (492,702 hectares) of land had been transferred to African farmers giving 35,401 families the opportunity to own land and earn their living from it.

Between 1964/65 and 1967/68, agricultural produce sold from settlement areas increased by 30 to 45% during this period. By 1967/68, the scheme as a whole had become the main producer of the nation's supplies of milk and pyrethrum. These figures suggest that the former levels of output had at least been maintained in the initial stages of settlement.

3:7:5 The survey also established that despite these achievements, it was also true that farm production results had been disappointing indicating that other measures are required if these farms are to reach their full potential. The results from low density schemes were not encouraging. It had been hoped that these farms would contribute significantly to the growth of output, since the farms were situated on good farming land and the settlers had been chosen on the basis of their proven ability. Due to the very stringent financial requirements imposed on potential purchasers of these

plots, a majority of settlers selected for this category had alternative employment and would not therefore live on these plots. As a result, agricultural production on these plots has usually been poor when compared with the occupied low density plots and the high density plots.

3:7:6 The study came to the conclusion that small-scale farming of the high density type was capable of providing employment opportunities and raise productivity. Although up to 1970 only two schemes i.e. Eburru and Bahati had been established in the District, in later years more schemes have been established. Five of these have been established recently under the high density programme. These are Gichobo, Nguriga, Naishi, Kiriri and Bagaria involving a total of 11,405 hectares. The schemes are planned to provide 2,014 plots. If one assumes that each of these plots will be allocated to one family, and if one further assumes that a family comprises of six members, then it can be assumed that a total of 12,000 persons will be settled in these areas. Five trading centres are planned for these settlements. The photograph below shows parts of the centres developed near the Bagaria scheme by a co-operative society. (See page 79) As can be seen, the centre has been established in a forest area. In fact, new settlements are scattered in this forest area. The result of these settlements on this area is captured in the

LAKE NAKURU FOREST SETTLEMENTS

BAGARIA SETTLEMENT

photographs following. One of these photographs shows the relationship of these settlements and Lake Nakuru. When this forest which has been the catchment area of the lake goes, without proper management, the result is obvious. It could easily present a repeat of the white settlers encounter with wildlife in the early days of settlement.

3:8:0 It is now appropriate to examine the forms of settlements that have emerged under various types of land ownership.

3:8:1 Co-perative farms:

The majority of farms in the District have been purchased by co-operative societies. While the original ideas behind co-operative was to overcome the initial constraint of shortage of capital for the purchase of large farms, in some instances, it has contributed to the tendency towards subdivision of some farms. Within the Ministries of Agriculture and Co-operative Development, the intentions for co-operative farms have been to settle members on 20-30% of the total farm area leaving the balance to be farmed co-operatively. However, results in some cases have been somewhat different. Due to differences between Farm Managers trained by the Ministry of Agriculture, Farm Directors and members production on some co-operative farms in the District has come to a standstill. The classic case which had to be taken for rehabilitation by the Ministry of Agriculture was Mlima Farm near Molo. Where

differences exist between directors and the farm managers, it is almost impossible for the manager to take decisions on the running of a farm. In some instances, directors have tended to think that managers have been imposed on them. The collapse of farm operations which have resulted from such differences have precipitated 'possession' of the farm by the members. It must be pointed out that some of these members have sold their farms in their home districts to raise money to join these societies. Consequently, when farming operations come to a standstill so that no income is received from the society, their very existence is threatened. In some instances therefore, members have gone ahead and without official knowledge or approval settled on the farm the best they can leaving very small parcels or none at all for communal farming. In other cases, disatisfied members have used co-operative pasture to graze their own livestock. When this stage is reached, some of the 'hidden' members have settled on the farm as well. The result is haphazard utilisation of land clearly this has implications for the mix of factors of production including labour, as it becomes difficult to rationalise farm operations. A serious consequence of such developments is the emergence of settlements all over the farm which are difficult to remove when it becomes imperative to re-organise the farm.

3:8:2 Company and partnership farms:

Much of what has been said concerning the

co-operative farms can be said of these farms. Company farms require that there must be at least twenty registered members forming the company. On most of them, only a few partners live directly on the farm except where they have large memberships. Members would allocate themselves with individual plots ranging from 2 - 4 acres each leaving the rest to be farmed jointly. Difficulties begin when differences arise between the manager and the partners especially those residing on the farm. However, where partners co-operate with their managers, high production has been maintained. When difficulties arise, the result is subdivision as in the previous case. In fact, some of the farms which have raised a lot of concern after subdivision are company farms. In some cases, when changes in farm ownership have become eminent, individual member partners have tried to acquire as many assets such as farm implements for their own before individual rights are established.

The reason why interest in farm subdivision seems to attract so much attention is not basically because farm subdivision per se is bad, it is mainly due to the observation that some subdivisions in the District are below economically viable farming units. Secondly, there have been instances where subdivisions have led to the neglect and in some cases disuse of basic infrastructure on farms such as boreholes and water pipes.

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3:8:3 Individual farms:

Some farms in the District have been purchased by individuals. A survey of African farms in a neighbouring District within the former "White Highlands" found that while many individuals spent large sums of money purchasing large-scale farms, it seems that for some, the purchase was mainly an investment in land rather than a business concern. Consequently, these farms tend to be characterised by absentee ownership, the majority of owners having business interests outside the farms, leaving the day running of the farm in the hands of a manager.[19] However, the survey found out that production levels per acre on such farms was higher than in company or co-operative farms. This can largely be attributed to lack of management problems in a situation where the manager has a free hand in making decisions on the running of the farm. The author considers that the same observation can be made regarding Nakuru District although this would require investigation before a firm conclusion on the situation in Nakuru can be reached.

3:9:0 In an attempt to assess the impact of the settlements, that have emerged, questionnaires were sent to the Provincial Water Officer and the District Agricultural Officer.

3:9:1 The Provincial Water Officer reported that there has been high fresh water consumption due to rapid increase in human population and livestock.

He also reported that there is evidence that the major water catchment areas have been subjected to clearing for human habitation as well as to over-grazing. The pictures taken from around Ngwataniro near Njoro during the field visit confirm these observations. According to him, the main causes of water pollution in the District are human and animal activities along watersheds, industrial effluent and drainage from domestic premises. The main agriculturally based industries that contribute to water pollution in the District are coffee factories and sisal factories.

3:9:2 Ministry of Agriculture officers in the District confirmed these observations. They indicated that there has been a general drop in the standard of farming in the District. They considered that current agricultural practices in the District are contributing to silting of dams, blocking of borehole outlets and a general destruction of catchment areas. This has led to soil erosion in Subukia, large areas of Bahati Division and an area around Elburgon. Of great significance has been the deterioration of genetic varieties in general and in particular the wool sheep whose populations have gone down with farm subdivision.

3:9:3 Students around Molo indicated that forest destruction, dirty drinking water and insanitary surroundings were the three most important environmental

A LARGE-SCALE FARM IN SUBUKIA

A SUBDIVIDED FARM EAST OF MENENGAI CRATER

EMERGING SETTLEMENTS IN THE LANET DUNDORI AREA
NOTE THE EDGE OF THE MENENGAI CRATER

problems in their area. Those around Elburgon considered that dust, noise and smoke from industries were the main problems. Around Njoro, the main problems were considered to be forest destruction, soil erosion, and drying up of rivers. In Nakuru, students considered that dust was the main environmental problem. Around Gilgil, the main problems were considered to be the drying up of rivers, dust in the air and forest clearance, while in Naivasha, the leading environmental problems were considered to be dust in the air, soil erosion, and drying up of rivers. Except for the problem of dust which follows spells of drought, the other problems result from modifications of the environment by man's activities. The responses by students are significant in that they concur with observations made by Government officers in the District.

3:9:4 These examples illustrate that although in some instances the opening of the former large-scale farms for resettlement has resulted in greater productivity, in a number of instances resettlement has had negative results. It has been assumed that where farm operations have been inefficient, both the resources, and labour have not been put into their fullest use. Having dealt with the dispersed settlements, it is now appropriate to examine the nucleated settlements.

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Main References:

1. Elspeth Huxley: White man's country
Vol. 1. 1890 - 1914
2. L. Winston Cone and J.F. Lipscomb.
The History of Kenya Agriculture 1972
3. S.H. Ominde, Land and Population
Movement in Kenya 1968.
4. Department & Settlement
(a) Annual Reports
(b) The Million Acre Settlement Scheme. 1962 - 66
C.P.R. Nottidge and J.R. Gold Sack.
5. Rift Valley Province, Regional Physical Dev. Plan 1971

Foot Notes

1. Statistical Digest. Sept. 1972, Vol x No. 3
2. Rift Valley Dev. Plan.
3. Land and Pop.movement in Kenya.
4. 5,6,7 & 9, White man's country pages, 56,54,70,107&110 and page 64 respectively.

8&10 History & Kenyas Agriculture P. 31 and P.72 respectively.

11. William T. Hornaday - our vanishing wildlife p. 181-182
12. E.A. Royal commission 1953-55 para. 57&58.
13. R.J.M. Swynnerton - A plan to intesify Dev. of Africaan agriculture in Kenya.
14. Million acre scheme (see appendix 3)
15. Dept of Settlement Annual Report 1962/63 P.2.

## CHAPTER IV

4:0 Designated growth centres:

4:1:1 The Government has identified and designated various centres in the District to which social and economic infrastructure and development projects should be encouraged to locate so as to speed up the process of rural development. The rationale behind this policy is that when projects are concentrated at one centre, it is possible to reduce the capital costs for any one agency since numerous users would share initial cost thereby reducing the burden for any of them. Furthermore, concentration of development would reduce costs and ensure convenience to the users of such facilities. If developments are scattered, each agency would provide its own services whenever development projects were undertaken. This is a very wasteful method of providing services to the rural areas at this stage of Kenya's development since the resources available to the country are meagre. However, when projects are located close together, besides the obvious advantages of co-ordination, there are economies of scale to be realised by developers.

4:1:2 The Government agency responsible for the co-ordination of this policy is the Department of Physical Planning of the Ministry of Lands and Settlement. The Department has identified four

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levels of service centres each serving a smaller or larger hinterland. The four levels of centres are termed in their descending order of importance as urban centres, rural centres, market centres and local centres.

