

CONSTRAINTS TO THE GROWTH OF MAGADI TOWNSHIP

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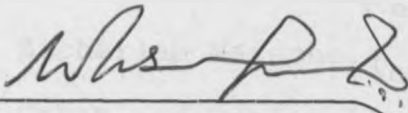
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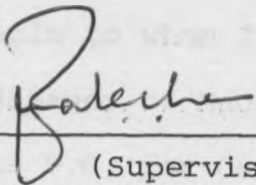
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ABSTRACT

This study set out to examine the factors that have constrained the growth of Magadi. These have been found to be, the history of the township, the ownership of land on which the township has developed, the location of the township vis a vis other urban centres, the population of the township and that of its hinterland, the weak commercial and industrial base of the township, the weak linkages with the hinterland, and a hinterland with untapped potential.

The thrust of the recommendations set out in this study are to remove the constraints indicated above, and to guide the growth of the township in order that it benefits the hinterland. The specific recommendations are legal changes in land ownership, strengthening of the commercial and industrial base of the township and the strengthening of linkage between the centre and its hinterland.

This study is by no means exhaustive further research especially in the hinterland areas of Magadi is necessary especially in areas where semi nomadic pastoralism is practised.

TABLE OF CONTENTS

	<u>Page</u>
TITLE OF THESIS	(i)
DECLARATION	(ii)
ACKNOWLEDGEMENTS	(iii)
ABSTRACT	(v)
TABLE OF CONTENTS	(vi)
LIST OF TABLES	(viii)
LIST OF MAPS AND PLATES	(ix)

CHAPTER ONE

1.0	INTRODUCTION	1
1.1	Statement of Problem	1
1.2	Objectives of the Study	4
1.3	Relevance of the Study	4
1.4	Assumptions of the Study	5
1.5	Scope of the Study	6
1.6	Research Methodology	7
1.7	informal interviews	8
1.8	Secondary data	8
1.11	Summary outline of chapters	13
1.12	Literature Review	14

CHAPTER TWO THE HINTERLAND

2.0	INTRODUCTION	32
2.1	Location and Size	34
2.2	Climate	36
2.3	Temperature	36
2.4	Rainfall	37
2.5	Existing Infrastructure	37
2.6	Population Distribution	42

2.7	Cultural Identity	43
2.8	Economic Resource Base	43
2.9	Economic Standards	53
2.10	Immediate Hinterland	56

CHAPTER THREE : THE STUDY AREA

3.0	INTRODUCTION	61
3.1	Location and Size	61
3.2	Historical Development	61
3.3	Social Base	65
3.4	Land Tenure and Use	69
3.5	Economic Base	70
3.6	Infrastructural Services	77
3.7	Transport and Communication	78

CHAPTER FOUR : FINDINGS: ANALYSIS AND EVALUATION

4.0	INTRODUCTION	82
4.1	Factors Internal of the Township	83
4.2	Factors External of the Township	91
4.3	Transport Factor	96
4.4	Factors Influencing Magadi's Growth	98
4.5	Planning Implications	105

CHAPTER FIVE

5.0	CONCLUSIONS	111
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BIBLIOGRAPHY	123
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LIST OF TABLES

<u>TABLE</u>		<u>Page</u>
1.	Number of Urban Centres	24
2.	Population Change of Urban Centres 1948, 1962, 1-69, 1979	26
2.1	District Populstion	39
2.2	District Urban Population	39
2.3	Projected Population (Rural)	41
2.4	Projected Population (Urban)	41
2.5	Population Distribution	42
2.6	Area under ACZ II-VI	46
2.7	Livestock Population in Kajiado District	50
2.8	Area under Coffee and Cotton	51
2.9	Area under Foor and Horticultural Crops	52
3.1	Magadi Township Population Characteristics	66
3.2	Employment over 45 year period	67
3.3	Employment Structure	76
4.1	Ethnic Composition of Total population between 1940 and 1945	86
4.2	Characteristic of Group Ranching Schemes around Magadi	93
4.3	Infrastructural Facilities at Shombole	95

LIST OF MAPS AND PLATESPageMAPS

1.	Kenya : Kajiado District	33
2.	Kajiado District	35
3.	Agro-climatic Zones: Kajiado	47
4.	Magadi Concession Land and Surrounding Group and Individual Ranches	58
5.	Magadi: Existing Situation	62
6.	Soda-Ash Plant and other works areas (sketch)	71
7.	Salt Plant (sketch)	73

PLATES:

1.	A house in Demeto Estate	115
2.	A house in Tanganyika Estate	115
3.	A house in Maringo Estate	116
4.	A house in Sinuti Estate	116
5.	A Dredge at the lake	117
6.	The salt factory	117
7.	Salt pond	118
8.	Packed Salt	118
9.	Pilled soda ash	119
10.	Salt pond and factory	119
11.	Magadi Konza Railway and Salt Factory	120
12.	Railway Station	120
13.	Magadi Nairobi Road	121
14.	Magadi Sports club	121
15.	Magadi Sombole Road	122

CHAPTER ONE

1.0 INTRODUCTION

This study was carried out in and around Magadi township in Kajiado District. Magadi township and areas around it are in Central Division of Kajiado District.

Magadi town exists just adjacent to Lake Magadi, a dry lake with abundant mineral potentials i.e. soda ash and salt.

The town is some 120 km south of Nairobi to which it is connected by road and some 88 kilometres of Kajiado, the District headquarters to which it is connected by railway.

Magadi is among the principal urban centres in this district beside Kajiado, Ngong and Loitokitok.

1.1 STATEMENT OF THE PROBLEM

The trend of urban growth in the country can generally be said to be rapid especially after independence (post independence era). The rapid trend of urban growth is characterised by four phenomena.

Rapid urbanisation characterised by the rapid population growth in urban areas. The population growth rate of urban areas (6.8%) is higher than the national population growth rate (3.4%). The national population

growth rate is among the highest in the world.

Multiplicity in the number of centres classified as urban. These are centres with populations of 2,000 or above. Many such centres have sprang up during the post independence era and have recorded phenomenal population growth.

Growth in functional role of the centres:

Many centres have embraced administrative commercial and even industrial functions - when formerly they either did not exist or served no such functions at all.

Growth in physical size, mainly built up areas of the townships - many centres that formerly consisted of just a couple of shops have presently spilled over to what was previously rural and agricultural land. For instance more shops have come up, more residential houses, more hotels, more streets, etc.

The rapid trend of urban growth as presented above can generally be divided into two periods. Firstly the period when rapid growth was recorded only in the main centres such as Nairobi, Mombasa, Kisumu and Nakuru. And secondly the period when rapid growth is recorded in many varied, small outlying or peripheral centres.

The second phase of development or growth can be attributed to Government policy of dispersing development and reducing the primacy of a few centres. The encouraging of the growth of smaller centres has come out of the realisation that urban areas and indeed urban growth is important in the process of national development. The growth centre policy, the rural industrialisation policy and the decentralisation efforts all embrace urban growth, especially of small centres. Development efforts are presently directed towards rural areas where a majority of our population live. Such development effort cannot ignore and indeed includes small centres in the rural areas. Urban centres, and indeed urban growth is important in the process of national development.

This study looks at Magadi in the context of the above. Taking the point that urban growth of outlying centres is important in national development and that it should be encouraged, this study intends to identify factors that have influenced the growth of Magadi township. My observation is that Magadi has realised very little if any growth since the town came into being. That is growth seen in terms of physical expansion, population growth, functional development,

The problem my study examines is why has Magadi not grown - despite having been established as early as 1911? What factors explain this on growth?

1.2 OBJECTIVES OF THE STUDY

The purpose of this study is to identify the factors that influence the growth of Magadi township. An understanding of these factors is basic or crucial in determining future trends of growth and the future role of the township.

The study endeavours to examine Magadi township with a view of isolating factors internal to the township which influenced and indeed still influence its growth. The study examines also factors external of the township : its greater and immediate hinterland which influence its growth.

Having determined the factors that influence Magadi's growth, indeed those that have stiffened its growth, this study intends to come out with suggestions as to how such a township's growth may be guided in order to facilitate the development of its region.

1.3 RELEVANCE OF THE STUDY

Development policies and strategies in Kenya now recognise the importance of urban areas in rural development, and indeed also in the whole process of national development. The growth in urban centres especially growth in the level of services, commercial, health, educational, employment etc. are important in the realisation of the goal of national development.

The study of the factors influencing the growth of Magadi is relevant in the context of national development, since Magadi like any other urban centre has a role to play in the development of the Magadi region or the surrounding region.

The study is especially important because Magadi is situated in a marginal area (semi arid area) inhabited by a semi nomadic pastoral community defined in the 1979-83 Development Plan as among the the absolutely poor people in Kenya and isolated as a special case in development effort.

Magadi town itself is a unique development - a mining centre or town. Very few such centres exist in the country. Previous studies have concentrated on towns in high potential areas, most of which were colonial, administrative or military towns. This study is an effort towards filling the gap in knowledge about this and such other towns.

1.4 ASSUMPTIONS OF THE STUDY

The study is carried out with a number of assumptions.:

- (i) That the relative weak linkage between the town and its hinterland has affected the growth of the town adversely.

(ii) That the hinterlands slow rate of development and weak economic base has generated little if anything that could stimulate urban growth of Magadi.

(iii) The scope exists for intervention to stimulate the growth of Magadi and the surrounding region.

1.5 SCOPE OF THE STUDY

The aim of this study is to analyse the factors that have stiffened the growth of Magadi township. This required an examination of Magadi township itself; the history of the township; stages in its growth and the existing urban structure of Magadi town.

The region in which Magadi is placed firstly the district in general and then more specifically Magadi's immediate hinterland or surrounding area is examined.

The first stage of examination attempts to discern factors internal of the township which may or indeed are a hinderance to growth. The second stage of examination attempts to analyse the resource base of the region in which the township is located.

An attempt is made to understand the relationship

between Magadi and the region. The questions what effect has Magadi had to its region and vice versa are asked and answered.

1.6 RESEARCH METHODOLOGY

Data included in this study was collected during the long vacation from July to September, 1985. Source of data included questionnaire forms, documentary analysis reports, physical field observation and informal discussions with the relevant officials in the field.

The first task in the field was physical field observation or survey of all existing buildings in the town. The buildings were divided into commercial, industrial, residential and recreation.

The second task was the examination of existing records from the company to establish certain facts about the township such as population, migration patterns, origins of population, employment, use of services, ownership of facilities, etc.

The third task was the administering of a questionnaire to the areas around Magadi - defined by the ranches - (group ranches) surrounding the township, the agriculturally high potential area and areas along transportation links to Magadi.

The fourth and last task was the collection of data about the District in general - done mainly through examination of existing records. Information collected concerned mainly resource base and development efforts.

1.7 INFORMAL INTERVIEWS

This technique was employed to gather information regarding past performance of the town, problems it has faced, possible future developments and historical development of the town. Those interviewed were company administrators and long serving employees of the company. These individuals were selected by virtue of their positions and long stay in the township which the author believes are in the best position to give an account of the performance of the town development.

Other key informants included the DO for Central Division, the Chief, Veterinary assistant who were particularly useful in giving account of the economic performance of the surrounding areas or hinterland.

1.8 SECONDARY DATA

Information was attained from various sources, company records, Central Bureau of Statistics, population data, Kajiado District Development Plans,

livestock surveys, Ministry of Water Development, Ministry of Agriculture, etc. Matters pertaining to employment trends in the town, activities in the surrounding areas and historical development of the town were known through use of secondary data.

It should be noted that the above are not the only sources of secondary data. Others will be mentioned in the thesis where relevant.

1.9 USE OF PRIMARY DATA

Two research tools were used to collect information from the field.

(a) Visual Observation

This rather obvious method helped to record information regarding especially land use patterns in the town, condition of transport networks from the town; nature of use of the networks, type of employment activities in the town, type and extend of activities in the surrounding areas.

(b) Questionnaire Method

This method was used for collecting primary data. Four sets of structured questionnaires were used and they were all administered by the author himself. Two types of questions were asked : open ended and closed. The open ended questions specifically

sought to record the opinions of the respondents while the closed ones presented predetermined possible alternatives thought vital to the researcher.

(i) Business/Trade Questionnaire

This was conducted in Magadi town and other shopping centres - Shombole, Kiramatian, Ngurumani, Oldonyonyokie, Tinga Kiserian, Singiraini and Mile 46. These centres fall along the Magadi Railway, Magadi Nairobi road and the Shombole and Ngurumani road. The questionnaire was meant to establish the nature, ownership and relative strength of commercial activities in the centre sources of merchandise - and - problems facing businesses. The questionnaire also sought to know the attractiveness of the Centre.

(ii) Rural Household Questionnaire

Two categories of questionnaires were designed and administered to the rural or surrounding areas of Magadi. The first set of questionnaires were administered to the ranches (group ranches) around Magadi. The is Shombole, Ngurumani, Oldonyony Ukie, Olkeri and one individual ranch. This questionnaire was administered to 25 members of the group ranches and the manager of the individual ranch.

The second set of questionnaires were administered to the farmers in Ngurumani. This questionnaire was administered to 25 farmers.

The questionnaires administered to the surrounding areas of Magadi were intended to convey information pertaining to such issues as the social and economic characteristics of these areas. The question the questionnaires seek to answer is whether the hinterland is capable of supporting the centres development. Can the centre illicit support from its hinterland?

The questionnaire also seeks to establish the interaction and interdependence of the town and hinterland in terms of flows of goods and services from the centre to the hinterland and vice versa. It may be discerned therefore, whether is strongly linked to its hinterland and the implications of this or the reverse.

1.9 SAMPLING

In the case of the rural questionnaire the population was stratified into two categories. The agriculturalists and the pastoralists. Each category had its own questionnaire. A total number of 50 questionnaires were administered 25 for each category

as above. It should be noted that although the figure may seem very small it could be sufficiently representative due to the homogeneity of the population. The questionnaire was administered to household heads only.

The Business/Trade questionnaire was administered to 4 major commercial shops in Magadi and 25 smaller retail shops.

1.10 DATA PROCESSING AND ANALYSIS

The main method used for recording the observations made was classification whereby various types of information were grouped into smaller categories in order to simplify the description and analysis of the data.

Simple methods such as description of absolute frequencies and percentages were commonly used to show the characteristics of the phenomenon under investigation. Apart from the descriptive methods of analysis, use was also made of auxilliary devices such as tables. Analytical (non quantitative) statements are also made in describing and analysing information obtained, especially from informal sources.

1.11 SUMMARY OUTLINE OF CHAPTERS

Chapter I is the general introduction to the project. This includes the problem statement, methodology and literature review. Chapter II discusses Magadi's region. This Chapter is divided into two sections: the first section discusses Magadi's wider region defined by the District boundaries, the second section discusses Magadi location. Included in this Chapter's first section is the Geographic setting: physical, social and economic bases of the district as they relate to the area of study. Included in this chapter's second section is a discussion of the economic and social patterns of areas immediately around Magadi with a view of understanding the ability or inabilities of the hinterland to support or otherwise the development of Magadi.

An examination of the communication - lines emanating from Magadi - roads and railways is done with a view to establish the interaction between the centre and its hinterland. The nature of the roads, goods transported up and down, the frequency of movement or use of the facilities, and the effects of each is established.