4:1:3 The strategy of locating activities in designated centres will promote the formation of small towns in rural areas. As these centres grow, they will form a level of urbanisation which is large enough to become economically served with public water supply, sewage disposal facilities, electricity, postal and banking facilities among others. Once a centre has its basic infrastructural facilities, it will tend to attract commercial and industrial developments which will enrich the lives of the people of rural areas, and provide improved employment opportunities.

4:1:4 The planned network of centres provides an arrangement of towns and villages of different levels of economic and social activity in accordance with a hierarchy necessary to provide a satisfactory service at all levels. The overall objective adopted in planning the network is to provide eventually one local centre for every 5000 rural population, a market centre for every 15,000 persons, a rural centre for every 40,000 persons and an urban centre for each 120,000 people.[1]

4:1:5 The successful creation of service centres at all levels depends on the concentration within the

centre of all urban infrastructure required by the particular area served by a centre, whether it be a primary school or a market to serve a small rural population or a technical college or major commercial centre to serve a province. All such infrastructures, if sited correctly play an important role in building up a vital urban framework.[2]

4:1:6 Figures 6 and appendix 2 indicate the range and level of services in various centres in the District. Centres which provide a wide range of services, exert a greater influence on the rural population than centres with a small range of services. It is observed that nearly all centres even when no other services are provided have some commercial activities in them. Many such small centres appear to spring from the efforts of the proprietors of such commercial enterprises desiring to have them legalised. In other cases, small centres have emerged to supply the needs of co-operative and company members after they have settled on a large farm.

4:1:7 The basic concern of planners is to integrate such developments within the District's hierarchy of designated centres. Although planners expect developments to be located in designated centres, Figure 6 shows that many primary schools and some health facilities are located outside designated centres as contemplated in the Government strategy as stated at paragraph 4:1:5 above. The main reason

may be that even after the Department of Physical Planning proposed 26 new local centres in the District in 1971, services still remained too far from where the people live. Secondly, the District Development Committee considers schools and health facilities as social projects which normally do not receive any DDC grants. Local people therefore, take decisions on the location of these facilities as they consider best. A classical case was the construction of a huge secondary school involving nearly a million shillings and which only came to the attention of the DDC when it was nearly complete. There is nothing the DDC could do. It is clear that such sporadic developments do not help the realisation of the rural development strategy. Furthermore, they do not add to the co-ordination of improved employment opportunities as stated at paragraph 4:1:3 above.

4:2:0 Urban and rural centres:

There are six urban centres in the District defined according to the size of population in them.[3] These are Nakuru, which is the principal town of the District, Naivasha, Elburgon, Molo, Gilgil, and Njoro. However, in terms of the level and the range of services found in them, only Nakuru qualifies as an urban centre. Naivasha which still lacks library services is only one point short of being an urban centre in the second sense. The DDC has proposed that Naivasha, Molo and Njoro

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should be upgraded to the urban centre level. Elburgon, Gilgil and Mau Narok are proposed to be developed as rural centres. Eight local centres and 26 new local centres have been proposed below the rural centres level to serve the people at these other levels. It has been shown in figure 6 that 19 other centres have sprung up in addition to those already proposed by the Physical Planning Department in the current National Development Plan. With continued resettlement, more centres at lower levels are expected to be developed by the new settlers.

4:2:1 Employment opportunities in urban and rural centres:

Employment opportunities in urban and rural centres depend on the function and size of these centres. At present, many of these centres are mainly commercial centres with all of them performing administrative functions. Their administrative function does not generate significant employment opportunities with the exception of Nakuru which is both the Provincial and the District Headquarters. Naivasha, Molo and Bahati are Divisional Headquarters. The last centre's activities are spread over a relatively wide area so that benefits of agglomeration do not appear to have taken root at present. The commercial functions of these centres except for Nakuru and Naivasha are currently small. This is largely due to the fact that the majority of the new settlers are just about - 10

years later - to clear their loan obligations with which they bought their farms. Hence, their effective demand of goods from these centres is somewhat small except for farming inputs and other basic requirements. The majority of the second group of people - co-operative members and landless people - settled in the District have little surplus income from their farming enterprises. The result is that the entry of new settlers into the District has not in many cases generated a great demand for goods and services which would have stimulated rapid growth of these centres.

4:2:2 Nakuru and Naivasha are in a somewhat different class. Nakuru is the main commercial centre for the District and for some of the neighbouring districts such as Narok and Baringo. Naivasha serves commercial needs of the eastern part of the District and the Kinangop area. Nakuru town which has a large population with higher incomes has continued to grow.

4:2:3 The other centres have small resident population. Besides their effective hinterlands are small because the influence of Nakuru reaches all corners of the District via the good road transport network.

4:2:4 Another feature which contimues to influence the growth of the rural centres is the emergence of small centres all over the District and which have direct links with Nakuru. All these factors

have influenced the growth of these centres which also affects their employment generation capacities.

4:2:5 The general trend in employment in the whole District since independence is shown in the table IV:I below:

4:2:6 During the same period, the population has grown from 227,900 in 1962 through 290,853 persons in 1969 to an estimated population of 334,000 in 1973. Between 1963 and 1973, employment in the District grew about 23.14% over a 10 year period or about 2.3% per annum. However, over roughly the same period the population grew at the rate of 3.5 per annum. This imbalance between the growth of population and job opportunities is the root cause of unemployment in the District.

4:2:7 An examination of trends in employment by industry over the same period reveals that employment in agricultural sector based as it were on non-designated settlements absorbs over half of wage employment in the modern sector. Table IV:II below gives the trend in various sectors over a six-year period from 1967 - 1973.

4:2:8 In 1973 employment in agriculture accounted for about 85% of wage employment in the modern sector. This shows the vital part played by this industry in the District. This is as it should be bearing in mind that Nakuru is an agricultural district. It also points to the fact that for

TABLE IV:I EMPLOYMENT IN NAKURU DISTRICT 1963-1973

| YEAR | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Employees | 50,500 | 50,600 | 50,402 | 51,320 | 52,974 | 59,149 | 53,210 | 53,293 | 55,663 | 55,280 | 62,288 |

SOURCE: MINISTRY OF FINANCE AND PLANNING
Employment and earnings 1963-1973

TABLE IV:II EMPLOYMENT BY INDUSTRY, 1967-1973

| Industry | Agriculture | Mining | Manufacturing | Construction | Electricity and Water | Commerce | Transport | Services | Total |
|---|---|---|---|---|---|---|---|---|---|
| 1967 | 30,282 | 186 | 5,088 | 2,073 | 306 | 2,677 | 2,224 | 10,138 | 52,979 |
| 1973 | 53,369 | 450 | 7,742 | 1,725 | 212 | 2,585 | 1,144 | 12,391 | 62,282 |

SOURCE: MINISTRY OF FINANCE AND PLANNING
Employment and earnings 1967-1973

sometime to come the agricultural industry will continue to be an important employer in the District. Consequently, no effort should be spared to develop this industry to its fullest capacity.

4:2:9 A significant observation is that employment in services has not grown as rapidly as employment in agriculture. Employment in services accounted for about 20% of formal employment in 1973. In other advanced societies, the services sector engages the bulk of employees in wage employment. However, as has been observed earlier, the population in the rural areas of the District has been involved so far in establishing themselves in the District. This situation is expected to change as soon as the population becomes more stable and prosperous. Mining and quarrying activities and construction have declined over the same period. However, as many farmers settle their outstanding loans and the small-scale farmers become well-off, more permanent forms of settlements are expected to be the norm replacing the temporary settlements in the District thereby boosting employment opportunities in these two sectors.

4:3:;0 It is now appropriate to examine trends in employment in the urban and rural centres in the District. The trend over a ten-year period is presented at Table IV:III below.

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TABLE IV:III EMPLOYMENT IN URBAN AND RURAL CENTRES 1963-1973

| Centre | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nakuru | 10,455 | 11,234 | 12,631 | 12,859 | 12,926 | 14,207 | 14,256 | 14,255 | 14,635 | 14,729 | 14,269 |
| Naivasha | 1,721 | 1,765 | 1,739 | 1,744 | 1,831 | 1,850 | 1,759 | 1,863 | 1,884 | 1,824 | 2,287 |
| Molo | 857 | 872 | 860 | 889 | 897 | 852 | 872 | 956 | 943 | 968 | 673 |
| Gilgil | 571 | 588 | 578 | 575 | 597 | 606 | 609 | 614 | 628 | 825 | 884 |
| Elburgon | 286 | 294 | 309 | 387 | 422 | 492 | 502 | 498 | 550 | 619 | 678 |
| Njoro * | - | - | - | - | - | - | - | - | - | - | - |
| Mau Narok* | - | - | - | - | - | - | - | - | - | - | - |

SOURCE: MINISTRY OF FINANCE AND PLANNING
Employment and earnings 1963-1973

* No information was available

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4:3:1 Over a ten-year period, 1963-1973 the rate of urban population grew at an estimated rate of 5.2% per annum, while job opportunities grew at the rate of 3.5%. Table IV:IV below summarises these trends.

TABLE IV:IV POPULATION AND EMPLOYMENT TRENDS IN FIVE CENTRES

| Centre | Population 1962 | Employment 1963 | Population 1969 | Employment 1969 | Employment 1973 | Estimated population 1973 |
|---|---|---|---|---|---|---|
| Nakuru | 38,181 | 10,455 | 47,151 | 14,256 | 14,269 | 57,100 |
| Naivasha | 4,690 | 1,721 | 6,920 | 1,759 | 2,287 | 9,100 |
| Molo | 3,028 | 857 | 4,240 | 872 | 673 | 5,600 |
| Gilgil | 6,452 | 571 | 4,178 | 609 | 884 | 4,800 |
| Elburgon | 2,728 | 286 | 5,343 | 502 | 678 | 6,100 |
| Total | 55,079 | 13,890 | 67,832 | 17,998 | 18,791 | 82,700 |

SOURCE: KENYA POPULATION CENSUS 1969

MINISTRY OF FINANCE AND PLANNING

Population projections 1974

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4:3:2 The role of the various sectors of the economy in employment is shown in table IV&V on page 100 below. It is clear that the services sector, the commercial sector and manufacturing in that order are the main employers in the District.