Chapter III discusses Magadi township, here are the geographic setting, historical development, social and economic bases and existing land use pattern of

the town. Outlined also is the range and extend of services rendered at the centre.

Chapter IV discusses a growth implications emphasising on the factors identified. It thus represents the major observations of the study.

Chapter V is the final chapter which is a summary of the thesis. It outlines the major conclusions of the study upon which recommendations for future policy measures are based on. In that case the proposals for guiding future development planning are presented as the last task of this project.

1.12 LITERATURE REVIEW

The theoretical background underlying this study is based on the following areas:

- (a) The origins of towns in Kenya
- (b) The trend of urban growth in Kenya
- (c) Explanations for the rapid trend of growth
- (d) Policy on urban development in Kenya.

Writing on urban growth in sub Saharan Africa Joseph Guglered (1971) argues that urban development in Africa is a recent phenomenon. He argues that most traditional societies were small

in size and depended on agriculture herding or raiding for their subsistence. The Yoruba are the only people who evolved on urban tradition with urban centres based on royal courts crafts and a peasantry. They either commuted daily to nearby fields or came regularly for the major socio-cultural events.

Joseph further argues that some urban development based on trade with the outside world, either across the Indian Ocean or across the Sahara. Such towns like Malindi and Mombasa grew from such trade. Urbanization on a sizeable scale started with the imposition of colonial administration which followed mission stations fortification centres and army barracks. Such outposts have today turned to be large urban centres. Morgan, (1969) argues that such administrative centres provided a network of settlements in which commerce and industries could be located.

Morgan (1969) and Onunde (1968) have argued that the pattern of urban development in Kenya has been greatly affected by lines of overland communication. Construction of Uganda railway for example accounted for the origin of the principal major towns in Kenya. Thus in Kenya the four leading urban centres lie at each terminus of the original Kenya-Uganda Railway line (Nairobi-Nakuru-Mombasa and Kisumu).

Rural urban drift in Kenya has also been responsible for the growth of urban areas in Kenya. People move from rural to urban areas in search of employment education entertainment and many other services available in urban areas and unavailable or poorly provided in rural areas. These reasons suggest that there are differentials between urban and rural areas in terms of job opportunities and provision of services.

Jacobson and Prakash (1971) recognize two principal categories of causes of urbanization, viz 'push' and 'pull' factors. That is push from the countryside and pull of the city or town respectively. Such factors such as lack of employment opportunities in the countryside force people to move/leave such areas to seek better opportunities in towns. This sets a trend of migration into the towns. thus making them (towns) larger and exerting strain on the facilities available in them. Other factors like lack of social amenities in the countryside have similar effects.

The pull factors are such as modern means of communications, attractive social amenities, employment, housing, health and educational facilities. They make towns attractive to countryside residents thus causing inevitable influx.

Rapid urban growth in Kenya started only after second world war (1945) and has produced only two cities with over 100,000 inhabitants namely Nairobi and Mombasa.

Before the colonial administration and the coming of missionaries in Kenya, there were only periodic markets scattered in the country-side. Such centres were used for storing, distributing and barter trade for surplus food produced by their hinterlands. The centres attracted blacksmiths witch doctors and other specialised 'professionals' whose services were locally demanded. Such centres assumed commercial administrative and judicial functions. They were the meeting places for the Council of elders which maintained law and order in the community.

The system was however changed with the introduction of monetary economy by the colonial Government in the early 1900's. The administrators were followed by missionaries and Asian businessmen. As a means for rapid exploitation of resources in the hinterland, major roads and railways were constructed to connect the hinterland or source of raw materials to the ports for export to the metropolitan cities. Manufactured goods would follow the same route as finished products to be sold in the colonies. Towns like Mombasa grew up this way. The

connection of this town to the hinterland provided impetus for growth. The town acted/acts like a go between Kenya and overseas. A point from where goods were conveyed to the interior and also abroad. Mombasa in this respect was a (still is) a distributing point for goods destined for overseas which emanate from the interior and those destined for the interior which emanate from outside.

Certain interior towns play more or less the same role, except that their distribution function is restricted to the interior regions. Kisumu for example acts as a distribution point for not only the Western Kenya Region, but also for Uganda and parts of Tanzania. Each smaller urban centres may play such a role for more restricted hinterlands - a small centre like Butere plays such a role for the Butere Division or region. One actually witnesses a ranking in the levels of distribution roles played by the various centres - from a large distribution function to a minor distribution function. The point to note in this respect is the fact that the distribution role is an important variable explaining why certain centres have grown or not grown.

The connection of the centres to the hinterland provides impetus for growth to the centre. The hinterland provides the raw materials to be processed in the town, while at certain times providing market for finished products manufactured, processed or

distributed from the urban centres. In his book on Venezuela Friedman J. (1966) introduces the core periphery concepts of regional planning. He talks of centre or core referring to metropolitan regions and the periphery as the resource areas. Core or centre regions therefore specialize in processing and manufacturing of goods which the periphery tends to provide. Friedmann's contention is that the relationship between the core and the periphery tends to be one sided. The periphery supports the core or the centre, while it (the periphery) remains passive, dependent and exploited. Unable to grow because it is feeding the growth of the metropolis or the centre. Rodney W. (1972).

The above argument by Friedman J. and Rodney W. points out the fact that the hinterland is a resource base for the urban centre. Inherent in these arguments is the fact that a rich hinterland offers more opportunity for exploitation and hence better prospects for the urban centre to grow and develop further to incorporate more diverse activities. The growth of an urban centre can thus be said to be a function of its hinterland. A poor hinterland may not augur well for the development or growth of an urban centre. Studies by Kutolie, F.S. (1979) Moshi, Khaguli, H. (1979) on Mumias illustrates this point. The rich hinterland around these two centres has had a positive effect on the growth of these centres.

A rich hinterland may not have any growth bearing on the centre or town unless resources in the hinterland are actually used for the benefit of the town say by being processed in the town or distributed from the town. The case of Mumias is whereby the sugarcane grown in the hinterland is processed at Mumias town. The case of Kisumu is whereby cotton, maize, barley etc. grown in the hinterland are processed into textiles and maize flour respectively in Kisumu town. A rich hinterland may also benefit the centre if it offers market for the goods and services offered at the centre. The effective demand and consequently the purchasing power of the people in the hinterland has a bearing on the development of the centre. Demand for industrial food products such as kimbo, flour, salt, soap etc demand for building material such as iron sheets, nails, doors, cement demand for services such as transportation, banking, communication, telephone or postal insurance, etc. The provision for demand as illustrated above in a particular centre or town would lead to the centre growing.

Transportation as a factor in urbanisation resulted in towns which can be grouped into three broad functional types.

- (a) Port towns like Mombasa and Kisumu where convergence of various means of transport,

air, water, road and railway give special stimuli to commercial industrial and transportation activities.

- (b) Nodal centres these centres served as major collection and distribution points for a sizeable hinterland. They are mainly along road and railway line. This include Sagana, Karatina, Nakuru, Murang'a and Naivasha, etc.
- (c) Focal points these are centres from where various means of transportation radiate or split from to diverse and wide areas of the country. Nairobi is such an area/example where roads railway and air transportation types originate from, to serve other areas of the country and even further.

The impact of transportation on the growth of urban centres results from the fact that the roads or railways create accessibility with the hinterland, the transportation network may in fact widen the hinterland of a centre making it easy for goods and people to be moved into and outside the centre.

Certain centres have grown fast due to the fact that they have a strong economic base indicated by the type and range of industrial commercial informal sector activities. Employment and income levels within given centres also

does affect the growth. The strong economic base provides impetus for other developments to take place within the centre. A strong economic base may lead to infrastructural facilities being laid in a town thus making the centre even more attractive to investors. Livingstone and Ord (1978) Todaro (1981).

The above discussion concentrated on reasons for urban growth. The following discussion will concentrate on the trend of urban growth.

The first comprehensive national census in Kenya was carried out in 1949. At this time there were only 17 towns with a population of 2,000 or more people. The total urban population was 276,240 which represented 5.1 per cent of the total national population of 5,405,966.

The second census which was carried out in 1962 only 14 years later, revealed that the number of towns had doubled to 34. This represented 7.8 per cent of the total national population of 8,636,262. The 1969 census showed that the total number of towns had increased to 48, with a total population of over 1 million inhabitants. This urban population represented about 9.9 per cent of the total national population of about 11 million. By 1969, 90% of Kenya's population was residing in rural population while in 1948 and 1962, the figures of rural population were 95% and 92% per cent

respectively. This shows that more people were migrating from rural to urban areas.

The 1979 census shows that the total number of towns had increased from 48 to 90 with a total urban population of approximately 2 million.

This represented about 15.1 per cent of the total national population. In a space of 10 years, that is from 1969 to 1979, the urban population doubled from 1 to 2 million persons. In a space of 30 years 1948 to 1979, the urban population in the country increased 5 times over.

The urban population growth rate between 1948 and 1962 was 6.6 per cent per annum. However, this growth rate increased to 7.1 per cent per annum between 1962 and 1969 and 7.4 per cent per annum and between 1969 and 1979 compared to the total population growth rate of about 3.4 per annum between 1962 and 1969, it becomes clear that the rate urban growth is about twice the rate of total population growth rate. This is a very high growth rate noting that 3.4 per cent per annum total national population growth rate is regarded as one of the highest in Africa and indeed in the world.

Table 1:

NUMBER OF URBAN CENTRES

Size of Urban Population	1948	1962	1969	1979
100,000+	1	2	2	3
20,000 - 99,999	1	2	2	13
10,000 - 19,999	2	3	7	11
5,000 - 9,999	3	11	11	22
2,000 - 4,999	10	16	25	41
	17	34	47	90
% of total urban population	276	671	1,080	2,309
% of total population	5.1	7.8	9.9	15.1

Source: Population Census Report, 1979.

During the census era so far, the percentage of urban population has almost doubled thereby reducing the population of rural population in Kenya. Similarly the total number of urban centres has increased tremendously i.e. five times the number by 1948. Notable rates of urbanization are recorded among urban centres with below 100,000 population.

The primacy of of Nairobi need not be over emphasized while in 1969 Nairobi accounted for about 47% of the population of urban centres this proportion dropped to some 36% in 1979, following faster urbanization elsewhere in the rural provinces. This feature is attributable to the emergence of market towns now being developed as growth centres.

Urbanization during the 1969-79 decade has been most rapid in Eastern province where the number of urban centres more than doubled during the period under review as compared to the urban population which nearly tripled.

An examination of Table 2 illustrate the enormous growth of urban centres in Kenya since 1948 (if population change is used as a measure).

One may observe from the Table 2 that the tendency has been for the smaller urban centres to grow much faster than their larger counterparts, some of which even exhibit declining growth rates. This explains why places not ranked as urban centres in 1969. (Webuye, Busia and Garissa) have had impressive growth.

Growth has been 'false' growth in certain instances especially where a large 'roportion of the increase in population, has been attributable to the extension of boundaries other than agglomeration of population. In many cases these boundaries now bear little relation to the town proper, and enclose within them large populations which are entirely rural in character. The case of boundary extension for Meru, Murang'a and embu are pointer of such a problem.

Table 2:

POPULATION CHANGE OF URBAN CENTRES :1948, 1962, 1969, 1979.

URBAN CENTRE	1948	1962	1969	1979
Nairobi	118,976	343,500	504,286	827,775
Mombasa	84,746	119,575	247,033	341,148
Kisumu	10,899	23,526	32,431	152,643
Nakuru	17,625	38,181	47,157	92,851
Machakos	n.a	n.a.	6,312	84,320
Meru	n.a.	n.a.	4,475	70,439
Eldoret	8,193	19,605	18,196	50,503
Thika	4,435	13,952	18,387	41,324
Nyeri	2,705	7,857	10,004	35,753
Kakamega	n.a.	n.a.	6,244	32,025
Kisii	n.a.	n.a.	6,080	29,661
Kericho	3,218	7,692	10,144	29,603
Kitale	6,338	9,342	11,573	28,327
Bungoma	n.a.	n.a.	4,401	25,161
Busia	n.a.	n.a.	n.a.	24,857
Malindi	n.a.	5,818	10,751	23,275
Nanyuki	4,090	10,448	11,624	18,986
Webuye	n.a.	n.a.	n.a.	17,963
Embu	n.a.	n.a.	3,928	15,986
Murang'a	n.a.	n.a.	4,750	15,290
Garissa	n.a.	n.a.	n.a.	14,076
Isiolo	n.a.	n.a.	8,201	11,331
Nyahururu	n.a.	n.a.	7,069	11,277
Naivasha	n.a.	n.a.	6,920	11,491
Maralal	n.a.	n.a.	3,878	10,230

Source: Population Census, 1979.

Population growth per-se is not sufficient to illustrate the phenomenon of rapid urban growth and development. Certain other indicators may also illustrate the phenomenon of urban growth.

The growth in physical size of the township (the built up area) is an important indicator of urban growth and development. The case of Nairobi's growth as presented by King'oriah, G.K. (1979) points out how Nairobi grew from a mere railway depot to cover areas previously not within the city boundaries. Nairobi has encroached into agricultural lands (coffee growing area) of Kiambu and has grown enormously towards Thika, Ngong and Athi river towns.

Other centres which have grown enormously in terms of physical size include Mombasa, Kisumu, Nakuru, Thika, Eldoret, to mention but a few.

The growth in physical size of the township (the built up areas) has been coupled by an increase in the functional role played by such a centre. Starting say as a fortress such centres have embraced administrative, commercial, industrial and service functions in varying levels.

Murang'a for example started as a mere fort for British colonial forces in an attempt to

suppress the Mau mau. Murang'a has since grown into an administrative centre, the headquarters for Murang'a District. It has become a commercial and service centre for the District. Many towns have followed more or less the same pattern of growth as that of Murang'a (That is growth in functional role). This include towns like Kakamega, Kisumu and Bungoma.

In the post independence years, the new towns' of Mumias and Webuye have made an impact on the general urbanization process, particularly in the last five years. The construction of factories at these centres have produced an upsurge in population and the development of associated urbanization. Mumias and Webuye are centres that were already existing before the factories were established. The inclusion of the factories in these centres, stimulated further growth of the centres. The factory in Magadi was established in a place where there was no centre at all. The centre developed after the factory had been built.

The thrust of urban policy in Kenya is to remove inequality between urban progress and rural stagnance. This is especially true of the growth centre policy which takes direct account of the hinterland. The growth centre policy was formulated in recognition

of the importance of growth centres which include the following:-

- (i) The need to decentralise industry to reduce attraction pull of Nairobi and Mombasa.
- (ii) Strengthening regional urban hierachy to improve public service delivery.
- (iii) As location of some large scale agricultural and resource base industries.
- (iv) As incubators of small scale industries for subsequent dispersal into the hinterland.
- (v) To reduce migration loss from regions by offering alternative urban destinations for local migrants. Towns like Nakuru, Kisumu, Thika, Eldoret, Kakamega, Nyeri, Embu, Meru and Kitale are designated as growth centres and thus given priority in public works.

Growth centre policy emphasizes urban growth of outlying centres. The provision of infrastructural services to such centres such as water and power and other necessary facilities such as health education, residential, commercial etc. which help promote balanced growth and stimulate economic and social development in peripheral areas, would also lead to growth of the centre. Urban growth of peripheral centres is thus important to ensure success of the growth centre policy.