4:3:3 In the previous section, it was observed that although the larger designated centres play an important part in providing employment opportunities, rural agricultural activities dominate in offering employment to the majority of the people in the District. The following section discusses information supplied by students on their guardians/parents work places. The information used in this section was collected at Naivasha and Gilgil. A total of 157 students or about half of all the students in the sample were interviewed. This became necessary because an attempt to get this information from students in class at the other centres was not ecouraging. It therefore became necessary while in the field to print this question on revised questionnaires in Gilgil and Naivasha.

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TABLE IV:V EMPLOYMENT BY INDUSTRY IN TOWNS 1973

| Centre | Agriculture | Mining | Manufacturing | Construction | Electricity and Water | Commerce | Transport | Services | Totals |
|---|---|---|---|---|---|---|---|---|---|
| Nakuru | 180 | 45 | 3,382 | 1,170 | 152 | 1,875 | 1,776 | 5,311 | 14,269 |
| Naivasha+ | 95 | - | 594 | 55 | 21 | 339 | 56 | 1,107 | 2,287 |
| Molo | - | - | 50 | 4 | - | 168 | 19 | 390 | 673 |
| Gilgil | - | - | 108 | 12 | 4 | 70 | 48 | 644 | 884 |
| Elburgon* | 91 | - | 295 | 33 | 7 | 49 | 58 | 128 | 678 |

SOURCE: MINISTRY OF FINANCE AND PLANNING

Employment and earnings 1973

* *Most employees engaged in manufacturing at Elburgon are engaged in the* Production of Timber Products (853 employees in 1976)

\+ Most employees engaged in manufacturing in Naivasha are engaged in one industry - Pan African Vegetable Products Ltd., which had 459 employees in 1977

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4:3:3 In Naivasha, 72 out of 82 students answered the question on their parent's work place; 22 work in Naivasha town; 18 in Nakuru town; 10 in other centres within the District; one within the Province. The rest work outside the Province with Nairobi emerging as an important centre of employment.

4:3:4 In Gilgil, out of 75 students interviewed, 62 indicated that only six of their guardians work in Gilgil, 14 work in Naivasha, 18 work in other towns of the District, while the rest work outside the District. The role of Naivasha town as a centre of employment for the population in the Gilgil-Naivasha area is evident. Although the centres are seen to extend some influence to their immediate hinterlands, the role of the large centres i.e. Nakuru and Naivasha emerges.

4:3:5 An important feature of the population is that the majority of them do not have investments in the District. Out of the 81 working people who completed and returned the questionnaires designed for the working population, the majority do not have any investments in the District. This may partly be due to the fact that most of the income earned is consumed leaving little for investment. Of the 81 people, 31 had investments as follows: 26 of them had investments outside Nakuru District. Four had investments in other places within the Province, while only three had investments in

Nakuru District. Of those three who had investments in the District, their investments totalled K.Shs. 94,000 and engaged 16 persons or about one person for every K.Shs. 6,000/- invested.

4:3:6 Another feature which emerged is that while only three persons in the sample had investments in the district, 65 of them sent regular help to their relatives in their districts of origin.

4:3:7 It was also observed that only 20 persons in the sample received any help from relatives outside the district. Nearly all of them emphasised the fact that the quantities of help are quite small. As an indication of the quantities involved, cereals and vegetables received were estimated at one to three bags in any one year. On the other hand, the amount of money sent out of the district during any one month is quite substantial as is shown in the table below.

TABLE IV:VII) MONEY SENT TO RELATIVES OUTSIDE NAKURU DISTRICT*

| Amount of money sent per month (K.Shs.) | Number of people sending money out | Percentage of sample |
|---|---|---|
| Nil response and zero remittances | 16 | 19.75% |
| 20 - 50 | 13 | 16.05% |
| 50 - 100 | 23 | 28.40% |
| 100 - 150 | 13 | 16.05% |

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| Amount of money sent per month (K.Shs.) | Number of people sending money out | Percentage of sample |
|---|---|---|
| 150 - 200 | 3 | 3.7% |
| 200 - 300 | 7 | 8.64% |
| Over 300 | 6 | 7.41% |
| Total | 81 | 100% |

* It is observed that 80.25% of the African working population send part of the income earned in the District to relatives or for investment outside Nakuru. Unless more of them invest in the District, the creation of employment opportunities will be slowed down.

4:3:8 Another feature related to employment is how people come to know about the existence of jobs. Most people interviewed indicated that they had come to know about the existence of jobs through their relatives working at places where they were subsequently recruited. Another high proportion had come to know about jobs through their training. A very small number had been recruited through the Ministry of Labour. Of the people trained for various jobs, 46 or about 50% of them had been trained on the job in Nakuru. 11% were trained in Nairobi.

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TABLE IV:VIII KNOWLEDGE OF JOBS:

| Agent | Numbers in sample | Percentage of sample |
|---|---|---|
| Through relatives | 27 | 33.33% |
| Through training (professional) | 11 | 23.46% |
| Through advertisement (largely local) | 14 | 17.28% |
| Randomly calling in | 7 | 8.65% |
| Through Ministry of Labour | 3 | 3.70% |
| Not stated | 11 | 13.58% |
| Total | 73 | 100.00% |

4:3:9 An important feature of the District's economy is that a lot of investment in the District goes towards the purchase of agricultural land. In 1972, a total of K£ 448,900 or 48.37% of the money spent in the country on purchase of farm land was spent in Nakuru District. As most of this money goes to expatriate owners, it is not reinvested in the District with the result that it does not generate local demand for goods and services.

4:3:10 During the field visit, four industries in the District were visited with a view to ascertaining what raw materials they obtain from the District. From the information supplied it became clear that agriculturally based industries have the highest potential for utilising the resources of the District.

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Three agro-based industries support this claim. The first industry visited gets practically all its raw material inputs from the District and employs directly only 64 persons. In 1976, the industry spent £ 67,000 on labour. However, this same company bought raw materials worth £ 260,000 during the same year largely from within the District.

There was a noticeable change in the amount of land brought under the industrial crop required by this industry. Between 1970 and 1972, the land under this crop remained around 100 hectares dropping to 48 hectares in 1973. However, when it became known that the industry would be located in the District, land under this crop rose up to 540 hectares in 1974. The area is expected to increase as long as the demand for its finished product within Kenya is high. Since the production of the crop especially harvesting is labour intensive, it is expected that more people will be engaged in its production in the future. Besides, the crop can profitably be produced on small land units.

4:3:11 The other two agro-based industries visited employ 459 and 521 employees respectively. Nearly 90% of their raw material inputs are produced locally. The market for their products has already been established both locally and on the export market. As demand rises, returns to the local farmers will increase. Besides, production requires high labour inputs.

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Another pair of industries visited employ 140 and 475 employees respectively. The smaller industry spent £ 18,500 on labour in 1976. The cost of raw materials used by the industry during the same year amounted to £ 268,873. However, all the raw materials used was imported. A potential local source of raw material has so far not been tapped mainly because of the relative ease with which imported raw material inputs are obtained. The second explanation is that according to some of the manufacturers interviewed, the quality of local products is low. The management of one of these industries has approached a local source within the Province with a view to encouraging them to produce high quality raw material inputs for their industry but so far this venture has not materialised. If and when this venture is implemented, it will lead to a higher demand of local basic raw materials with a possibility of involving local people in production.

4:3:12 The last industry visited during the field visits employes about 500 people in the production of blankets. However, the industry imports its major raw material inputs from abroad. This industry, processing as it were materials allied to the wool capable of production within the District should have played a leading role in supporting the District's wool sheep farming. It was pointed in chapter three that the entire sheep industry in the District is on

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the decline. This trend is expected to continue in the future unless efforts are made to encourage local industries to tap such local resources.

A feature common to the industries visited is that none has any links with the other. In fact, for some of them, particularly those manufacturing textile goods, there are very few links if any with other industries in the country. Another feature observed in another pair of industries drawing the bulk of their raw material inputs from the District is that over 95% of their products are for export outside East Africa.

4:4:0 In conclusion, it can be stated that urban and rural centres in Nakuru do not at present offer a lot of employment opportunities to the local people. The bulk of the population are engaged in agricultural production from smaller settlements. Some of the factors that seem to hamper rapid growth of employment opportunities in the District include the proliferation of smaller centres at lower levels, and low purchasing power of the rural population among other factors.

4:4:1 From the analysis, it is clear that agriculturally based industries offer the best chances in the use of local resources and employment opportunities. If these industries are to offer greater employment opportunities, they should be much more integrated and encouraged to use more local materials.

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## REFERENCES

1. Kenya National Development Plan 1974-78
P. 120 - 121

2. Rift Valley Province Physical Development Plan 1971

3. Ministry of Finance and Planning
Employment and earnings 1963-1973

4. Kenya population census 1969 vol. I and II

## CHAPTER V

5:0:0 **Towards a policy for environmental development:**

5:0:1 In her development endeavours, Kenya has come to realise that in spite of rapid growth of her economy in the first ten years of independence, the problems associated with a rapidly growing population - unemployment and income disparities have become more apparent than they were in 1963.

5:0:2 This study sets out to look at two such problems, viz. unemployment and the use of local resources in Nakuru District. These two problems will now be examined in the light of what has been said in chapters two and three.

5:1:0 **Unemployment:**

In chapter four, it was demonstrated that job opportunities in the modern sector do not match the rate of population increase. It has now come to be appreciated that unemployment is quite complex in the Kenyan context. At one extreme are the clearly defined unemployed persons in urban areas in search of jobs. Not much better off are the poor people who are in a sense employed but whose productivity and levels of income are very low. In the rural areas, it is not clear who belongs to the labour force and who is supported by members of his family; besides, many people are under-employed. It must be emphasised that much of what has been said about unemployment in Kenya applies to Nakuru District.

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What this section tries to do is to state the Government policy on employment and to consider that policy in relation to the situation in Nakuru District. It is interesting to note that although the 1974-78 Nakuru District Development Plan covers extensively other aspects of the development in the District, it does not directly tackle this problem. It is of course clear from the proposals contained in the plan that the programmes proposed will provide employment opportunities but this is not explicitly brought out.