Urban growth is especially important with respect to distressed areas. Morsely (1974) suggests that: "--If growth is to be effectively promoted in distressed areas, then concentration of investment is required to provide the necessary environment for it". The policy of urban growth is adopted when and where there is excessive growth of major cities and when there are at the same time regions which are peripherally located with much slower rates of growth, lower levels of employment and per-capita incomes, and high degree of out-migration which accentuates the problems of each set of regions. The policy would create within these some of the metropolitan advantages so that growth of employment and population would be stimulated in the regions, and in consequence, curtailed in the metropolitans. The thrust in development policy for areas like Kajiado District, which is largely semi arid or distressed, and which is backward development-wise must thus include the encouragement of urban development.

REFERENCES

1. Kenya Government 1970 - 1974 Development Plan
Government Printer
2. Kenya Government 1979-83 Development Plan
3. Kenya Government 'Population Census 1948'
4. Kenya Government 'Population Census 1962'
5. Kenya Government 'Population Census 1969'
6. Kenya Government 'Population Census 1979'
7. Kenya Government 'Human Settlement in Kenya
A Strategy for Urban and Rural Development'
1978.
8. Morgan, W.W. 'Urbanisation in Kenya : Origins
and trends' in the Institute of British
Geographers Transactions No. 46 March, 1969.
9. Ominde, S.H. 'Land and Population Movements in
Kenya' 1968.
10. Friedmann, J. 'Urbanisation, Planning and
National Development 1973.
11. Rodney, W. ' New Europe underdeveloped Africa'
1965, Dar-es-Salaam
12. Memon, P.A. 'Urban Primacy in Kenya' 1975
Nairobi (Photocopy).
13. Livingstone and Ord H.W.: An Introduction to
Economics for East Africa' 1978.
14. Todaro, P.M. 'Economic Development Third World, 1981.
15. Khaguli, H. (miss) -The Impact of Mumias Sugar
Factory on Growth of Mumias Twon' M.A.
Thesis (unpublished), University of Nairobi, 1980.
16. Kutolie, F.S. 'The Relationship of Moshi's
Industrial Sector with its immediate Hinterland'
M.A. Thesis (unpublished), University of
Nairobi, 1980.
17. King'oriah, G.K. Policy Impact on Urban Land use
patterns in Nairobi Kenya 1899-1979
(unpublished) Ph.D. Thesis, Indiana State
University, 1980.

CHAPTER TWO

THE HINTERLAND

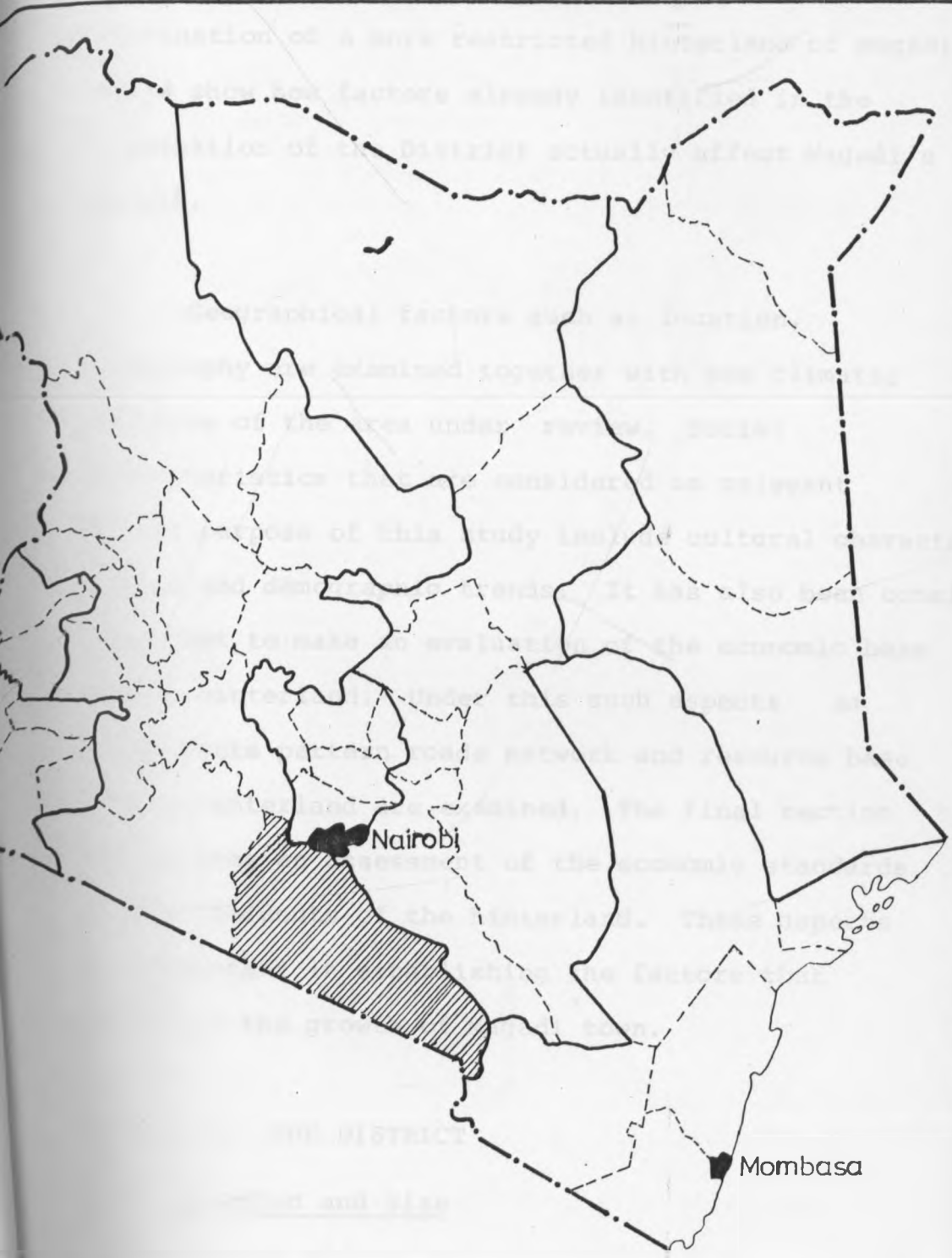
2.0 INTRODUCTION

The task of this chapter is to give background information relating to the hinterland of Magadi. It is concerned with factors that are expected to affect the growth of Magadi. The hinterland is examined at two levels; firstly an examination of Kajiado District and secondly, an examination of the immediate surrounding of Magadi.

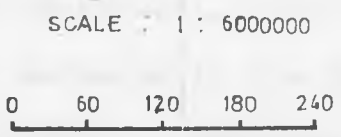
The examination of the District as a whole is important because Magadi is administratively in Kajiado District. Socio-economic processes within the District affect development of Magadi. Certain ecographical, social and economic characteristics peculiar to the District affect or determine the development or growth of Magadi. Magadi is also a principal urban centre in Kajiado district, a district where urbanisation is still very low, its role in the development of the district must therefore be appreciated.

The immediate hinterland of Magadi town demarcated by the Magadi Location and areas where communication channels from Magadi lead are examined because they form the effective hinterland of Magadi. Effective because these areas have a

KENYA KAJIADO DISTRICT



- INTERNATIONAL BOUNDARY
- PROVINCIAL BOUNDARY
- DISTRICT BOUNDARY
- KAJIADO DISTRICT



MAP
1

direct impact on the township and vice versa. An examination of a more restricted hinterland of Magadi would show how factors already identified in the examination of the District actually affect Magadi's growth.

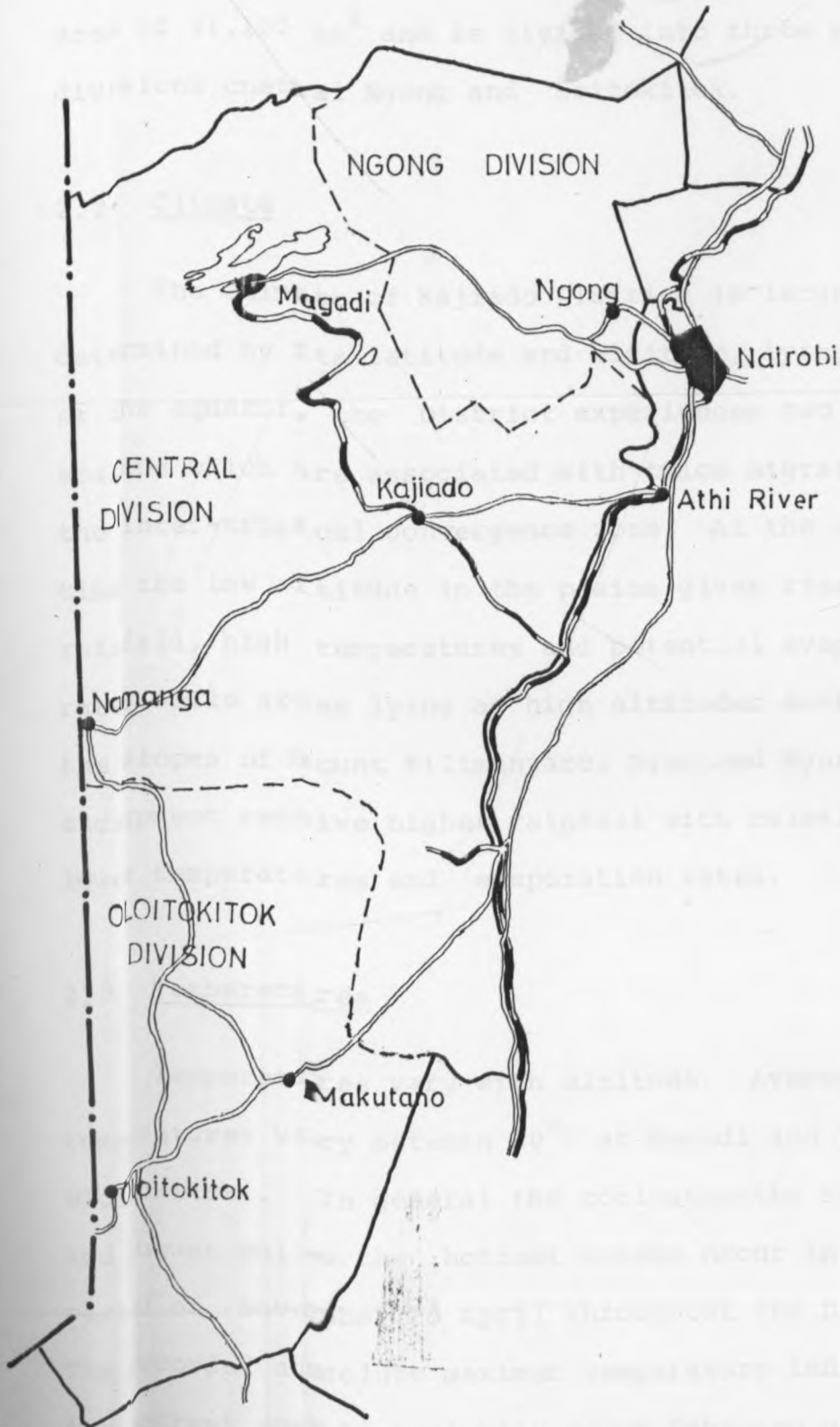
Geographical factors such as location, topography are examined together with the climatic features of the area under review. Social characteristics that are considered as relevant to the purpose of this study include cultural characteristics and demographic trends. It has also been considered important to make an evaluation of the economic base of the hinterland. Under this such aspects as settlements pattern roads network and resource base of the hinterland are examined. The final section constitutes an assessment of the economic standards of the residents of the hinterland. These aspects are important in establishing the factors that influence the growth of Magadi town.

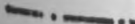

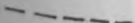


SECTION A. THE DISTRICT

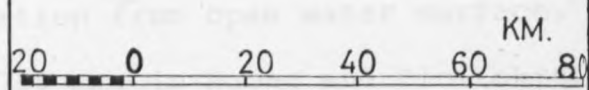
2.1 Location and Size

Kajiado District is located on the extreme southern part of the Rift Valley Province. It is bordered by Tanzania to the South-west, Taita-Taveta District to the South East, Machakos to the East, Nairobi to the north-east, Kiambu to the north and

KAJIADO DISTRICT



-  International Boundary
-  District Boundary
-  Divisional Boundary
-  Roads
-  Railways



MAP 2

Nairobi District to the west. The district covers an area of 21,105 km² and is divided into three administrative divisions central Ngong and Loitokitok.

2.2. Climate

The climate of Kajiado District is largely determined by its latitude and altitude, lying 2° south of the equator, the District experiences two rainy seasons which are associated with twice migration of the inter-tropical convergence zone. At the same time the low altitude in the plains gives rise to low rainfall, high temperatures and potential evaporation rates while areas lying at high altitudes such as the slopes of mount Kilimanjaro, Ngong and Nyaruman escarpment receive higher rainfall with relatively lower temperatures and evaporation rates.

2.3 Temperatures

Temperatures vary with altitude. Average monthly temperatures vary between 30°C at Magadi and 16°C at Oloitokitoki. In general the coolest months are July and August while the hottest months occur in the period of November to April throughout the District. The recorded absolute maximum temperature indicate that the hottest months typically occur February or March. Annual potential evaporation from open water surface, 0, range from about 1700 mm. in Ngong and Oloitokitok

areas to about 2,500 mm. within the Magadi area.

2.4 Rainfall

Rainfall in Kajiado is bimodal with precipitation generally occurring in the months of March to May and October to December. Rainfall is comparatively higher, of the order 900 mm in areas surrounding the Ngong Chyulu hills and in the slopes of Mt. Kilimanjaro. The rainfall decreases progressively towards the interior with areas around Amboseli receiving the lowest of the order of 250mm.

Analysis of rainfall data for two wet seasons indicate that, most areas receive about 50% of the annual rainfall during March-May period with 30% during October to December wet season. The exception is the slopes of Mt. Kilimanjaro where October to December accounts for 45% of the rainfall with March-May receiving only 30%.

Apart from the high altitude areas of Chyulu Ngong and Ngurumani the rest of the District receives little or low rainfall that is also unreliable.

2.5 Existing Infrastructure

Roads:

There are 1,620 km. of classified roads in Kajiado District. Several unclassified roads are to

be found in parts of the district especially within Amboseli National Park.

All weather roads in the District are the Nairobi Magadi which is a tarmac road. The Nairobi-Namanga road which is an international road part of the Great North road. The Mtito Andei Oltukai road, a graded murram road that serves the Amboseli National Park and Oloitokitok. The Nairobi Ngong-Kiserian road is tarmacked upto Ngong and murramed to Kiserian. Roads are unevenly distributed in the District . Large sections of the District are not accessible by roads.

Railways

The one railway stretch that serves Kajiado is that between Konza and Magadi consisting of 146 kms. This railway line is intended for removal of the bulky products of the Magadi soda factory to the

2.5.0 Demographic Characteristics

The results of four census years together with the estimate for 1984 are presented below - Table 2.1

Table 2.1 :

DISTRICT POPULATION

DIVISION	1948	1963	1969	1979	1984 ESTIMATE
Loitokitok	N/A	N/A	16,330	44,798	56,558
Ngong	N/A	N/A	17,569	49,200	62,545
Central	N/A	N/A	50,304	55,007	69,089
Total	28,987	68,411	85,903	149,005	188,202

Source: Central Bureau of Statistics

N/A : Not available

* 1984 Estimate is calculated with growth rate of 6.8 per annum.

Table 2.2

DISTRICT URBAN POPULATION

TOWN	1979	1984 ESTIMATE
Ngong Township	4,004	5,564
Oloitokitok	2,071	2,877
Magadi	2,563	3,561
Total	14,179	19,701

Source: Central Bureau of Statistics.

From the table above , the intercensal growth rate is seen to have averaged 6.3%, 3.3% and 5.7% for the periods 1948-62, 1962-69 and 1969-79 respectively. The intercensal growth rate for the period

1948 - 62 appears high perhaps owing to inadequate coverage during the 1948 census as a result of poor access roads. The high 1969-79 intercensal growth rate is explained by the influx of agricultural communities to Loitokitok Division and Nguruman area. In addition the Rapid expansion of Ngong and Ongata Rongai as urban settlements contributed to a similar intercensal growth (District Development Plan, 1979).

During the last 35 years the District population has grown six fold from 28,987 (1948) to 188,203 (1984) estimate). This is further projected to increase further to 646,157 by the year 2,010 (TRDA Report 1984). The assumption for this four fold increase in the next 27 years are as follows:

- (a) The rural population sector will grow at a rate of 4.6% per annum.
- (b) The urban sector population will grow at an average of 6.8% per annum because of the rapid and outward growth of Nairobi City whose population will spill over into the satellite towns of Ngong and Ongata Rongai. Further, Oloitokitok will become an important agricultural and border town. The new Government policy of making the district the focus of Rural Development will stimulate the growth of Kajiado township while that of Namanga will be enhanced by tourism and an increase in the flow of traffic across

the Kenya Tanzania border (TRDA Report, 1984).

The results of these projections, based on the above assumptions are presented in the table IV and v Table 2.3

PROJECTED POPULATION (RURAL)

DIVISION	1984	1990	2000	2010
Loitokitok	50,878	66,485	103,844	162,194
Ngong	52,085	68,062	106,307	166,041
Central	65,538	85,642	133,765	208,929
Total	168,501	220,189	343,916	537,164

Source: Central Bureau of Statistics

Annual Growth Rate 4.56.

Table 2.4

PROJECTED POPULATION (URBAN)

TOWN	1984	1990	2000	2010
Kajiado	4,896	7,265	14,026	27,081
Ngong	5,564	8,257	15,942	30,778
Oloitokitok	2,877	4,270	8,244	15,517
Namanga	2,803	4,159	8,030	15,503
Magadi	3,561	5,284	10,202	19,696
Total	19,701	29,235	56,444	108,975

Source: Central Bureau of Statistics

* Annual Growth Rate 6.8.

2. 6 POPULATION DISTRIBUTION

The population distribution is more or less equally distributed throughout the District. The bulk of the population is in range areas notably agro climatic zones IV and VI. The overall population density in the District is 7 persons per Km² (1979), which is expected to rise to 33 persons per km² in the year 2010 using the above growth rates. The pattern of population distribution per division is shown by table VI.

Table 2.5 :

POPULATION DISTRIBUTION

DIVISION	AREA Km ²	POPULATION	%	DENSITY /Km ²
Loitokitok	5,726	42,781	27.3	7
Ngong	3,412	45,680	27.9	13
Central	10,466	60,544	35.2	5

Source: Central Bureau of Statistics

The table indicates that a larger percentage of the population reside in the Central Division which nearly entirely consists of range land- except for the Ngurumani escarpment. It also exhibits the lowest population density in the District that is of 5 people per square kilometre. Ngong exhibits the highest density of population 13 people per square kilometre. It accounts for 27.9 per cent of the

population more or less equivalent to that accounted for by Loitokitok 27.3 percent.

2.7. Cultural Identity

The District is predominantly inhabited by Maasai speaking people who constitute 93,560 of the 149,005 total population about 60% of the population of the district. The Kikuyu are the second largest ethnic group. They constitute 33,630 people, about 20% of the total population of the district. The Kamba constitute the next largest group about 8,798 people of 6.7 %. Of the total population The rest of the population consists of an assortment of other ethnic and racial groups.

The Kikuyu are to be found mainly in the Ngong and Loitokitok areas where they practice crop farming. The Maasai carry out semi-nomadic pastoralism in the range areas of the district. Their main undertaking is livestock keeping with each family tending a large number of cattle sheep and goats. The economy of the area under review is therefore largely determined by the cultural practices of its inhabitants - which is mainly ranching.

2.8 Economic Resource base

Settlement Pattern

The evolution and pattern of settlements is

determined mainly by Physical (climatic and ecological) pattern - and economic (particularly agricultural) activities of the various parts of the district. Kajiado district exhibits two types of settlement forms.

Sedentary communities; practising mainly crop farming are to be found in Ngong, Loitokitok and Ngurumani areas. Areas which exhibit fairly favourable climatic conditions for arable farming.

Semi nomadic communities; practising mainly livestock husbandry are to be found in large parts of the districts. No permanent settlements are established. Temporary manyattas are constructed and dismantled in search of water, or grass according to the dictates of the weather.

The scatteredness of settlement already discussed and indicated by the very low population densities is also characterised by the shiftiness of a large part of the community whose livelihood is dictated by harsh weather conditions.

Lack of concentration and lack of permanence characterise a large part of the population of this district.

Resources

The district's economy is deeply rooted in nomadic pastoralism which provides an estimated 60% of the population with their livelihood. Another 30-35% depends on agriculture which is quickly becoming modernised as realisation of yields becomes constrained without application of purchased farm inputs.

Tourism, industrial production and trade provide cash earnings to the rest of the population.

Land Resources

Agro-Climate Zones

There are five agro-climatic zones (ACZ) in the district namely ACZ II III IV V and VI. A very small area of the District is under ACZ II, and this is mainly on top of Chyulu hills. Areas suitable for rainfed agriculture is ACZ II, III and parts of IV. These relatively high potential areas are only to be found on the slopes of mount Kilimanjaro, Chyulu, Namanga, Ngong hills and the flood plains of Ewaso Nyiro river. The bulk of the district is under ACZ V and VI where extensive ranching is the most appropriate landuse. The extent of agro climatic zones in each of the three divisions is shown below:-

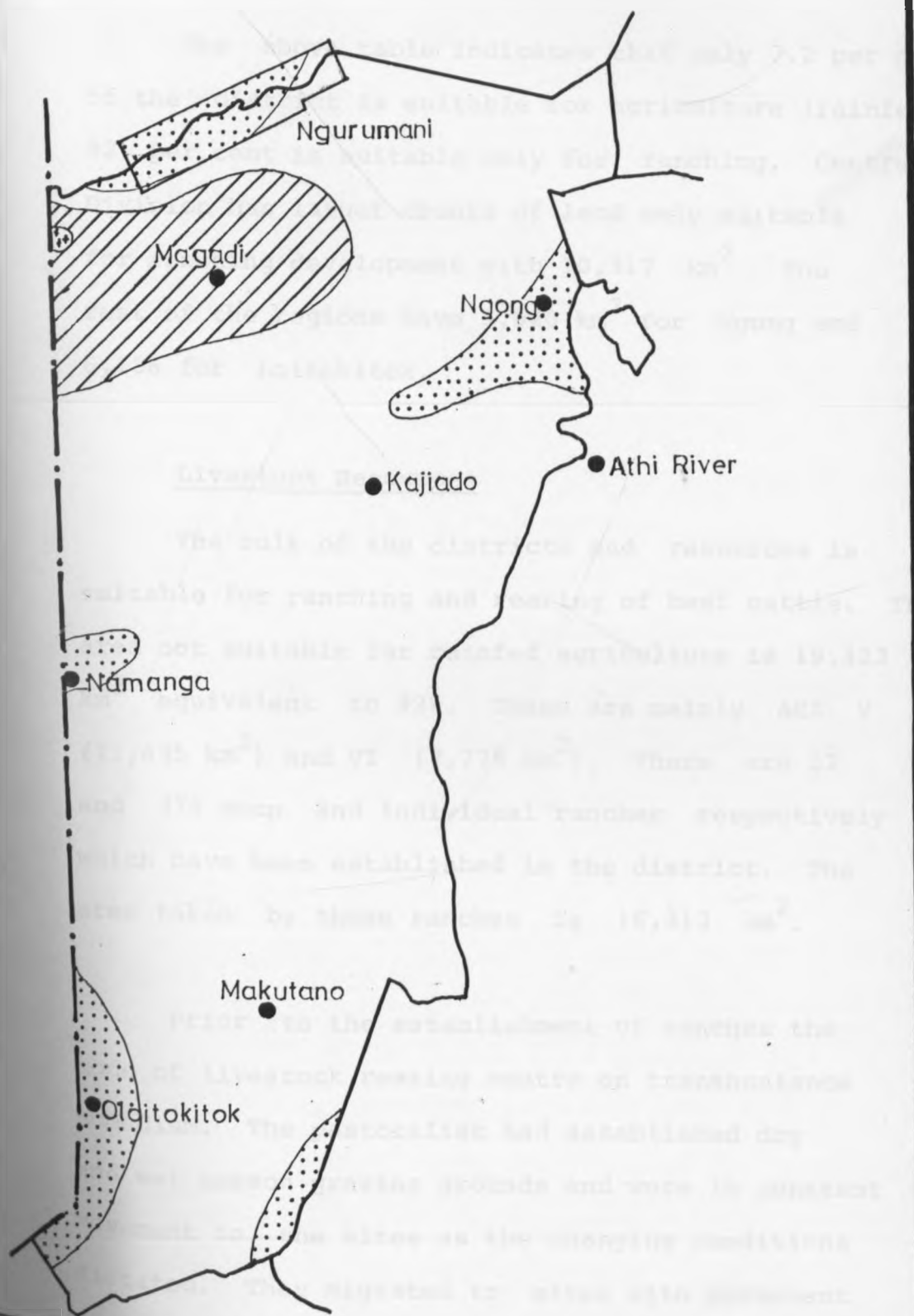
TABLE 2.6 :





AREA UNDER ACZ II - VI



DIVISION	AREA UNDER ACZ IN KM ²						
	II	III	IV	V	VI	UNDER WATER	TOTAL
LOITOKITOK	20	120	260	1,168	4,918	-	6,486
NGONG	-	40	480	2,960	60	-	3,540
CENTRAL	-	80	540	7,507	2,810	-	10,937
TOTAL	20	240	1,280	11,635	7,788	142	21,105
% OF DISTRICT	0.09	1.14	6.07	55.13	36.90	0.67	100

Source: Kenya Soil Survey - 1950

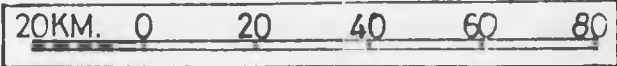
AGRO-CLIMATIC ZONES - KAJIADO



-  Humid to Semi-Humid
-  Semi-Arid
-  Arid
-  Very Arid

-  International Boundary
-  District Boundary

MAF
3



 SOURCE DEV. PLAN 1984/88

The above table indicates that only 7.2 per cent of the district is suitable for agriculture (rainfed). 92. per cent is suitable only for ranching. Central Division has larger chunks of land only suitable for ranching development with 10,317 km². The rest of the regions have 3,020 km² for Ngong and 6,186 for Loitokitok.

Livestock Resources

The bulk of the districts and resources is suitable for ranching and rearing of beef cattle. The area not suitable for rainfed agriculture is 19,423 km² equivalent to 92%. These are mainly ACZ V (11,635 km³) and VI (7,778 km²). There are 52 and 375 group and individual ranches respectively which have been established in the district. The area taken by these ranches is 16,313 km².

Prior to the establishment of ranches the mode of livestock rearing centre on transhumance nomadism. The pastoralist had established dry and wet season grazing grounds and were in constant movement to the sites as the changing conditions dictated. They migrated to sites with permanent water sources during dry season.

The introduction of group ranching schemes was intended to curtail this movement. (The group ranching

schemes were initiated in the early 1960's) - and homes range resources in an organised manner. The objectives of the group ranching schemes were to subdivide district into group ranches - and the provision of essential facilities to these ranches such as veterinary facilities, artificial insemination points - watering points, and marketing services. Introduction of modern husbandry methods such as forage presentation, zero grazing, forage harvesting were also envisaged. The ultimate aim of the group ranches is the eventual subdivision of the group ranches into individual ranches.

The second major development in the livestock resource sector is the major loss of cattle or stock to repeated droughts. Large stocks of cattle have been lost which may be a pointer to the impoverishment of the pastoralists. Exact estimates of the cattle lost to the successive droughts is hard to come by. In 1960 - 61 Kajiado Maasai lost some 300,000 livestock due to drought which constituted 65% of their herds (Odegi, A.C. 1982). Estimates by the range management division show that Maasai have lost over half their herds to recurrent drought. Estimates of the livestock population is as shown in the table below.

TABLE 2.7

LIVESTOCK POPULATION IN KAJIADO DISTRICT

	KREMU 1978	ILCA 1977	MINISTRY OF AGRICULTURE 1978
Cattle	613,000	687,000	680,000
Shoats	360,851	371,000	480,000
Donkeys	-	-	17,000

Source: Ministry of Livestock and Agriculture

Kremu : Kenya Rengeland and Ecological Monitoring Unit

Ilca :

Central Division which covers an area of 10,657 km² (about 50%) has about 60% of cattle and 70% of shoats. The rest of the livestock are more or less equally distributed within the other two divisions.

Agro-Based Resources

It has been mentioned elsewhere that the geo-ecological conditions of the district have rendered large parts of it unfavourable for rainfed agriculture. The district is predominantly semi arid as most of it falls under ACZ V and VI. There are a few areas however, which fall within agro-climatic zone III and IV where some form of rain dependent agriculture is feasible.

These areas amount to 84,000 ha. or 4% of the district and include - a strip along the Ewaso Nyiro

river on the slopes of the Ngurumani escarpment, around the Ngong hills on the outskirts of Nairobi lying mainly in Ngong division, around Namanga hills, on the foothills of mount Kilimanjaro around Oloitokitok and the western footslopes of the Chyuly ridge.

Irrigation in Kajiado district is practised in areas where spring flow are adequate. These are mainly located around Loitokitok and within the Ewaso Nyiro basin.

Coffee and Cotton are the two industrial crops which have been tried in the district. The areas of the two crops, however, has remained insignificant.

Table 2.8

AREA UNDER COFFEE AND COTTON

CROP	YEAR	1974	'75	'76	77	'78	'79	'80	1981	1982	1983
Coffee	ha	17	17	25	21	22	37	57	30	25	20
Cotton	ha	23	23	40	68	106	94	94	94	62	60

Source: Ministry of Agriculture : District Development Plan, 79-83.

The main constraints to expansion or limiting expansion of coffee are lack of processing facilities, inadequate technical support services and unreliability of rainfall. Though cotton is more drought tolerant

and may thus be a more suitable crop for ACZ III lack of proper marketing and credit facilities has however constrained its cultivation.