5:1:1 On top of the list of the causes of unemployment is the rapid population increase. The major cause of the increase is the reduction in death rates, better health care, better nutrition, all of which have been caused by the remarkable advances in public health and overall improvements in the standard of living. Further declines in the death rate are expected in the future. It has been indicated that population will rise from 290,853 in 1969 to 435,000 by 1980 rising to over 700,000 by the year 2000 A.D. This rising population will continue to present employment problems. A Government statement on this phenomenal increase in population says that in a country already suffering from high unemployment, a high population growth has only adverse economic effects. First, it will increase the proportion of the income that is consumed, thus diminishing the level of domestic

saving available for investment. Secondly, the new population requires more capital, schools, hospitals, roads and machines. Only after the population is provided there will be any net increase in these amenities per person. Third, when the dependency ratio is increasing, more people will be employed simply to provide for the new people without increasing the real income per person.

5:1:2 The second cause has been identified as the nature of the technology employed in many enterprises. Certainly this has led to greater efficiency in production both in industry and agriculture but it has also displaced many workers. "The industrial technology currently in use in Kenya is almost wholly imported and it tends to be capital-intensive because it is geared to the needs of the industrial countries from where the goods are imported.

The third cause is the relatively high levels of wages in urban areas in particular. Besides attracting more people in search of personal betterment, such high wages tend to limit the units of labour that can be hired. This may explain tendency in some instances towards greater use of capital rather than labour.[1]

5:1:3 The Government being conscious that "employment provides people with access to the material fruits of economic growth, provides personal satisfaction, for employed people who are creative, and who contribute to the welfare of all, and that in

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contrast, the unemployed suffer physical economic and emotional deprivations", the Government's declared policy on employment is to ensure that everyone has access to means of livelihood in terms of either land, or wage job by 1980. It must have come as a shock to many unemployed people in Kenya to hear the Permanent Secretary in the Ministry of Labour declare that Kenya cannot provide jobs for all who need them - whether the job seekers are educated or not. "In 1976, for instance, only 40,000 jobs had been available to school leavers. This is a modest figure when it is realised that in 1976 alone 230,000 pupils completed CPE while another 52,000 completed Form IV during the same year".[2]

5:2:0 <u>The Government employment strategy:</u>

5:2:1 There are five basic elements in the Government strategy. These are continued rapid growth, family planning, income redistribution, agricultural and rural modernisation, education reform.

5:2:2 In order to achieve the five goals, the Government had played to take steps to promote an increase in growth rates of the modern sector employment from 3.9% per annum during the 1968-1971 period to 4.5% per annum by 1978. However, employment figures for Nakuru District indicate that between 1963 and 1973, wage employment in the District increased by 2.3% per annum.

Assuming a similar rate of increase up to 1980,

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it is possible to estimate wage employment in the District from 1973 to 1980. Table V:I below summarises the likely trend.

| YEAR | 1973 | 1974 * | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|
| Projected wage employment | 62,288 | 63,621 | 65,084 | 67,580 | 69,134 | 70,724 | 72,351 | 74,115 |

* In 1974, 62,712 persons in the District were engaged in wage employment.

SOURCE: Employment and earnings in the Modern Sector 1973 and 1974

5:2:3 Between 1971 and 1974, the rate of growth for employment in the informal sector which in this case stands for the self-employed persons and unpaid family workers grew at the rate of 24% per annum. Assuming again that this rate of growth will be maintained up to 1980, the informal sector will provide employment to 33,289 persons by 1980.

5:2:4 The population of the District is estimated at about 435,000 persons by 1980. Assuming there will not be substantial changes in the ratio between 1969 and 1980, and assuming that labour force comprises persons aged 20 years and above, which in 1969 accounted for 42.72% of the population in the District, the labour force will be 147,000 persons in 1980. The writer considers that the criteria often used of designating labour force comprises persons aged 15 years and above does not

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seem to reflect the situation in Nakuru District. Persons aged 15 years have in most cases just completed the primary school education. In the first place, such people are too young to be engaged in full time wage employment. At best, they may just be unpaid family workers. Secondly, most parents do not appear to consider that their children have completed their education. This is evidenced by the many Harambee secondary schools and commercial schools in the District. In 1973, there were eight Government aided secondary schools and 15 unaided Harambee secondary schools in the District. In the case of Nakuru, only those persons whose parents are too poor to send them to these institutions enter the labour force and even at that most of them are not regular employees as they depend on relatives. It is only after they have attained the age of majority, 18 years, that they begin considering settling on their own, that they can be considered as entering the labour market. It is at about the same time that those who enter secondary schools and other institutions are joining the labour market. After making these allowances, and taking into account projected employment opportunities in the formal and the informal sectors referred to at paragraphs 5:2:2 and 5:2:3 above, the District will provide jobs to about 107,000 persons by 1980. Assuming similar trends continue, urban areas will have to provide jobs to 32,000 persons by 1980. The balance will have to be provided with jobs in the rural areas. In order to reduce the number of

of unemployed persons in the District, more jobs must be created in designated settlements where the rural unemployed are likely to be pushed into.

5:2:5 The major instrument of the Government employment policy are: a wage policy which will make in increases and structures of wages and salaries consistent with the objectives of increased employment and growth of output, an increased proportion of Government investment in rural areas especially in rural infrastructure and amenities, and alter factor prices in favour of labour intensive production, a focus on small business and informal sector development; a population programme intended to lower the growth rate of the labour force consistent with the wishes of individuals; public works programmes designed to create more jobs, an emphasis on job specific as opposed to general education and training.

5:2:6 The Government hopes to create most of the new jobs in the rural areas in the informal sector. Current trends would have to be changed to facilitate the advancement of credit to the informal sector. Persons engaged in the informal sector should be encouraged to form co-operatives so that they could benefit from co-operative bank credit facilities. Secondly, harassment of persons engaged in the informal sector should be curbed if this sector is to play an important role in generating employment opportunities.

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5:3:0 Under utilisation of resources:

With regard to the utilisation of agricultural land, the main factors hindering full exploitation are:

5:3:1 Entry into the District's farming system by small-scale farmers most of whom are inexperienced in scientific farming methods.

5:3:2 Poor-farm management.

5:3:3 A number of writers have also blamed the country's economic structure. The point that while pre-independence nationalism in Kenya stressed the need to transform the nation from a European dominated economy to an African dominated economy, post-independence strategy of development which reversed the priorities of pre-independence nationalism founded as it were on multi-racialism, stressed expansion rather than transformation.

5:3:4 Basic to the strategy of expansion is the pre-eminent importance of economic development not only in relation to social and political transformation but also in relation to economic transformation. In the 1966-1970 Development Plan it is stated that development of the monetary economy will in itself generate opportunities that were not available in the traditional subsistence economy. These opportunities will in turn induce changes in behaviour patterns and incentives by making available to people a range of consumer goods that were not available

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to them before and by opening up markets in which they can sell their increased production.

5:3:5 In the current Development Plan 1974-1978 it is stated that growth along past patterns is the basic cause of the kind of unemployment experienced in Kenya. Ironically though the long-term solution to the problem is seen as more rapid growth in order to provide resources necessary for the modernisation of the rural areas and of agriculture.

5:3:6 The reasoning that economic growth brings structural changes is again seen in the Governments population programme. The Government considers that the most effective way of bringing the growth rate in population under control is through economic growth and development in rural areas which will change the economic and cultural incentives which result in large families. It is submitted that in the absence of any socio-political dimension in the approach, it will be difficult to control population increase in the near future. Such a policy does not seem to have been successful in the last thirteen years.

5:4:8 Objectives for development:

The goal of District planning is to produce feasible integrated action oriented programmes with available resources both within the District and from outside it for key development problem areas, to co-ordinate the implementation process and to involve local people in the development of their

areas. A prerequisite to the task is the definition of objectives for the overall plan and for the key sectors; the identification of the major constraints to economic growth and social development and the identification of the major opportunities which would facilitate the realisation of the objectives. The next stage would be the evaluation of alternative approaches in the light of the available resources and other factors likely to affect the plan. Having selected the preferred approach, programmes are then drawn to facilitate the realisation of the stated objectives with indications of the time scale.

Since Nakuru is largely an agricultural district, the objectives for the agricultural sector will now be examined. The District's objectives for the agricultural sector during the current Development Plan period are:

(a) To achieve 6.7% target rate of growth marketed agricultural production through intensified land-use. This is the same target for the nation as a whole.

(b) To increase the proportion of farmers who obtain a cash income from their land.

(c) To promote a more even development throughout the District.

(d) To increase opportunities for employment in rural areas.

(e) To improve standards of nutrition.

(f) To increase effectiveness of the agricultural extension services.

5:4:9 The current District plan has to a very large extent succeeded in relating proposed developments to the financial resources available. It is however observed that it is mainly resources from the Central Government which have been indicated, although there is some mention of some private investments. It would however be useful to indicate contributions by the local population.

5:4:10 District planning has facilitated the participation of local people in decision making. Through local representatives, the aspirations of the local people are taken into account at the planning and implementation stages of development.

5:4:11 An area that requires consideration in future is the identification of the District's problem areas. This should be followed by the formulation of objectives and strategies to be adopted to deal with the problem areas so identified at the District. It is only then that sectoral programmes can be fitted into an integrated District plan.

5:5:0 <u>Development strategy</u>:

The most important feature of the agricultural strategy for the District will be to ensure that the new farmers fully participate in programmes aimed at resource conservation and the intensification of high quality agricultural production. The author

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endorses the conclusion reached by the Government that it is only through accelerated development of the rural areas, where the majority of Kenyans live, that the necessary growth of employment can be generated and the people as a whole participate in the development process.

5:5:1 Although priority is currently given to agricultural research as shown in table V:I below, it would appear that the highest priority should be given to programmes aimed at breaking management bottlenecks and the integration of the new farmers into the District's farming system. This shift in emphasis is considered appropriate because a lot of information on crops and livestock has been accumulated over the years.

5:5:2 The second strategy is the intensification on re-settlement so that many more people will be employed, and the land used more intensively. Between 1974 and 1978 £ 1,543,000 will be spent on Shirika Settlement Schemes in the District. A further £ 71,700 will be spent on Haraka Settlement Schemes.

5:5:3 The third strategy is to strengthen the management of companies, partnerships and the co-operative movement. In the past, the record has not been good. Societies have been poorly managed and misuse of funds was common. More staff of the co-operative societies are to be encouraged to attend courses in administration, bookeeping and management.