Food crops (maize and beans) are cultivated both under rainfed conditions as well as under irrigated area. Horticultural crops, which feature onions, tomatoes, melons, etc. are almost exclusively cultivated in the irrigated areas, Reported areas of various crops grown in Kajiado are presented below:

Table 2.9:

AREA UNDER FOOD AND HORTICULTURAL CROPS

CROPS (Ha.)	1978	1979	1980	1981	1982	1983
Maize	7,200	7,600	8,200	7,510	8,00	10,325
Beans	5,300	8,900	8,445	10,000	11,540	7,200
Onions	450	1,800	1,802	1,920	1,650	300
Tomatoes	120	100	103	142	189	350
Bananas	65	65	65	65	52	70
Peas	350	300	-	-	-	-
Citrus	-	-	760	760	800	800
Melons	-	-	100	-	60	-
Brassicas	-	-	5	-	15	20
Irish potatoes	1,150	950	650	700	650	900
Sweet potatoes	-	-	70	70	117	200
Total	14,635	19,715	20,202	21,227	23,073	20,165

Source: Ministry of Agriculture : District Annual Reports.

Although the range and acreage of crops is impressive the general level of yields is low. The irrigated areas are however, an exception and reported yields of irrigated crops such as Onions (4.5 tonnes/ha.) are comparatively good. The problems facing the foodcrops and horticultural centre are more or less the same as already mentioned: weather conditions, lack of support services, poor marketing stand out as the main obstacles to development.

2.9 ECONOMIC STANDARDS

The economic standards of the residents of Kajiado district shows marked inequalities. The majority of the residents of these districts. The pastoralists have relatively low standards. The majority of the residents - lead a gruelling life of having to move from one place to the other with stock in search of water and grass. The weather conditions in this district have in recent years not been favourable, recurrent droughts have killed - large numbers of stock rendering the pastoralists stockless or leaving them with little to stand on. Though evidence of the actual number of stock lost or the actual income of stock lost or the actual income levels of these pastoralists in hand to come by indicators of the situation can be found in, The National Development Plan 1974-78. The pastoralist communities are defined as among the three absolutely poor communities

in the country. Absolutely poor would mean that if incomes are computed they exhibit very low income levels - much lower than the national poverty line.

Von Zwanensberg and Ann King 1975 have discussed extensively the process of pastoralist improvement. They start by proposing that pastoralists in the early part of the century were a self sustaining prosperous people but have undergone a systematic process of impoverishment leaving them today as not only poor but also dominated and underprivileged. The following two quotations present that view.

'In general the situation in which the pastoralists were in the early part of the 19th Century has been turned upside down so that today pastoralist societies are impoverished, dominated and underprivileged..... In terms therefore of social wealth, control of territory and military power, pastoral production and pastoral way of life was predominant (Von Zwanensberg and Ann King 1975).

"By mid 20th century this situation has been completely reversed. The pastoral way of life no longer generates the same feeling of respect and prestige. Infact nomadic pastoralists are now castigated as conservative and primitive people" (Von Zwanensberg and Ann King 1975).

Various factors have been sighted as leading to the disruption and weakening of the pastoral economy. Among them are the colonial administrations economic policies, altered ecological balance,

disease, drought and famines. John Galaty sights the above mentioned factors in his discussion of Maasai pastoral ideology and change. He says:

' The last ten years have not been kind to the pastoralists. Beset by drought, famine, agricultural encroachment and unkindly bearing of Government intervention, pastoralists have in some cases been struck a mortal blow. Self doubt. That is the impervious shield of pastoral ideology has been weakened by a countenance force of equal persuasiveness - the compelling ideology of progress and change'(Galaty J. 1969).

Alan Jacobs 1963 - sees the process of pastoral or more specifically pastoral impoverishment as resulting from the alienation of Maasai grazing land. He summarises the effect of alienation as follows:

'The policies of European settlement not only denied pastoral Maasai access to much of their former grazing areas but it also affected the quality of both herd management practises and livestock as well')(Jacob A.1963).

The Maasai/pastoral stock management practises referred to above revolved around transhumant herd and family movement from permanent high potential, dry season pasture reserves based on permanent rivers wells, or springs water supplies to temporary outlying, low potential, wet seasons grazing areas based on rain ponds and other temporary surface water surface.

The stock management practises have been disrupted by first colonial Government - moving Maasai from high potential highland areas which formed their dry season grazing areas to low potential lowland areas which were the wet season grazing areas. The situation is exacerbated by the encroachment of Agricultural Communities to present Maasai grazing areas especially those with reliable ample rainfall. In effect the Maasai pastoralist presently live in dry areas (wet season grazing areas) and cannot move out except rotate inside these zones - drought has thus taken an upper hand since Maasai/pastoralists can no longer manage herds properly.

2.10. SECTION B: IMMEDIATE HINTERLAND

The immediate hinterland of Magadi as already stated is defined by the Magadi location and the communication links from Magadi to the hinterland and beyond.

Magadi location can be divided into two functional types - firstly the group and the individual ranches around Magadi and secondly the Ngurumani area. There are 5 ranches around Magadi, four of which are group ranches namely Olkeramatian, Shombole, Olkeri Oldonyonyukie,

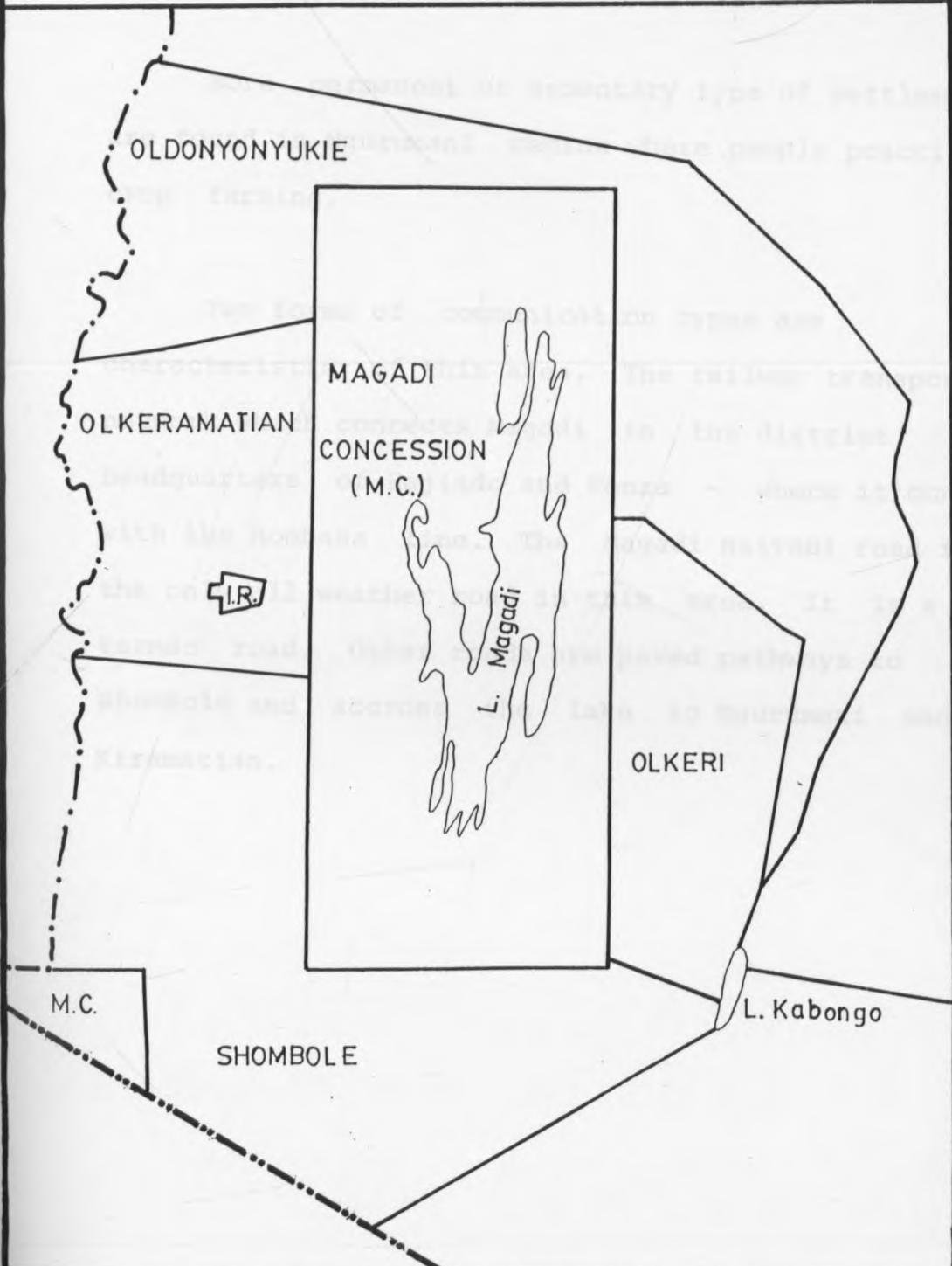
The only individual ranch is owned by the Maasai rural training centre.

Magadi's immediate hinterland areas predominantly under agro-ecological V and VI with only a small proportion approximately 6% falling under agro-ecological zone III. The hinterland is thus predominantly rangeland. The Ngurumani area is the only area that is suitable for agriculture or crop farming. Rainfall here is more reliable and ample. Irrigation is also possible due to the tributaries of the Ewaso Nyiro.

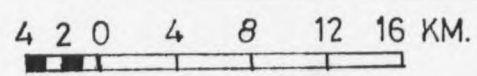
The region of Magadi exhibits the lowest densities of population within the whole district with 4 people per square kilometre. Whilst the district exhibits densities of 7 people per square kilometre. The population is distributed more or less equally throughout the district pockets of concentration are found in areas like Ngurumani - Shombole - Oldonyonyukie and Kiranatian centres.

Rangeland areas which are predominantly in this area are characterised by manyatta's - a Maasai word for villages. Manyattas are temporary homesteads put up by a family at a particular point where grass or water is readily available. The family may move to a different area when these advantages are lost or according to the dictates

MAGADI CONCESSION LAND & SURROUNDING GROUP & INDIVIDUAL RANCHES



- · · · — International Boundary
- · — District Boundary
- Ranch Boundary
- I. R. Individual Ranch



MAP
4

of weather.

More permanent or sedentary type of settlements are found in Ngurumani region where people practise crop farming.

Two forms of communication types are characteristic of this area. The railway transport network which connects Magadi to the district headquarters of Kajiado and Konza - where it connects with the Mombasa line. The Magadi Nairobi road is the only all weather road in this area. It is a tarmac road. Other roads are paved pathways to shombole and accross the lake to Ngurumani and Kiramatian.

References:

1. Kenya Government, National Development Plan 1974-78, Government Printers.
2. Von Zwanensberg and Ann King Pastoral Impoverishment 1975.
3. Jacobs A. "The Massai stock management syste, 1963.
4. Galaty I. "The headsmen 1969.
5. Odegi, C.A. "The effects of drought on the Maasai Seminar Paper, Department of Sociology, University of Nairobi 1982.

was established just next to the lake(Lake Magadi) in order to facilitate efficient mining of soda ash.

Several other factors that contributed to the growth of this settlement include the following:

- (a) The completion of a 90 mile pipeline to bring water to the township from the Ngong hills in 1914. The completion of this pipeline is important because water was needed not only for the production function but also for the residents of the settlement. The completion of the development of Magadi township considering the fact that the town is located in a semi arid region surrounded by a dry lake and the fact the town is located in the interior where the cost of bringing water would be very high. The pipeline from Ngong hills therefore provided a life line to Magadi.

- (b) The completion of a 91 mile railway line or link between Magadi and Konza in 1915 (this would have been completed earlier were it not for the first world war). The railway line provided the only efficient and reliable link between Magadi and the outside world. The only other link between Magadi and the outside world was a paved pathway serving as a road link between Magadi

and Nairobi - passing not only through the wilderness but also very difficult terrain. Travelling between Magadi and Nairobi using this road would on average take four days. The railway is important in the history of Magadi considering the fact that it enabled the bringing in of important and heavy machinery necessary for the construction of the factory at Magadi and hence the exploitation of the lake. Again the railway line or link overcame a major threshold by creating accessibility between Magadi and the outside world.

- (c) The formation of the third company known as Magadi soda company in 1924, under the management of Brunner Mond and Co.Ltd (Later to be known as the Imperial Chemical Industries I.C.I. . The first two companies formed to exploit soda ash and salt at lake Magadi suffered bankruptly and had to discontinue production - or operations. The formation of the third company is important in understanding the history of Magadi because this company was able to further development of not only the settlement but also continued undertaking measures leading to the exploitation of lake Magadi. This company has continued production to the present day.

(d) The completion of the factory at the lake and warehouses at Kilindini in 1914. This enabled or made it possible for production of soda ash and salt to start. The start of production necessitated the employment of labour and hence an expansion of the settlement.

It should be noted that the early history of Magadi is dominated by efforts leading to the exploitation of the mineral potential of lake Magadi. The settlement was created for this purpose. Its continued development depend on the overcoming of major obstacles such as creation of accessibility, provision of water and the stabilization of the production function to ensure continued exploitation of the lake.

3.3 SOCIAL BASE

Population Characteristics

The 1979 population census gives the population of Magadi as 2,563 people. Of the 2,563 enumerated during this census 1,140 were male and 1,213 were female. There were 744 households in this township. This gives a household size of about 3.3 persons. Table 3.1 gives more detail of the towns population characteristics.

Table 3.1:

MAGADI TOWNSHIP POPULATION CHARACTERISTICS

AGE CATEGORIES (YEAR)	SEX		TOTAL
	MALE	FEMALE	
0 - 4	252	226	478
5 - 9	190	152	342
10 - 14	237	221	458
15 - 49	751	507	1,258
50+	10	7	17
Total	1,440	1,213	2,653

Source: Central Bureau of Statistics.

The population age structure exhibits an interesting feature of distribution of population between children below 15 years of age and those above that. 458 (12%) are below 15 years while 1,274 (98%) are above that age. This may be explained by the fact that the population largely constitutes adults working in the township or searching for employment.

From analysis of the records of the company about 80% of the towns residents are migrants from outside the district. Most have come to the township for work accompanied by their families.

Population Growth

Census information for the township are only available for the year 1979. The trend of population growth in the township may however be interpolated from the records of the company as to how many people were employed over the years.

Table 3.2:

EMPLOYMENT OVER A 45 YEAR PERIOD

YEAR	No.
1940	753
1960	524
1970	471
1980	381
1985	372

Source: Company Records.

Since the company is the principal employer in this township one would expect that fluctuation in its employment also leads to fluctuation in the total number of residents of the town. The trend in employment shows that the population of the township may actually be dropping instead of rising. The fall in employment by the company is explained mainly by technological changes. Such changes - like using the dredge in the lake instead of human labour to dig soda ash from the lake. The use of pressure

pumps to transport soda ash from the lake to the factory other than human labour and wheel barrows. The use of machines for loading bags from the factory other than human labour.

A study by the TRDA (Tana River Development Authority) estimates that the population of urban areas in Kajiado district will grow at an annual growth rate of 6.8%. Using these population growth rate the likely trend for the towns population growth is:

1979	-	2,653
1984	-	3,561
1990	-	5,284
2000	-	10,202
2010	-	19,696

Thus using a growth rate of 6.8% per annum Magadi's population would be close to 20,000 people by the year 2010. An examination of the assumption behind the growth rate of the assumption behind the growth rate does not however present a strong case for Magadi's growth.