TABLE V:II EXPENDITURE ON AGRICULTURE BETWEEN 1974 AND 1978

K£ ' 000

| | 1973/74 | 1974/75 | 1975/76 | 1976/77 | 1977/78 |
|---|---|---|---|---|---|
| Veterinary investigation Lab. Nakuru | 32.7 | 5.8 | 9.0 | - | - |
| National Animal Husbandry Research-Naivasha | 13.4 | 26.8 | 24.5 | 154.5 | 154.0 |
| Naivasha Dairy Training School | 6.8 | 50.9 | 18.5 | 45.8 | 24.8 |
| Beef Dev. Phase III Lanet | 12.5 | 12.8 | 11.0 | 10.0 | 5.0 |
| Dairy Husbandry Training Naivasha | 24.5 | - | 13.0 | - | - |
| Sheep and Goat Dev. Naivasha | 5.6 | 5.0 | 5.0 | 18.9 | 22.4 |
| Pig Husbandry Project | 4.7 | 5.5 | 3.0 | 27.2 | 27.2 |
| Livestock and Milk recording | - | 3.1 | 2.0 | 2.7 | 2.6 |
| Foot and mouth disease control | 46.8 | 39.8 | 48.3 | 40.0 | 71.6 |
| Dairy production improvement | 10.8 | 26.3 | 21.1 | 21.2 | 21.2 |
| Plant Breeding station Njoro | 1.5 | 3.5 | 6.5 | 22.4 | 10.1 |
| Tractor Hire Service | - | 13.5 | 18.0 | 4.0 | - |
| Egerton College Extensions | 12.4 | - | 35.0 | 46.0 | 40.0 |
| KCC - UHT Plant | - | 670.0 | - | - | - |
| Range Development | - | 6.0 | 10.0 | 10.0 | - |
| AFC Loans to small-scale farmers | 12.7 | 6.4 | 12.7 | 5.0 | 2.5 |

SOURCE: Nakuru District Development Plan 1974-78 P. 13-14

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It is also planned to grant co-operatives short-term production loans from the Co-operative Production Credit Scheme whose proposed expenditure on such credits in the District is planned at £ 198,500 between 1974 and 1978. This is quite a small amount of money bearing in mind the extent of the co-operative movement in the District, but it is a step in the right direction.

5:6:0 Programmes and agencies:

5:6:1 The programmes considered in this section are directed at employment and intensification of agricultural land-use. The two are related. Programmes that facilitate intensive land-use are also capable of generating employment opportunities.

5:6:2 The entry of small-scale farmers into the District's farming system means that more extension workers are needed. Whereas in the past it would have been possible to introduce changes in farm operation through a single manager on say a 5000 acres farm, with farm subdivision, for similar changes to be effected, extension officers would have to deal with ten or more farm owners.

5:6:3 In partnerships and in company farms, when difficulties arise due to managerial differences, farms have ended being subdivided in the majority of cases without official sanction, with quite unfortunate consequences to the farm's economy.

5:6:4 On co-operative farms, it has been pointed out that as a last measure, they can be taken up

for rehabilitation by the Ministry of Agriculture, as provided vide the Land Development Orders. There seems to be no such provisions or enforcement of such orders for company and partnership farms. All farms in the District should be subjected to such orders. As a matter of fact, a number of farms where subdivision has been difficult to contain to date are in this group.

5:6:5 It is clear from interviews with field officers that some forms of production such as barley, wheat and sheep farming require large-scale operations to be economical. Measures to ensure that farms in such areas do not fall below required size must be taken. Field officers have indicated that the sheep industry for instance is threatened by farm subdivisions. They pointed out that emerging forms of land ownership have adversely affected sheep farming which requires high standards of management on a large-scale basis. It is no wonder that coupled with lack of markets, the number of wool sheep has fallen from 163,400 in 1963 to around 100,000 in 1971.[1] In 1960, sheep population stood at 172,300.

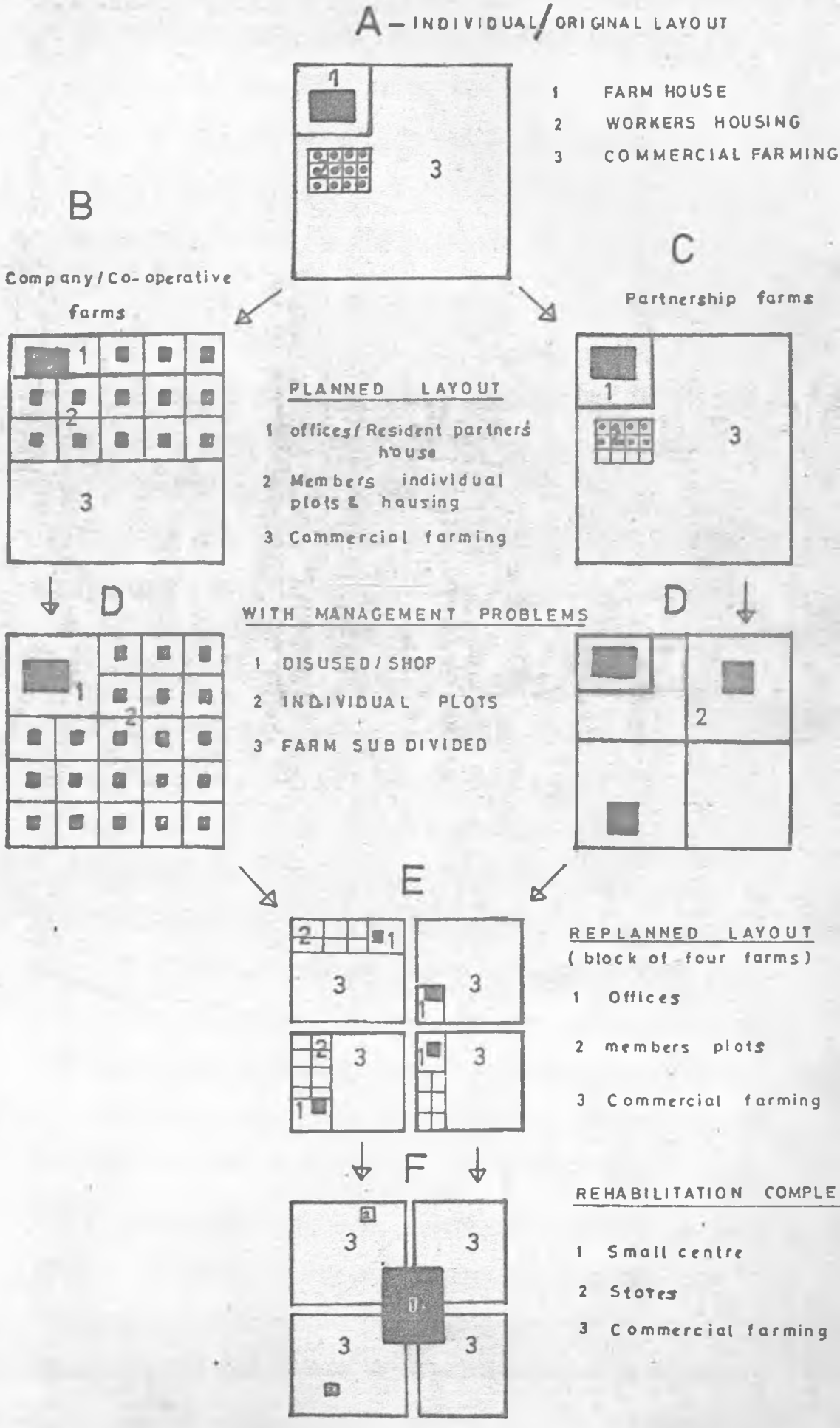
5:6:6 The problem of farm subdivision in the District is very recent indeed. During the early years of resettlement, the Department of Settlement in conjunction with the then Town Planning Department (now Physical Planning Department) ensured that all farms earmarked for resettlement were adequately

planned. Members' homesteads together with areas for subsistence farming, public land and communal farm land were clearly demarcated. This approach should be adopted on all future resettlement programmes. On currently settled farms efforts should be made to introduce farm plans. The procedure that could be followed is indicated in the model for farm rehabilitation presented below.

5:7:0 On the programme for land-use intensification, there is a great need to improve on extension services, and access to agricultural inputs as well as a continuous review of agricultural pricing and marketing policies.

5:7:1 The programme proposed is to move towards more labour intensive land units. This is based on the premise that much land in large farms is currently under-utilised and that output incomes and employment would be raised by the subdivision of farms in cases where output per hectare is lower than might be expected from holdings in a similar locality. Since it has been Government policy to settle the landless on some of these former large-scale farms, what now remains is to ensure that farm subdivision, especially unauthorised subdivision does not result in land units below stipulated minimum plot sizes for the various farming zones of the District. This should be supplemented by the stipulation of minimum output per hectare for smallholdings in the various localities. This might assume the form of quotas for

# Model for farm Rehabilitation



various farm units in the District. Where a farmer continues to show disregard of such measures, the state should repossess the land.

5:7:2 A second programme involves preparation of comprehensive leases so as to facilitate the sale of agricultural land in the District on leasehold basis.

The proposal of offering land on leases deserves serious consideration. The length of the leases should however be such as encourages farmers to make improvements on their farms. Probably a 15 years period but not exceeding 33 years period should be considered. The length of the lease is not the point at issue. It is the concept of leasing land rather than selling it. A lease system would give the Government the chance to review land policy from time to time when leases lapses to fit in with national aspirations at any given moment of time. At the present moment, farm subdivision has been necessary to meet political commitments to the people at independence, to generate employment opportunities, and to raise production. However, at a future date when more sources of employment may emerge pressure on land could be relieved necessitating regrouping. A lease system offering as it does opportunities for periodic review make for this flexibility.

5:7:3 Another programme involves educating the people in the District on resource management. It was pointed out earlier that some areas of the District are threatened by deforestation and soil

erosion. The environmental consequences of such resource misuse cannot be minimised. The National Environment Secretariat through its education programme, should in conjunction with public and private agencies working in the District educate people in the District to become environmentally conscious. The Secretariat should also undertake studies to investigate the environmental consequences of alternative forms of settlements on the ecosystem.

5:7:4 In chapter four it was observed that a few of the industries do not depend on the country for their raw material inputs. It is therefore proposed that a programme to identify accurately the resource base of the District and indeed of the Province should be launched. The International Labour Organisation report of 1972 observed that the potential of small-scale and rural industries based on local resources for employment promotion and income equalisation is great. This should be developed fully.

5:8:0 Co-ordination of programmes:

The importance of the District Development Committee (D.D.C.) cannot be sufficiently emphasised. Indeed, the corner-stone of Kenya's rural development programme is the District Development Committee. The District has come to be regarded as the basic operational unit for planning and implementing district plans. The District Development Committee's will continue to assess and to direct developments

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in the District, because it is at this level that the local people and their leaders, Government officials, non-governmental agencies interact best. Kenya has found that at this level, local communities can actively and constructively participate in the development of their areas. The District Development Committee must however assess the problems facing the District, assign them their priority, agree on the objectives for every sector and its role in an integrated District plan.

5:9:0 Constraints to be overcome:

5:9:1 One obstacle that can easily stand in the path of the proposed programme is lack of a clearly defined land policy for the former scheduled areas. It is recommended that the Ministry of Lands and Settlement, the Ministry of Agriculture and the Office of the President, and other relevant Ministries and agencies should ensure that a clear land policy is formulated.

5:9:2 The proposed programmes call for more extension officers and greater use of local resources. The Ministry of Agriculture should work out the requirements and see to it that the Government is committed to making financial and manpower provisions for extension services. The Ministries of Natural Resources and Commerce and Industry should clearly indicate the local resources as that could be developed for large-and small-scale industrial development.

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5:9:3 The rising population continues to exert growing pressure on resources and services in the District. It has been observed that the basic cause of Kenya's human settlements problems is the rapid increase in population.

5:9:4 The entry of small-scale farmers into the District some of whom do not seem to be environmentally conscious call for the intensification of an environmental education programme for the school children and for adults. Current efforts by the Ministry of Agriculture, Ministry of Health, Ministry of Education, voluntary organisations and the National Environment Secretariat in environmental education should continue to be expanded and strengthened.

5:9:5 Proposed phasing of development proposals:

The proposed phasing of the development proposals is not rigid. It is offered as an indication of the priority accorded to the various problem areas in the District by the writer.

5:9:6 Short-term proposals 1977-1980:

(a) Immediate cessation of farm subdivisions.

Action: Provincial Administration and the Ministry of Agriculture.

(b) Steamline management/members' relationships on co-operative and company farms.

Action: 1. Ministry of Agriculture
2. Ministry of Co-operative Development
3. Provincial Administration

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(c) Preparation of farm layout and enforce adherence to plans.

Action: 1. Ministry of Agriculture
2. Ministry of Lands and Settlement
3. Provincial Administration

(d) Intensify programme of adult education particularly farmers so as to instil on the population the need for the conservation of the environment. Simultaneously, the Provincial Administration should hold Barazas in the District to stress the need to conserve resources such as soil and forests.

Action: 1. Ministry of Housing and Social Services
2. Provincial Administration

(e) Co-ordination of all development in the District including developments which do not receive Central Government grants.

Action: District Development Committee

5:9:7 Medium and long-term proposals 1979-1985:

(a) Determine carrying capacity for various ecological or such other land units in the District.

Action: 1. Ministry of Agriculture
2. Ministry of Water Development
3. Ministry of Natural Resources

(b) Intensify programmes of environmental education in schools.

Action: 1. Ministry of Education
2. National Environment Secretariat

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(c) Review Land policy in District

5:9:8 It is stressed that the Ministries referred to under 'action' are proposed as convenors meetings to review various problem areas. The District Development Committee will identify other problem areas. The District Development Committee's co-ordinating role in all these efforts is vitally important.

When the programmes proposed in this report are implemented, their influence will be felt in the neighbouring Districts particularly those that fall within the former 'White Highlands'. In order to ensure beneficial effects of these measures it is proposed that the whole of the area should be studied and programmed by a single agency or preferably a joint development team comprising of members from Nakuru, Laikipia, Nyandarua, Uasin Gishu, Trans Nzoia and Kericho, with representatives from Baringo, Nandi, Kajiado, and Narok Districts.

6:0:0 These recommendations are offered as a first step in the difficult task of harmonising development with the resource base of Nakuru District.

## References

(1) Kenya Development Plan 1974-78 part 1

(2) Kenya's National Report to the United Nations Conference on the Human Environment

(3) Kenya National Development Plan 1966-1970

(4) Kenya National Development Plan 1970-1974

(5) Nakuru District Development Plan 1974-1978

(6) Internation Labour Organisation Report on Equipment and Incomes in Kenya, 1972

## Foot Notes

1. Report of the Nation Assembly of the select committee of unemployment. 1970

2. Daily Nation IVO.5112 of March 17, 1977

# BIBLIOGRAPHY


1. Peter Hall, The theory and Practice of Regional Planning. 1970
2. J.R. Boudeville, Problems of Regional economic planning 1966.
3. University of Dar-es-Salaam, some aspects of Regional Planning in Tanzania.
4. Physical Planning Department, Preliminary statement on the preparation of Regional Plans (Kenya).
5. S.M. Kimani and D.R.F. Taylor Growth Centres and Rural Development in Kenya 1973
6. Jos. G.M. Hilhorst Regional Planning 1971
7. Morgan R and Alden R., Regional Planning a comprehensive view. 1974
8. Kenya: Development Plans, 1966-1970; 1970-1974 and 1974-1978.
9. Kenyas National Report to the U.N. Conference on the Human Environment 1972
10. Kenya's National Report to the U.N. Conference on Human Settlements 1976
11. Nakuru District Development Plan 1974-1978
12. An economic Appraisal of the Settlement
13. Ministry of Finance and Planning Reports (b) An economic survey of Africa owned large farms in Trans Nzoia District 1967/68-1970/71.
    (c) Employment and earnings in the modern sector 1963-1974
    (d) Surveys of large scale farming areas 1963-1972
    (e) Population censorses 1962 and 1969
    (f) Statistical Abstracts 1963-1976


../2

14. (a) Physical Planning Department, Agricultural potential map
(b) Physical Planning Department, Rift Valley Province Regional Department Plan 1971
15. Department of Settlements, Annual reports 1963-1972
16. Ministry of Agriculture, Nakuru District Annual reports 1970-1972.
17. Reports of the Mission on land settlement in Kenya, 1966.
18. International labour organization, Report on employment and income in Kenya 1972.
19. Report of the National Assembly of the Select Committee of unemployment 1970.
20. Nakuru District Gazetteer 1956
21. L.G. Troup, Report on the General Economy of farming in the highlands. 1953
22. E.A. Royal Commission 1953-1955
23. Annual Report on the Commissioner for Local Government and Settlement, 1928.
24. Elspeth Huxley, White Man's Country Vol. 1870-1914.
25. Lippcomb J.F. and L. Winstone Cone, The History of Kenya Agriculture, 1972
26. S.H. Ominde, Land and Population Movement in Kenya, 1968
27. R.S. Odingo, Observations in the Kenya Highlands.
28. Institute for Development studies, University of Nairobi papers settlement scheme on the Kenya Highlands.

# APPENDICES

## APPENDIX I

## MAIN QUESTIONNAIRES

## HUMAN SETTLEMENTS IN NAKURU DISTRICT

## QUESTIONNAIRE FOR STUDENTS IN SCHOOLS

1. What is the name of your School? .....

.....

(a) Are you a boarder or a day student?.....

.....

(b) If a day student, how far do you live from the School?

.....

(c) Age.....

2. In which District were you born?.....

.....

3. In which other towns of Nakuru District have you lived?

.....

(a) Town..... From 19--- to 19-----

(b) Town..... From 19--- to 19-----

(c) Town..... From 19--- to 19-----

(d) Town ..... From 19--- to 19------

(e) Town..... From 19--- to 19------

4. From which centre(s) (town(s) does your family buy household goods?.....

(a) Centre (s) Town(s)..... Goods bought.....

..... .....

..... .....

..... .....

..... .....

..... .....

5. Do you think Kenya has any environmental problem?

Yes..... No.....

If the answer is yes, name them starting with the most important one.

(a) .....

(b) .....

8. (a) Who should solve these problems? .....

.....

.....

.....

(b) Why?.....

.....

.....

.....

9. Is there something you can do to improve the area where you live.....

If yes, what?.....

.....

.....

.....

10. What services (such as clean water, play grounds etc) do you think would make your area a good one to live in?

.....

.....

.....

.....

.....

.....

.....

# HUMAN SETTLEMENTS IN NAKURU DISTRICT

## QUESTIONNAIRE FOR THE WORKING POPULATION

INTRODUCTION: This Survey is being conducted by the Human Settlements , Division of the National Environment Secretariat, Office of the President, in conjunction with the University of Nairobi. It forms part of a larger project intended to cover the rest of the country. The information you supply will be treated in confidence. You need not give your name.

1. In which District were you born?.....
.....

2. What is the name of the town nearest to your Home?
..... .....

3. In which town of Nakuru District do you live?.....
.....

(b) In which town of Nakuru District do you Work?
.....

(c) How do you get to your place of work?
.....
.....

4. Do you live with your family in Nakuru.....
If the answer is no, where does your family live?
.....
.....

5. Do you send regular help to your family/relatives?
.....
.....

6. How do you send it?.....
.....
.....

7. How much do you send (average) per month?.....
.....

17. From which towns within Nakuru District do you buy any other requirements?

.....

.....

| Provisions Bought | Town of Origin |
|---|---|
| ..... | ..... |
| ..... | ..... |
| ..... | ..... |
| ..... | ..... |

18. What Provisions do you buy outside Nakuru District?

.....

.....

| Provision | Town of origin |
|---|---|
| ..... | ..... |
| ..... | ..... |
| ..... | ..... |
| ..... | ..... |

19. What investments or business interests do you have in this Town?

| Nature of investiment | Value Aprrox. | No. of employees | | |
|---|---|---|---|---|
| | | P* | C* | F* |
| (1) Shares in business | | | | |
| (b) Industrial concern | | | | |
| (c) Hotel | | | | |
| (d) Shop | | | | |

P* = Permanent

C* = Casual

F* = Family member

21. What investments do you have outside Nakuru District?

| Nature of Investment | Location | Approximate value | Reasons for investing there |
|---|---|---|---|
| | | | |

THANK YOU FOR YOUR COOPERATION!!!!!!!!!!