The urban sector population is expected to grow at an average of 6.8% per annum because of the rapid and outward growth of Nairobi city whose population is expected to spill over into satellite towns of Ngong and Ongata Rongai. Further Oloitokitok is

expected to become an important agricultural and border town. The new Government policy of making the district the focus for Rural Development is expected to stimulate the population growth of Kajiado township while that of Namanga will be enhanced by tourism and an increase in the flow of traffic across the Kenya/Tanzania border (TRDA 1984).

While each of the other towns: Ngong, Ongata Rongai, Namanga, Loitokitok and Kajiado apparently have an advantage and hence some justification for assuming that they could grow at a rate of 6.8% per annum, Magadi has no such advantage. There is no justification why Magadi should grow at the same rate with the other urban centres in the district. Lack of advantages like those the other urban centres in the district have, such as proximity to Nairobi, agricultural hinterland, border advantage, and advantages accruing from the District Focus Policy, only mean that Magadi would grow at a relatively lower rate.

3.4 LAND TENURE AND USE

Magadi town covers an area 11 km². The town lies on concession land whose size is 805 km². 104km² out of these is covered by the lake. Developable land thus covers an area of 701 km². The land on which Magadi town owned by the Magadi Soda Company.

The effect of this is that the company has put strict controls on the development of the town. The rest of the land where no company activities have taken is actually bare occasionally used by the community around as grazing ground for their livestock. Manyattas are also to be found on this land especially in cases where the pastoralists want to take advantage of facilities like water near the township. The town provides an extreme case of a town without any public land at all.

3.5 ECONOMIC BASE

Industrial Sector

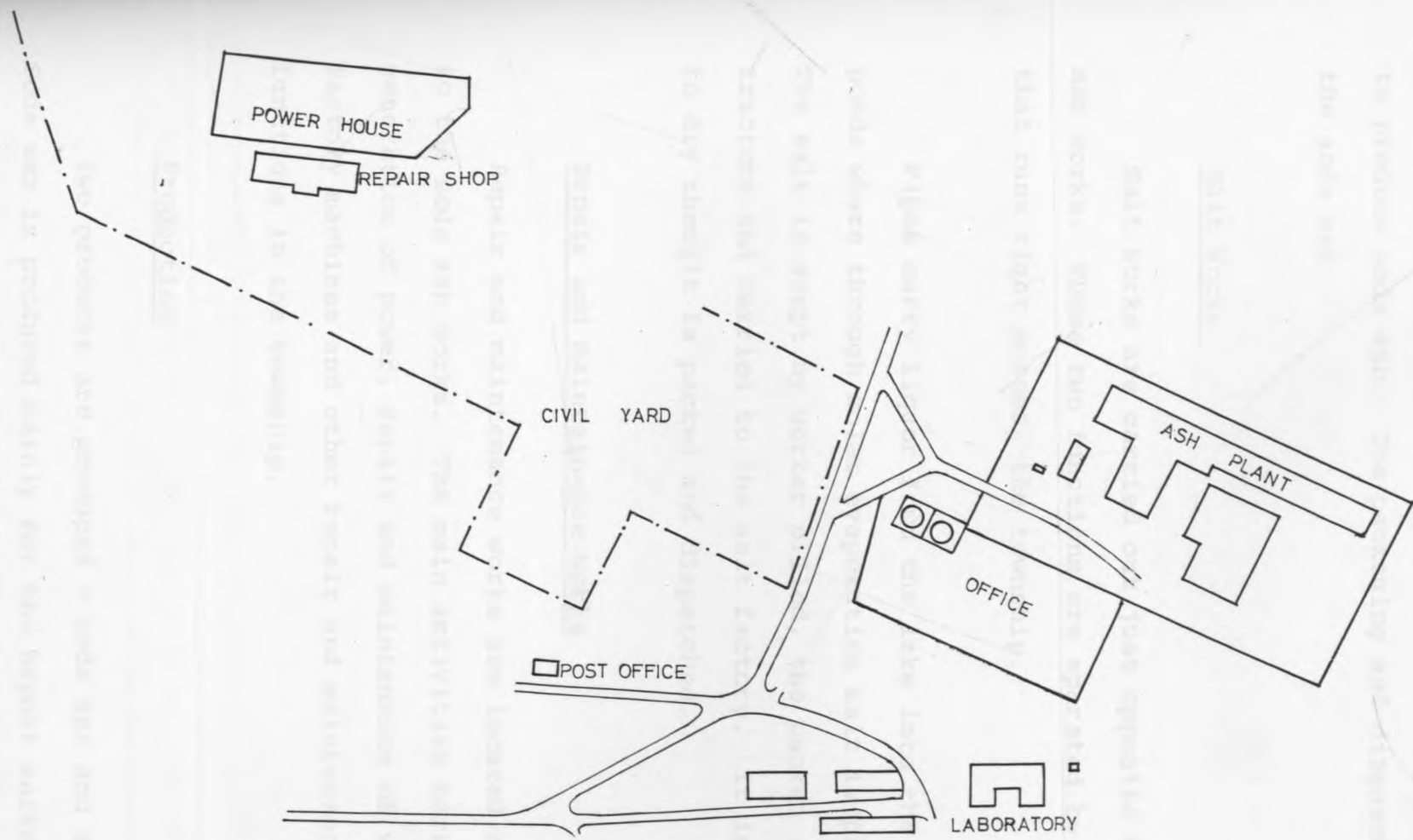
Magadi is basically an industrial town. Soda ash and salt mining activities on the township are two main activities in the township. There are two main industrial works areas in Magadi. The soda ash plant and the salt plant.

Soda Ash Works

Soda ash works are carried out on the lake and at a factory just adjacent to the lake. Soda ash works involve three processes:

The digging of trona from the lake by two dredgers. The transportation of the trona to the soda ash factory by pipes through suction pressure.

SODA - ASH PLANT AND OTHER WORK AREAS (SKETCH)



SOURCE : MAGADI SODA COMPANY

MAP 6

The crashing and processing of trona in calcinators to produce soda ash. The packaging and dispatching of the soda ash.

Salt Works

Salt works are carried out just opposite the soda ash works. These two functions are separated by a ridge that runs right across the township.

Pipes carry liquor from the lake into the salt ponds where through solar evaporation salt is produced. The salt is swept by worker pilled, the packed into tractors and carried to the salt factory. It is left out to dry then it is packed and dispatched.

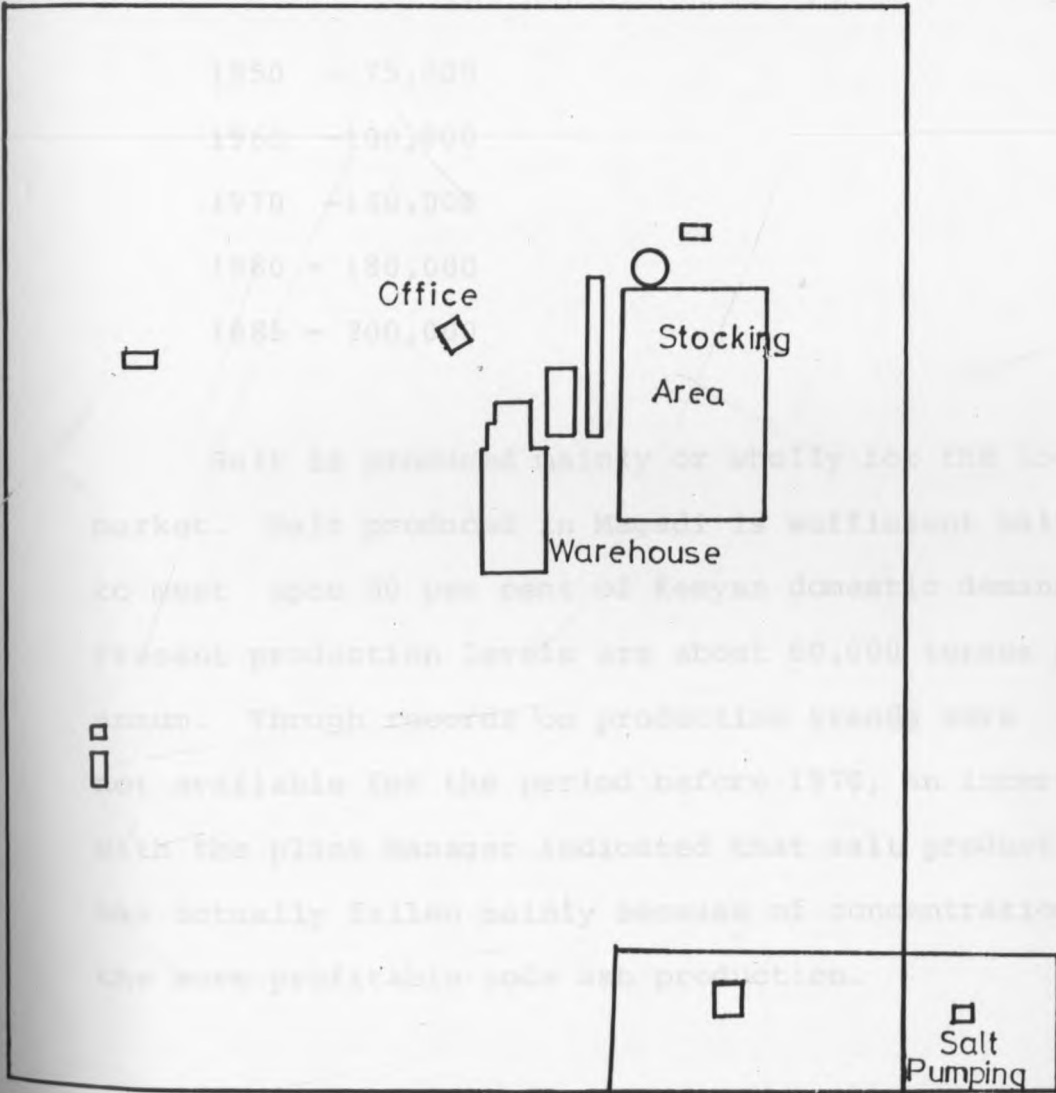
Repair and Maintenance Works

Repair and maintenance works are located adjacent to the soda ash works. The main activities here are generation of power, repair and maintenance of vehicles, factory machines and other repair and maintenance functions in the township.

Production

Two products are produced - soda ash and salt. Soda ash is produced mainly for the export market, only 10 per cent of the soda ash is sold locally. The company produces about 20,000 tonnes a year. Plans are underway

SALT PLANT (SKETCH)



1950 - 75,000
1965 - 100,000
1970 - 150,000
1980 - 180,000
1985 - 200,000

SOURCE : MAGADI SODA COMPANY

MAP 7

to increase production to 300,000 tonnes by the year 1990. The production of soda ash has been increasing steadily since the start of the mining operations. Production records from 1950 show an increase as presented below:

1950	- 75,000
1960	-100,000
1970	-150,000
1980	- 180,000
1985	- 200,000

Salt is produced mainly or wholly for the local market. Salt produced in Magadi is sufficient salt to meet upto 50 per cent of Kenyan domestic demand. Present production levels are about 60,000 tonnes per annum. Though records on production trends were not available for the period before 1970, an interview with the plant manager indicated that salt production has actually fallen mainly because of concentration on the more profitable soda ash production.

Commercial activities

Commercial activities are centrally placed in the township, roughly dividing the town into two. On one side of the commercial activities are the residential areas, while on the other side are the industrial activities already described.

Commercial activities in this township can be divided into the following sectors:

- (a) Wholesale shops. Only two whole shop exist in the township.
- (b) Retail shops : 25 retail stalls exist in the township. These are located at the Magadi market, where two rows of stalls are seperated in the middle by an open air market.
- (c) Hotel and Bar: There is only one eating house or hotel in the township; there are five bars in the township, three are found in members clubs.
- (d) Butchery: only one butchery exists in the township
- (e) Tailoring: 6 tailoring shops
- (f) Furniture: workshop : one furniture workshop
- (g) Bakery : one bakery.

Informal Activities (Sector)

The activities that take place in this township which may be classified as informal are show repairing, watch and radio repairing and photographing. These activities are considered informal because they are carried outside the provided facilities for commercial activities. These activities are carried out just adjacent to the market stalls.

Employment and Incomes

Employment in the township is provided mainly by the Company (private sector), due to the mining function of the town. Company records show that it employs 372 people. The employment structure is as follows:-

Table 3.3

EMPLOYMENT STRUCTURE

Sector Employment	Percentage of Total
Company	75
Trade	10
Public	8
Railway	3.4
Entertainment	3

Source: Field Survey, 1985.

From the survey in the township it was found that 75 percent of the people worked with the Company. Trade takes 10 per cent, 8 percent with the public sector (Police and Teachers, 3.4 and 3 per cent in the railway and entertainment respectively.

In investigating incomes by the towns residents a classification was made according to the company's employment categories. Three sets of classification are done by the Company - Staff Artisan and payroll.

The lowest staff scale is 2,500 shillings, the lowest Artisan employees constitute about 40 per cent of the employment of the company, while pay rolls constitute the rest 60 per cent. Only I employee in the Company falls under payroll I the lowest scale.

About 70 per cent of the company's employees earn above 2,500 shillings per month. Incomes are generally high considering that cost such as water bills, electricity bills and transport are not incurred. Sources of income are however restricted since most of the company employees have no other source of income within the township.

3.6 Infrastructural Services

It has been mentioned elsewhere that the presence of such infrastructure such as water, sewerage power and communication network serve as an attraction to industrial and other forms of development. The existence of these along with sufficient provision of social infrastructure like health and education give the town a healthy environment and therefore attractive for people to live in it.

Water Supply

Water or supply has great influence on the pattern and development of human settlement. In the urban context it is required for domestic and industrial use, and also

facilitates a public sewerage system.

Adequacy of the provision of water supply is therefore an indispensable element of a town's development.

The current source of water to Magadi township is through the Oloiborteto pipeline which is owned by the Magadi Soda Company. The intake is on the Olaibortoto river, which drains the Loita hills. The Magadi soda Company has the right to abstract a total of 2,447.27 m³ (or 438.18m³/d) per day for both domestic and industrial water supply. The Oloibeitoto has outlets from which water can be supplied or extracted along the pipeline. The estimated yield at source is 2,000 m³/d while the estimated current demand is 500 m³/d). This is an indication that extra potential for exploitation exists.

Electricity Supply

Electricity is supplied to all parts of the township - Residential, commercial and industrial area. The source of power is a set of generators owned by the Magadi Soda Company.

3.7. Transport and Communication networks

1. Roads

So far the town is served by an all weather road - connecting Magadi with Nairobi. This road

does not pass through the town but ends there, paved, ingraded roads start from the town to the interior areas of s Shombole and Ngurumani. The internal road network is highly developed All the distributor roads are either tarmac or concrete.

2. Airstrip:

There is an already existing airstrip at Magadi

3. Postal and Telephone Services

Telephone services are available in the township both for internal and external use. A post office department post office exists in the township; it distributes mail to outlying areas No private boxes owned by individuals exist.

Social Infrastructure

Education

The town is well endowed with education facilities which are offered at 4 levels.

(i) Secondary schools

It has within it a secondary school - Magadi Harambee Secondary School. The school was started in 1979 - a harambee effort of the residents who thought a secondary school was necessary. It has

No boarding facilities are available.

(ii) Primary School

There is one primary school. The primary school has undergone expansion in order to accommodate the increasing number of school going children.

(iii) Nursery School

There are three nursery schools in the township to cater for pre-school going age children.