# HUMAN SETTLEMENTS IN NAKURU DISTRICT

## QUESTIONNAIRE FOR INDUSTRIES:

NAME OF CENTRE.....

1. Name of firm.....
2. Date Established.....
3. Number of employees.....
   (a) Permanent employees.....
   (b) Casual employees.....
4. Where do your employees come from?
   (a) From within this town.....
   (b) From within the District.....
   (c) From outside this District.....
5. How do you recruit your labour? (tick as appropriate)
   (a) Advertisements in the press.....
   (b) Job seekers calling in.....
   (c) Others specify.....
   .....
6. (a) How easily do you manage to recruit the type of employees you require.....
   .....
   .....
   (b) Are there any seasonal variations in the demand for labour in this firm?.....
   .....
   .....

(i) Peak periods..... (ii) No. of employees required.

(ii) Low periods..... (ii) No. of employees required.

7. What products does your firm produce?

| | Product | quantity |
|---|---|---|
| (a) | ..... | ..... |
| (b) | ..... | ..... |
| (c) | ..... | ..... |
| (d) | ..... | ..... |
| (e) | ..... | ..... |

8. Which are your major markets?.....

.....

(a) Percentage sold in this town.....

(b) Percentage sold in the District.....

(c) Percentage sold outside the district.....

..... .....

9. What raw materials do you require to manufacture your products?

| | Raw material | Quantity | Source |
|---|---|---|---|
| (a) | ..... | ..... | ..... |
| (b) | ..... | ..... | ..... |
| (c ) | ..... | ..... | ..... |
| (d) | ..... | ..... | ..... |
| (e) | ..... | ..... | ..... |

10. Do you use any semi-processed products as inputs to your products?

| | Raw material | Quantity | Source |
|---|---|---|---|
| (a) | ..... | ..... | ..... |
| (b) | ..... | ..... | ..... |
| (c) | ..... | ..... | ..... |
| (d) | ..... | ..... | ..... |
| (e) | ..... | ..... | ..... |

11. In which other towns does your firm have outlets for its products? .....

.....

.....

.....

.....

..... .....

12. What are your future plans

(a) In relation to markets for your products?

.....

.....

.....

(b) In relation to labour requirements?

.....

.....

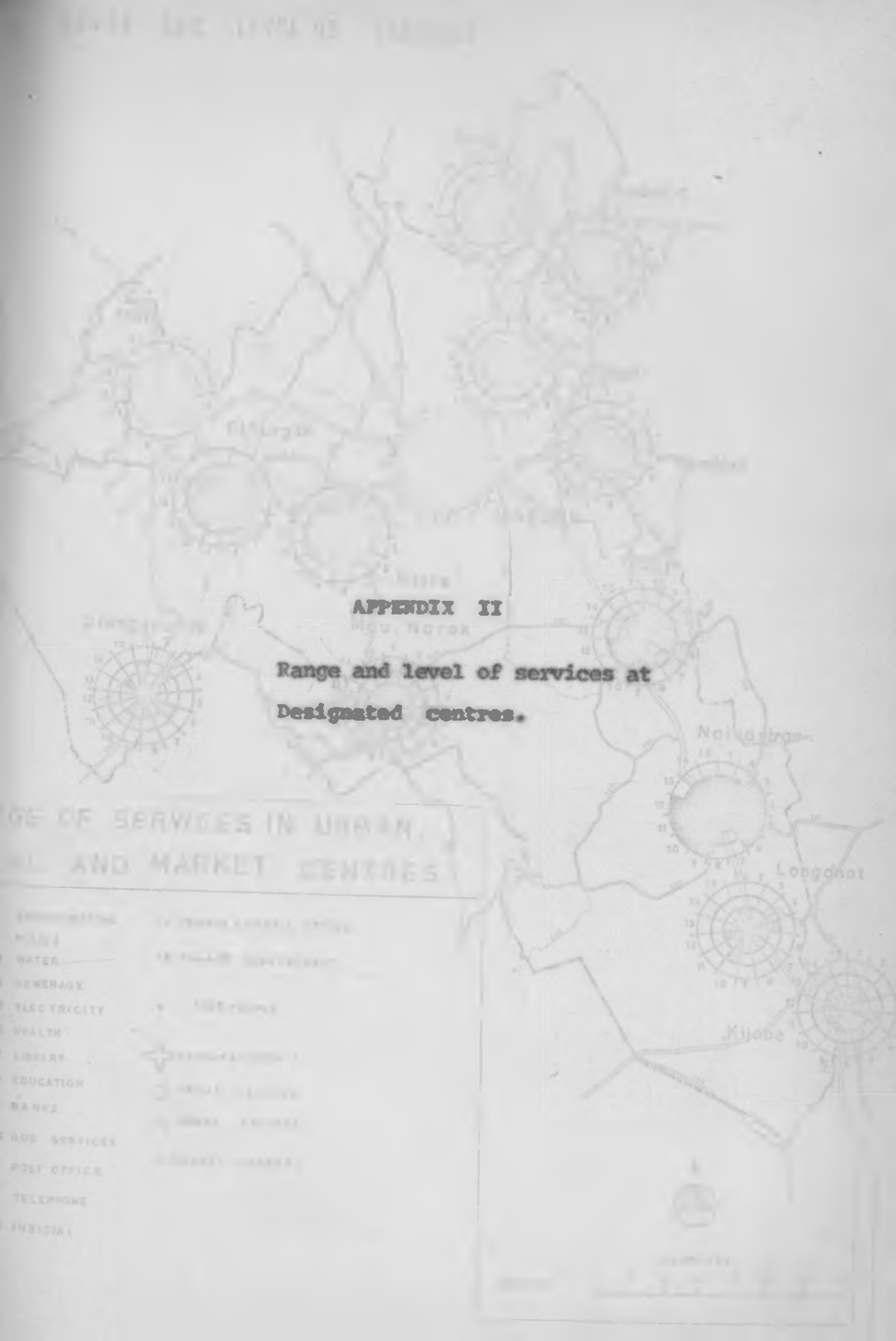
.....

(c) In relation to quantities and sources of raw materials? .....

..... .....

.....

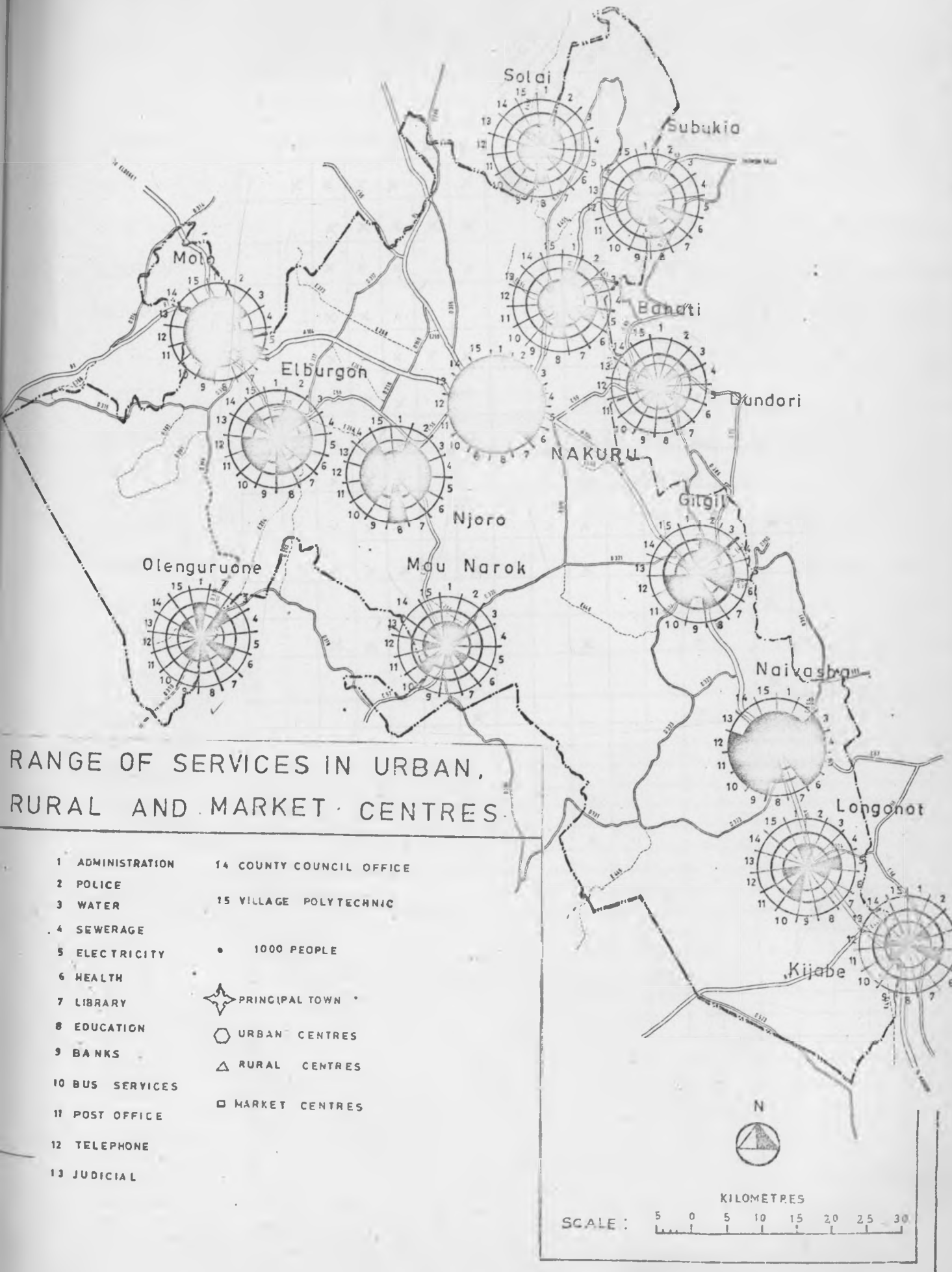
.....



# APPENDIX II

## Range and level of services at Designated centres.

FIG. 8 RANGE AND LEVEL OF SERVICES




## RANGE OF SERVICES IN URBAN, RURAL AND MARKET CENTRES

1 ADMINISTRATION
2 POLICE
3 WATER
4 SEWERAGE
5 ELECTRICITY
6 HEALTH
7 LIBRARY
8 EDUCATION
9 BANKS
10 BUS SERVICES
11 POST OFFICE
12 TELEPHONE
13 JUDICIAL
14 COUNTY COUNCIL OFFICE
15 VILLAGE POLYTECHNIC

• 1000 PEOPLE

PRINCIPAL TOWN
URBAN CENTRES
RURAL CENTRES
MARKET CENTRES

APPENDIX 2 RANGE AND LEVEL OF SERVICES IN CENTRES.

| CENTRE | DISTRICT HQ | DIVISIONAL HQ | CHIEF CAMP | POLICE | WATER | SEWERAGE | ELECTRICITY | HOSPITAL | HEALTH C | DISPENSARY | LIBRARY | SEC SCHOOL | PRY SCHOOL | BANKS | BUS SERVICES | POST OFFICE | TELEPHONE | JUDICIAL | LOCA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAKURU | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| NAIVASHA | X | X | X | X | X | X | X | X | X | X | | X | X | X | X | X | X | X | X |
| MOLO | | X | X | X | X | | X | X | X | | | X | X | X | X | X | X | X | |
| NJORO | | | X | X | X | X | X | | X | X | | X | X | | X | X | X | X | |
| ELBURGON | | | X | X | X | | X | | X | X | | X | X | | X | X | X | | |
| MAU NAROK | | | X | X | X | | | | | X | | | X | | X | | X | | |
| GILGIL | | | X | X | X | X | X | X | X | X | | X | X | | X | X | X | | |
| DUNDORI | | | | / | X | | | | X | X | | | X | | X | | X | | |
| BAHATI | | X | X | X | X | | X | | | X | | X | X | | X | X | X | | |
| SOLAI | | | X | X | X | | | | | X | | X | X | | | | X | | |
| SUBUKIA | | | X | X | X | | | | X | X | | X | X | | X | X | X | | |
| RONGAI | | | X | X | X | | X | | | X | | | X | | | X | X | | |
| OLENGURUONE | | | | | | | | | | | | | X | | X | | | | |
| LONGONOT | | | X | X | | | X | | | X | | | X | | | | X | | |
| KIJABE | | | | | X | | X | | | | | | | | X | | X | | |
| MBARUK | | | | | | | X | | | | | | X | | | | | | |
| ELMENTAITA | | | | X | | | | | | | | | | | | | | | |
| BANITA | | | | | | | | | | | | | | | | | | | |
| NYAMAMITHI | | | | | | | | | | | | | | | | | | | |
| KABAZI | | | | | | | | | | X | | | | | | | | | |
| KANDUTURA | | | | | | | | | | | | | | | | | | | |
| KAMPI YA MOTO | | | X | | X | | | | | X | | | | | | | | | |
| SIAPE | | | | | | | | | | | | | | | | | | | |
| KAMWAURA | | | | | | | | | | | | | | | | | | | |
| NGWATANIRO | | | | | | | | | | | X | | | | | | | | |
| KIBUNJA | | | | | | | | | | | | | | | | | | | |
| TURI | | | | | X | | | | | | | X | | | | | | | |
| MAU SUMMIT | | | X | | | | | | | | | | | | | | | | |
| MOLO SOUTH | | | X | | | | | | | X | | | | | | | | | |
| KERINGET | | | | | | | | | | | | | | | | | | | |
| IKUMBI | | | | | | | | | | | | | | | | | | | |
| KERISCI | | | | | | | | | | | | | | | | | | | |
| AMBUSKET | | | | | | | | | | | | | | | | | | | |
| MORENDAT | | | | | X | | X | | | | | | | | | | | | |
| NORTH KARATI | | | | | X | | | | | | | | | | | | | | |
| MARAIGUSHU | | | | X | | | | | | | | | | | | X | | | |
| KARIANDUSI | | | | | | | | | | | | | | | | | | | |
| KARUNGA | | | | | | | | | | | | | | | | | | | |
| EBURRU | | | X | | | | | | | | | | | | | | | | |
| KONGONI | | | | X | | | | | | | | | | | | | | | |
| MAAI MAHIU | | | | | | | | | | | | | | | | | | | |

X FACILITIES AVAILABLE

## APPENDIX III

## Performance of Settlement Schemes.

FARM PROFITS ON SETTLEMENT SCHEMES, 1964/65 to 1967/68

Appendix B Table 23

| Scheme Group | Survey Year | Average Farm Size | Farm Output | - Farm Costs Excluding Interest | = Gross Farm Profit | - Interest a/ Charges | = Net Farm Profit | + Non Farm Income | = Net Income | Net Farm Profit per Acre |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Acres | ( | | Shillings per Farm | | | | ) | Shillings |
| High Density Schemes | | | | | | | | | | |
| | 1964/65 | 23.8 | 1259 | 952 | 306 | 327 | -20 | 328 | 308 | -1 |
| | 1965/66 | 22.1 | 1957 | 876 | 1080 | 372 | 708 | 394 | 1102 | 32 |
| | 1966/67 | 23.5 | 3193 | 1059 | 2133 | 407 | 1726 | 625 | 2351 | 73 |
| | 1967/68 | 24.1 | 3589 | 1014 | 2575 | 412 | 2163 | 621 | 2783 | 90 |
| Low Density Schemes | | | | | | | | | | |
| | 1964/65 | 34.3 | 4499 | 2664 | 1835 | 490 | 1345 | 967 | 2312 | 39 |
| | 1965/66 | 30.9 | 4275 | 2629 | 1646 | 589 | 1076 | 1325 | 2402 | 35 |
| | 1966/67 | 35.4 | 4095 | 2447 | 1648 | 572 | 1075 | 2600 | 3683 | 30 |
| | 1967/68 | 31.3 | 3706 | 2757 | 2949 | 677 | 2272 | 3552 | 5824 | 73 |
| All Settlement Schemes | | | | | | | | | | |
| | 1964/65 | 25.0 | 1616 | 1141 | 475 | 345 | 130 | 399 | 529 | 5 |
| | 1965/66 | 23.7 | 2366 | 1185 | 1180 | 407 | 773 | 558 | 1332 | 33 |
| | 1966/67 | 31.3 | 3780 | 1751 | 2029 | 485 | 1543 | 1344 | 2888 | 50 |
| | 1967/68 | 30.5 | 4778 | 1765 | 3012 | 513 | 2499 | 1500 | 3999 | 82 |

a/ Interest on development and landloans calculated as 6.5% of loans drawn before 1st April plus 6.5% of half of any amounts drawn during the year.

LABOUR FORCE ON SETTLEMENT SCHEMES, 1964/65 to 1967/68

Appendix B Table 16

| Scheme Group | Survey Year | Average Farm Size | Family Labour | | | Hired Labour a/ | | Family and Hired Labour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Men | Women | Children | Men | Women | Total Number per Farm | Total Number per 1000 Acres | Total [illegible] of [illegible] 1000 [illegible] |
| | | Acres | ( Number per Farm | | | | | ) | ( Number per 1000 Acres | |
| High Density Schemes | | | | | | | | | | |
| | 1964/65 | 23.8 | 1.0 | 1.1 | 3.5 | .3 | - | 5.9 | 249 | 55 |
| | 1965/66 | 22.1 | 1.4 | 1.3 | 2.8 | .1 | . | 5.6 | 253 | 67 |
| | 1966/67 | 23.5 | 1.6 | 1.5 | 3.5 | .5 | . | 7.1 | 302 | 89 |
| | 1967/68 | 24.1 | 1.8 | 1.6 | 3.6 | .4 | . | 7.6 b/ | 315 | 91 |
| Low Density Schemes | | | | | | | | | | |
| | 1964/65 | 34.3 | 1.1 | 1.0 | 3.7 | 2.1 | .4 | 8.3 | 242 | 93 |
| | 1965/66 | 30.9 | 1.3 | 1.0 | 2.3 | .9 | . | 5.5 | 177 | 71 |
| | 1966/67 | 35.4 | 1.2 | 1.2 | 3.3 | 1.1 | . | 6.8 | 192 | 64 |
| | 1967/68 | 31.3 | 1.3 | 1.3 | 3.4 | .8 | .1 | 7.1 b/ | 227 | 67 |
| All Settlement Schemes | | | | | | | | | | |
| | 1964/65 | 25.0 | 1.0 | 1.1 | 3.5 | .5 | .1 | 6.2 | 248 | 60 |
| | 1965/66 | 23.7 | 1.3 | 1.2 | 2.7 | .3 | . | 5.5 | 232 | 67 |
| | 1966/67 | 31.3 | 1.5 | 1.3 | 3.5 | .8 | .1 | 7.2 | 230 | 73 |
| | 1967/68 | 30.5 | 1.6 | 1.5 | 3.7 | .7 | .1 | 7.7 b/ | 253 | 75 |

a/ Only includes hired labourers on monthly terms.

b/ Includes children who were hired to work.


**APPENDIX IV**

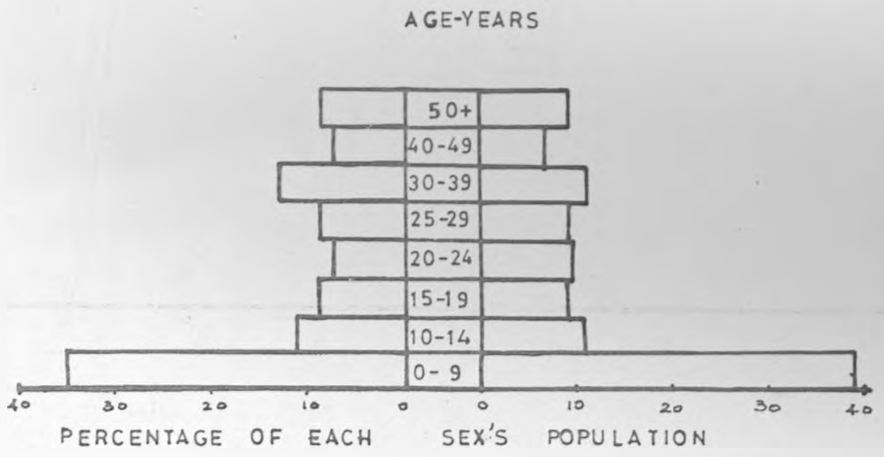
**Age & Sex structure.**

FIG. 7

# Appendix 4

# AGE-SEX STRUCTURE NAKURU DISTRICT

## 1962




## 1969