Health Services

The town has a well equipped modern private hospital owned and maintained by the Magadi Soda Company Limited. The hospital has 65 beds and caters for 100 - 150 patients a day. Most are local people living in the town and the surrounding areas. The introduction of a nominal charge of Shs. 10 for the people from the surrounding areas has led to a drastic drop in attendance.

Housing

Housing in the township is provided by the Company all employees of the Company are accommodated. Traders in the town rent houses from the country especially in Majengo and Denecto estates. The railway employees are also housed in the township by the railway corporation that has built houses for them.

Teachers are accommodated in the township. Within the township is a set of houses referred to as the 'Company Manyatta'; this is a set of houses used by the Maasai community for accommodation whenever they visit the township.

Most of the residential areas are located along the Magadi Shombole road. Only the railway quarters are located next to the Soda ash factory and the Magadi Railway station.

CHAPTER FOUR

FINDING: ANALYSIS AND EVALUATION

4.0 INTRODUCTION

This Chapter is concerned with findings of the entire research. It incorporates all information obtained about the town its hinterland and the mileage between the two. It constitutes major observations of the research. It presents in summary form all factors pertaining to magadi town. Geographical, historical socio economic and infrastructural factors are examined. The second major part summarises the state of the hinterland paying attention to physical and ecological characteristics, socio economic and resource bases, that have a bearing on the growth of magadi. The section that follows analyses the linkage between the centre and its hinterland which establishes the strength of the relationship between the two (them).

The planning implications of the findings to the future growth of the town are presented. The last section of this chapter attempts a policy approach to solving the problems identified.

Thus the chapter synthesises the findings of the research, allowing on evaluation of how each factor has affected the growth of magadi.

the Maasai towards hired labour which they generally abhorred, preferring to tend their cattle or livestock instead. Campbell(1977) Lewis l. (1968).

If more people from the surrounding area had been engaged in the township as workers - they would most probably have invested their earnings for socio-economic development of the surrounding area. With more development being realised in the surrounding area it would have been expected that faster growth would have taken place in the urban centre as it would serve as the principal commercial and service centre. It is this type of link and complementarity between the urban and the rural development sectors that History denied Magadi.

4.2 Socio-Economic Factors

Population

So far the population of Magadi town is fairly small (Chapter III 3.3). It is barely above that required for an urban centre. Furthermore the centre does not experience a very rapid rate of population growth inspite of the high proportion of immigrants from outside the district as shown by employment figures by ethnic groups on table 4.1. The only factor that contributes greatly to an increase in the population of Magadi is the birth rate of the Resident population. An average of 5 children per household was calculated

4.1 FACTORS INTERNAL OF THE TOWNSHIP

Locational factor

It was mentioned (chapter III 3.1) that the town is located some 120 km South West of Nairobi and about 80 km West of Kajiado. These are the two main urban centres nearest Magadi township. Magadi is an isolated settlement lacking the advantages of tapping on spillover effects of developments from a nearby urban centre. Such advantage has greatly contributed to the growth of Thika, Athi River, Ongata Rongai and Ngong. These urban centres have served as satellite towns to Nairobi, serving such functions as residential areas, alternative industrial development areas etc.

The location of Magadi is disadvantageous considering the fact that it cannot act as a distribution point for communication moving to the interior or further off areas. It is not located on crossroads and cannot take advantage of through traffic. Magadi is at an end point. Such advantage has contributed greatly to the growth of Namanga, a factor that may explain the growth of commercial activities and hence the growth of the urban centre. Other towns that are located on crossroads or in areas where there is heavy through traffic have benefited from the advantage. Such are towns as Nakuru, Naivasha, Bungoma, Voi and many others. The issue of transportation and how it has affected the growth of Magadi will be demonstrated further elsewhere in this Chapter.

The location of Magadi adjacent to the lake (Lake Magadi) is an advantage, indeed the reason for the existence of the township. These may in fact be the only locational advantage. Though it has supported the town's growth thus far, continued growth has however been stiffened by this same factor of playing just one role.

Historical factor

The history of Magadi as already outlined (Chapter III 3.2.0) is dominated by efforts to exploit the Lake's Soda ash deposits. It is these efforts which also resulted in the township developing to serve as a dormitory for the workers, facilitating the exploitation of the resources of the lake.

The town developed apart from its hinterland or area because the residents of these township even during the earliest days were migrants from areas far away from Magadi in fact outside the District boundaries. An examination of the employees of the Company by ethnic groups confirmed these factors. The table 4.1 below illustrates the situation.

Table 4.1

Ethnic Composition of Total Population Between 1940-1985.

YEAR 1940-1985

Ethnic Group	1940	1960	1970	1980	1985
Luhya	233 (30.9)	168 (32.1)	163 (34.6)	139 (35.9)	129 (34.5)
Luo	194 (25.8)	154 (29.5)	149 (31.6)	123 (31.8)	125 (33.6)
Kamba	147 (19.5)	71 (13.5)	66 (14)	63 (17.6)	59 (15.9)
Kikuyu	39 (5.2)	24 (4.6)	24 (5.1)	21 (5.4)	22 (5.9)
Asian	80 (10.6)	54 (10.3)	29 (6.2)	-	-
European	40 (5.3)	37 (7.1)	26 (5.5)	12 (3.1)	10 (2.7)
Maasai	3 (0.3)	4 (0.8)	7 (1.5)	13 (3.4)	16 (4.3)
Others	26 (3.5)	12 (2.3)	10 (2.1)	16 (4.1)	23 (6.2)
TOTAL	753 (100%)	524 (100%)	471 (100%)	387 (100%)	372 (100%)

Source: Company Records.

The Maasai Ethnic group as shown above were only a small percentage of the total population of employees. In 1940 only 3 Maasai or 0.3 per cent were employed in Magadi, subsequent years show increases i.e. 1960 0.8 per cent, 1970 1.5 per cent, 1980 3.4 per cent and 1985 4.3 per cent.

The fact that right from the beginning the town had few if any Maasai living in it is an indication of a situation whereby the hinterland of Magadi did not provide the needed labour force. Hiring of labour from the hinterland would have been the first link between the town and its surrounding.

These missing links has i.e. the lose of initial advantage to provide labour, persisted to the present day as indicated by the percentage of Maasai employed in Magadi in the year 1985 already referred to.

The missing link between the town and the hinterland has affected the growth of the town adversely since no town can develop or grown without tapping from its hinterland.

The reasons why the Maasai did not play a significant role in the provision of labour to the town are twofold: partly it is the attitude of the whiteman or colonialist towards the Maasai as a fierce and conservative people who would be difficult to deal with if hired as labourers, and partly it is the attitude of

the Maasai towards hired labour which they generally abhorred, preferring to tend their cattle or livestock instead. Campbell 1977, Lewis I.M. 1968.

If more people from the surrounding area had been engaged in the township as workers-they would most probably have invested their earnings for socio-economic development of the surrounding area. With more development being realised in the surrounding area it would have been expected that faster growth would have taken place in the urban centre as it would serve as the principal commercial and service centre. It is this type of link and complementarity between the urban and the rural development sectors that history denied Magadi.

5.2 Socio-Economic Factors;

Population

So far the population of Magadi town is Fairly small (Chapter III 3.3) It is barely above that required for an urban centre furthermore the centre does not experience a very rapid rate of population growth inspite of the high proportion of immigrants from outside the district as shown by employment figures by ethnic groups on Table 4.1. The only factor that contributes greatly to an increase in the population of Magadi is the birth rate of the resident population. An average of 5 children per household was calculated

from a sample population selected from the hospital records. The rate of migration into the township is very low due to lack of employment opportunities. Since the chief employer in the township that is the Company has not increased labour force requirements. If anything there has been a steady drop in employment as shown by table 3.2. The towns population may remain constant or record only minimal growth if this factors remain constant.

Industrial Development and Potential

The towns principal industrial activities, Soda-ash and salt manufacturing have recorded alot of growth. Section 3.5.1.4 shows that production of Soda-ash has increased - or has been increasing since production started. Other development that indicate growth include the following: the introduction of a second dredge to increase mining capacity, the intention to expand production from 200,000 tonnes to 300,000 tonnes by the year 1990, a proposal to modernise the soda-ash factory and an ever expanding market in South east Asia. A decline in salt production due to preference to produce the more profitable Soda-ash shows that there is undercapacity utilisation at the salt plant or works. An increase in production at the salt works may actually enable the Company to satisfy more than 50% of the local demand.

A disturbing feature however is that Expansion in production has not been accompanied by increases in employment a decline has in fact been recorded (table 3.2).

The industrial base of the town thus seems incapable or unable to support faster or greater urban growth. The industrial base has also remained just as a primary or extractive activity. The industrial activities in the township also have no complementarity with the activities in the surrounding areas which are mainly pastoral or agricultural. The type of advantages accruing from linkages as the case may be with another primary production function like the sugar cane industry have not arisen.

Commercial Development and Potential

Although most of Magadi's Residents would do their major shopping in the town, a fact due to the prohibitive distances to Nairobi or Kajiado, in relative terms Magadi has a limited commercial function. The business/trade survey showed that 80% per cent of the businessmen would not consider expansion of operation - or branching to a more specialised business varied reasons were given for this response lack of Capital 25% per cent, lack of space 33% per cent and lack of market 42% per cent.

The two wholesale businessmen indicated that their activities are concentrated in Magadi just supplying merchandise to some 50 or so market stalls which act as Retail Shops. Very little is sold to the areas outside Magadi. Magadi has a limited commercial base firstly because of the small internal market and secondly because of the a limited external market. Magadi cannot and has not acted as a distributor to the surrounding areas.

The nature of activities as already indicated in section 3.5.2 shows not only how narrow the commercial base is but also indicates a lack of varieties in business especially lack of any specialised type of functions like studios, bookshops and laundry.

A weak commercial base does not augur well for future urban growth.

LAND FACTOR

It was indicated in Chapter III 3.4 that Magadi towns lies on a concession land. The issue of privatisation of land has had secondary implications, such as /^{development} of private physical infrastructure, social amenities - etc. The use of such amenities and infrastructure are strictly controlled by the Company or owner. A mere description of such facilities gives a false impression of a well catered for urban centre. The services at the centre are however specific to only the Residential population - the hinterland population is not included.

The implications of these is that the town cannot attract more development or even population - given the non -availability of infrastructure and the tight control regulations by the Company.

4.2. FACTORS EXTERNAL OF THE TOWNSHIP

Physical and ecological factors

The Magadi location was distinguished (Chapter II) into two ecological zones; That section falling under ACZ Zone III & IV and the Section falling under ACZ Zone V. The section falling under ACZ Zone III & IV is suitable for Farming or Agricultural development. While that falling under ACZ Zone V is suitable for Range development.

Social Characteristics

Population Distribution and Density

Magadi location has a low support population. This was estimated to be close to 9,581 people with a density of about 4 people per square kilometre a very low density of population also. The household size is approximately 4 per household.

Field observation show that there are no areas of high population concentration in the hinterland of Magadi. The highest concentration is that at Kiramatian with a population of about 200 people.

The total population of Magadi area is not capable of supporting a high urban development of Magadi. The small household units, low densities and the scatteredness of these population only exacerbate the situation. Demand for urban services is bound to be very low especially commercial services.

Economic Characteristics

Rangeland Areas

It was mentioned that the Rangeland areas around Magadi fall under the Kenya Livestock development programme of Group Ranches. (Chap. II 2.6) The basic characteristics of the Rangeland area are presented below Table 4.2.

Characteristics of Group Ranching Schemes Around Magadi

Table 4.2

Name of Ranch	Area(Ha)	Registered Members	Cattle	Shoats
Oldonyonyukie	68,566	250	13,000	7,000
Shombole	62,689	366	7,000	18,000
Olkeramatian	21,612	118	3,000	8,000
Olkeri	24,851.5	322	1,000	15,000
TOTAL	177,718.5	1,056	33,000	481,000

Source: Range Management Division and Land Registration.

Field observation indicate the Group Ranches Programme has failed to meet the objective of providing infrastructural services to the group Ranches and introducing modern Ranching techniques. 80% of the pastoralist interviewed were not aware of the presence or have not actually used cattle dips, watering points, vet clinics and A.I. techniques.

All the respondents still use traditional husbandry methods moving around with the cattle and other stock in search of water and grass. There is a virtual ignorance on the existence of such modern husbandry methods such as dipping, spraying, zero grazing forage harvesting and preservation.

Asked what problems they face the respondents gave varied but related responses such as loss of stock, animal and human diseases, lack of grass, water, no rainfall and no food. Such problems no doubt result from the semi arid climatic conditions of the area under study. However, poor adoption to environmental conditions as illustrated by husbandry methods used are also a contributing factor.

An examination of the Shombole ranch illustrates the general case of near total absence of infrastructural facilities. 4.3

INFRASTRUCTURAL FACILITIES AT SHOMBOLE

Table 43

	STRUCTURE	NO. OF	TOTAL AREA	CATCHMENT AREA PER FACILITY
1.	Water Points	1	21,612	21,612
2.	Cattle Dip	2		1,806
3.	Vet Clinic	-		-
4.	Marketing Points	-		-
5.	Bull Camps	-		-

Source: VETNARY ASSISTANT MAGADI

The case of the individual ranch run by the maasai rural training centre is quite different from the above mentioned case of Group Ranches. This ranch is run by a range manager who has himself undergone training on range management. The ranch is divided into smaller paddocks and modern techniques of dipping, '0' grazing, fodder harvesting and preservation are undertaken.

The general case however, is that of lack of development in the Rangeland areas considering that Ranching constitutes the single most important activity around Magadi, one may postulate that the lack of development in Ranching has affected the growth of the town adversely.

Farming Areas in Ngurumani

Favourable climatic factors (Chapter II 2.6) make the Ngurumani area suitable for agricultural development.

Field observations in Ngurumani identified the following crops that are being grown in the area maize-beans-peas horticultural crops (onions, tomatoes, cabbages) water melons, oranges, bananas and mangoes.

Those who farm in the Ngurumani area are mostly Kambas 40%, Kikuyus 28%, Sonjo from Tanzania 20% and Maasai 12%.

The farmers in Ngurumani have no title deeds for the land they work on. They acquired the land by clearing the forest and making channels for water from the streams and rivers. This land had remained unsettled by the pastoralists - (Maasai) due to the tsetse fly menace.

Most of the farmers in Ngurumani farm for subsistence. Some crops are sold to the Maasai pastoralists in the area, at the Kiramatian centre and some to Magadi - especially the season when mangoes are ready.

The only large scale commercial operation was carried out by Mr. Leakey who planted mainly tomatoes

and water melons for the export market. This farm employed nearly 25 people. Operations ceased in 1983, when he concentrated more on his political activities.

Farmers in the Ngurumani area complained of two main problems. Firstly the land issue, the farmers especially those who are not Maasai are constantly being harrassed by local politicians who claim the land is for the maasai and secondly market issue: A lot of the crops grown cannot be sold at all especially since the farmers have no means of transport to Magadi and beyond.

The case of Ngurumani is one of untapped potential. Bottlenecks such as land and marketing therefore millitate against the development in Ngunimani Region.

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4.3. Transport Factor

Two sets of communication modes radiate from Magadi (Chapter III 3.1.0.) the roads and railway. The roads that radiate from Magadi serves two area the Shombole Ngunimani area and the Magadi Nairobi Road. The Railway line moves from Magadi to Konza where it joins the Mombasa line. An examination of the nature of use of these communication facilities was carried out. The following observations were made.

Magadi Ngurumani and Magadi Shombole Road

The volume of traffic on these roads is very low. An average of 2 cars a day was recorded over the two months period. The nature of traffic consisted of landrovers owned by somali traders which ferry commodities from Magadi to shopping centres of Shombole , Kiramatian and Ngurumani. Government vehicles mainly used by Game Wardens who have a Camp on the Magadi and Ngunimani road and tourists over the weekends. Tourists visit the Oldonyo-Olengai Volcanic outcrop and the hot springs near lake Natron respectively.

Occasionally charcoal and some agricultural products are transported back to Magadi from the outlying areas but not beyond Magadi.

Magadi Nairobi Road

The volume of traffic on this road is also very low. An average of 12 vehicles a day was recorded over a 15 days period. The nature of traffic to Nairobi consist mainly of two buses which go to Nairobi daily and company vehicles which go to Nairobi for various company assignments. The nature of traffic from Nairobi direction consists of 2 buses daily, company vehicles and dealers in various commodities and services coming for market in Magadi. The volume of traffic somewhat

swells during the weekends when many tourists come to Magadi for picnic and so forth.

Magadi-Kajiado Railway line

From Magadi the Railway line carries wagons consisting mainly of Soda ash and salt respectively.

To Magadi the railway line carries empty wagons fuel tankers-certain bulky supplies (machinery) and occasionally commercial goods - from wholesalers in Kajiado.

In between Magadi and Kajiado, marble quarry from Kambi ya mawe is added to the traffic.

While the road is the life (Nairobi-Magadi road) line for the population of Magadi since buses transport essential commodities like vegetables and other retail goods, the railway line is the life line for the industry or mining activity.

4.4 Factors Influencing Magadi's Growth

The above going analysis of the study area has clearly revealed that there are significant factors within or connected with the township that have limited the growth of the township. The first geographical factor noted is connected with the location of the township. Thus it has been noted that because Magadi is an isolated settlement, more or less at an end point it

does not get any spillovers development or even the advantages of acting as a distribution point for communication and goods.

It has been shown that because the centre has provided employment to people further away from the hinterland (its surrounding), initial link between the centre and its surrounding was not created. The town therefore, grew as a completely different entity from its hinterland. This historical fact seems to have laid the basis on which the town has grown - as an urban centre having little if any link with the hinterland.

The absence of any meaningful linkage between the centre and the surrounding has affected the growth of the town adversely. The support the centre would have gotten from the surrounding has not been realised. These may explain the weak commercial base of the centre.

Major socio-economic factors were identified as playing an extremely significant role in explaining the growth of Magadi township. The low population and population growth rate not only generates little demand for urban services, thus leading to a situation of little if any urban expansion. The low population - in migration has made the population remain more or less constant.

Taking population per se as a definition of urban growth. Then Magadi has recorded little growth. The only factor contributing much to population growth in the township is internal population growth.

A weak industrial and commercial base was also identified as a limiting factor to the growth of Magadi. The industrial base was seen as weak because it constitutes only two primary activities - namely the mining of Soda ash and salt. Though production has risen over time especially in the production of Soda ash, employment has in fact gone down due mainly to the introduction of more technically efficient and capital intensive machines such as the use of the dredge to dig the lake, the use of suction pressure to transport mined trona to the factory and the introduction of new wagons in which Soda ash is loaded directly from the plant/factory. The industrial base of Magadi is also seen as weak because Soda ash and salt production are the only undertakings in the township, no other industrial activity has been attracted into the township.

A weak commercial base was observed, the number of commercial undertaking which included 3 wholesale shops and 50 retail stalls are not adequate to support faster urban growth. The commercial activities included the selling of basic retail commodities and a virtual absence of specialisation in particular areas of

business. Expansion of existing business undertakings seemed unlikely because of a limited market. The commercial function of the township in the region was found to be limited. The town acts as a supply point for very small outlying centres which do not generate any meaningful demand. The distribution role of Magadi is * therefore narrow and revolves around the supply of only certain very basic commodities.

A weak industrial base coupled with a weak commercial base have affected the growth of the town adversely both in terms of physical expansion (because none has been realised so far and none may be realized in future) but also in terms of functional expansion in those specific areas.

The land factor is central in explaining the growth of Magadi. It was found out that the land on which Magadi town has developed is concession land. The land is under the jurisdiction of the Magadi Soda Company limited. The implications of this is that the township is therefore also owned and controlled by the Company. Physical and social infrastructure in the township is therefore privately owned. Such infrastructure includes residential houses shops in which business is carried out - the hospital - water sewage and electricity provision- recreational facilities - and

educational facilities (buildings-stores-play grounds). The services do not therefore, have any bearing on the hinterland population. The services are planned for and actually benefit only the resident population, who must have a certain defined relationship with the Company either directly employed with it, a dependant of the employee, a businessman in the township - a teacher in the primary or secondary school, an employee of the Kenya Railway etc. The use of the services is limited to a certain population defined by the Company.

The land factor may in fact be a bottleneck to future development of the township since no other land would be available for location of new developments that are not directly associated with the Company or infact recognised by the Company.

The land factor and the resultant development has somewhat alienated the township from the hinterland. The township has grown quite apart from the areas around it. The towns relationship with the hinterland is confined to narrow and incidental cases such as provision of water to areas lying along the Magadi water pipeline (the provision is not planned and arises from the fact that the intake is more than the company requirements). The commercial function which has been explained elsewhere in this section, the housing function (arising from the fact that the houses set aside as Company

maasai manyatta are no longer needed by the Company) and the provision of medical care for people from the hinterland which is restricted presently because a flat rate of 10/= shillings is charged. The support that the township may have gotten from the hinterland is nullified by the fact that it offers little if any services to the hinterland and thus attracts little if any population - and even investment. These weak linkage between the township and the hinterland is demonstrated further by the transport function of the two modes of transport from the township through the interior. The road to Shombole and Ngurimani is important to the township only in so far as the repairworks of the water intake are concerned only occasionally is charcoal transported from the hinterland to the township using this road. The Magadi Nairobi road is a quick means of transportation. Serving mainly to link Magadi with Nairobi where occasionally Company workers travel to, where consultancy and supply services are gotten from - and more importantly where vegetables and other food commodities come from. The railway line to Kajiado and Konza transports Soda ash and salt from Magadi and for the factories from Mombasa. Nothing substansive is got from the immediate hinterland and vice versa. No interdependence exists between the township and its immediate hinterland.

The examination of the hinterland showed a low

population (the total population and the household size) coupled with the sparse density such characteristics do not augur well for the growth of the urban area. A low total population may not offer demand for goods and services provided in the urban area - especially when the population is scattered over a wide area. It has been shown elsewhere in this discussion that in fact the demand for goods and services from Magadi to the hinterland is low. A factor which explains why the commercial sector in the township is not growing.

The population of the hinterland is also very fluid or shifty; moving from one area to another in search of grass and water for their livestock. The very harsh ecological conditions make it impossible to stay at one point unless services such as watering points harvested grass and disease control are provided. Observations in the field show that the services have not been provided adequately. Little change has occurred on the traditional way of livestock keeping where nomadism was/is the principal control measure for climatic changes. Nomadism given the present circumstances (Chapter II) is not capable of coping with the harsh climatic conditions, hence the resultant loss of large numbers of livestock during drought. The non provision of the required infrastructural services to the Range land areas and the phenomenal loss of livestock

are both indicators of the decline of the livestock sector which forms a larger part of the hinterland of Magadi town.

The farming areas of Ngurumani which also form part of Magadi's immediate hinterland have not fared any better. Most of the farmers are squatters (have no land of their own) and engage mainly in subsistence farming, unable to sell even the meagre surpluses they get occasionally due to lack of market and marketing facilities e.g. vehicles. Ngurumani is a case where potentialities for agricultural development exist due to favourable climatic condition; but yet untapped.

The rangeland areas around Magadi have shown little development; loss of cattle and lack of infra-structural facilities indicate this fact. The farming areas of Ngurumani - have not realised much development due - to bottlenecks connected with land and marketing. The area is mainly a subsistence crop area.

At its present state the immediate hinterland of Magadi cannot support urban growth. The area has untapped potentials and in certain cases shows signs of decline.

4.5. Planning Implications

The need for planning intervention to stimulate the growth of Magadi is significant bearing in mind the

fact that Magadi is a principal urban centre in Kajiado district and must therefore play the role expected of urban centres as defined in the human settlements policy.

The urban centres are expected to stimulate growth of the hinterland region (Growth Centre Policy) and in certain respects to provide services to the rural areas. The relationship between urban and rural is expected to be one of interdependence and not dependence.

The role of Growth centre or even service centre is not attainable without growth of the urban centre itself. Magadi township presents a case where growth is very limited and hence the very limited role the town can play in the development of its hinterland. Magadi presents a case where the core development exists and felt beyond it, because the core itself is not growing.

Though Magadi may be a unique case since it is a mining town it may in fact represent a more widespread phenomenon when one considers the whole issue of what role urban centres should play or are playing in the development process. Many other urban centres do exist which due to similar or other reasons don't play any role in the development of their hinterland. This study may highlight what should/would need to be done in future to enhance the role of the urban centre in development.

It has been noted that the problem of limited growth of Magadi township results from constraints within the township itself and in its hinterland. Within the township the main constraints identified are the issue of land ownership, a limited and weak industrial and commercial sector and a weak linkage with the hinterland. Within the hinterland the main constraints identified were the settlement pattern in the Ranching areas, lack of infrastructural facilities, the land ownership pattern in Ngurimani area and the poor communication pattern between Ngurimani and Magadi both in terms of poor roads and lack of vehicles.

Concession land is a serious limitation to the development of Magadi. Infrastructural facilities (physical and social) are developed only for the township. The town that develops is one that is privately owned like Magadi township is owned by Magadi Soda Company. The township is inward oriented serving only the resident population. A solution to this would be a change in the land ownership pattern; two areas of action should be undertaken in this respect firstly the present areas under commercial residential educational and transportation landuses should revert to public sector land use. The rest of the land uses residential, industrial and company administration land uses should remain under Company jurisdiction. Such an arrangement

would have minimum disruption to the Companies operations

Secondly part of the remaining concession land should be acquired in order to establish or have some public land in the township. The impact of the above two changes would be to open up commercial, educational and recreational infrastructure for use not only by Company employees but also by other residents of the township (would be residents) and more so even the hinterland population. It will also create room for investment, or expansion, to new areas of business, having removed the very strict control exercised by the Company presently.

The presence of public land within what is presently wholly concession land will create room where any new developments not necessarily connected to the Company. Such new developments as would be proposed below.

There is scope for the improvement of the industrial and commercial activities - in the township. It was established that the salt works operations have taken a secondary place because the company is more interested in Soda ash manufacturing which is more lucrative in the international market. Commercial activities must also be guided in order to develop in line with the needs of the hinterland. Specialised commercial undertak

selling goods relevant to ranching development especially and even farming should also be established in the township.

Linkage between the township and its hinterland can be further developed through the improvement of the road network between Magadi and Ngurumani and Magadi and Shombole. These roads should be gravelled or even just widened in order to improve the road linkage between Magadi and its immediate hinterland. The town should also have services relevant to the needs of the hinterland areas. Commercail services as already stated above and other services such as forage fertelisers, pest and food storage. Support services should also be based in the township - such support services as farming and ranching specialists. The town should also provide residential space for those not employed by the Company where employees of other functions would be housed.

The hinterland areas both rangeland and farmland areas need to be developed, in order to improve or raise the incomes of the ranchers and the farmers. The general standard of living of the hinterland population must be raised. Rangeland areas could be improved through the provision of essential services - infrastructural and technical. Cattle dips, veterinary clinics, bull camps, marketing points, advisory staff etc. are necessary. Modern methods of animal husbandry

should be introduced such as '0' grazing, forage harvesting and generally speaking dryland farming methods. These could be introduced gradually through education of the pastoralist and demonstration.

The main bottlenecks in the farming areas is land ownership. Land should therefore be allocated to individual farmers. This area is particularly suitable to be made a settlement scheme - since already the place is settled by people who do not come from the district (Kajiado district). Communication link between Magadi and Ngurimani would create a ready market for the commodities produced. Magadi could also act as a distribution point for agricultural commodities produced in Ngurumani and Ranching products produced from the Rangeland areas.

The hinterland areas should be studied further with a view of finding out the bottlenecks to the development of both livestock and crop farming. The question of how exactly to introduce innovations must also be examined critically. A developing hinterland would have positive impacts on the growth of Magadi which would act as the core area providing services and innovation.

CHAPTER FIVE

CONCLUSIONS

This study set out to answer the question why is Magadi not growing? The study therefore examined the factors that have influenced or limited the growth of Magadi town.

Two sets of factors have been identified those concerning the township itself and those concerning the hinterland of Magadi.

This study revealed that the location of the township, its history and socio-economic characteristics have been limiting factors. The location of the township is disadvantageous and does not attract any development because the township is isolated from the other developments or isolated from areas of major economic activity. The history of the township is such that right from the early days, it relied on labour from areas beyond the district. A link between the town and its immediate hinterland was thus not established. This missing link has persisted to the present day.

The socio-economic factors identified include the low population of the township, low population growth rate and little/limited in migration. Such population characteristics do not augur well for urban development or growth.

Concession land ownership also acts as a constraints to the townships development since the township of Magadi including the social and physical infrastructure

are all privately owned and controlled. The terms linkage with the hinterland is therefore very weak considering that it has not been an important or significant centre for employment but also because it provides little if any services to the hinterland.

The commercial and industrial sector were found to be weak not only because of the little employment offered in them but also because there is no diversification of operations, and in a case like that of the salt factory there is under capacity utilisation.

The study revealed that the hinterland of Magadi is very poor in development. The Rangeland areas which form a larger part of the hinterland in terms of spatial extend and population, lack facilities necessary for ranching development (watering points, vet clinics, marketing points etc.) and problems such as loss of stock, lack of grass and water have limited the scope of ranch developments. The farming areas also face serious problems of land ownership, lack of market and marketing facilities. The area is also used mainly for substance crop farming. The low incomes and hence low standards of living ensueng from the factors identified above cannot support any significant urban development. Besides the population in total is low but more significantly it is semi-nomadic. Such

a shifly population does not offer or lend itself to urban development.

The study also revealed that there is a low or weak linkage between the centre and the hinterland each failing to adequately serve the other. The rural people are poor, being poor they cannot support the activities of the centre. The centre is inward oriented, and privately owned and controlled and is thus unable to support the hinterland development.

In order to overcome the constraints that inhibit Magadis development, a number of measures are suggested. It is suggested that land uses such as commercial, educational and recreational should not fall under Company jurisdiction. Land should also be availed for public and individual investments. The current set up of concession land should therefore be reviewed. Measures to strengthen and improve and even expand the commercial and industrial sectors are outlined - the thrust of the recommendations can be summarised as diversification of activities.

Measures to develop the hinterland are also set out such as provision of essential services, introduction of modern husbandry techniques, education for the pastoralists (demonstration). Provision of land for farming through the inception of a development scheme in

Ngurimani and improvement of communications.

In order to improve or strengthen the linkage between the township and the hinterland it is suggested that the town should have services essential and needed by the hinterland. The town should act as a herb or core for the development of the hinterland. Communication links with the hinterland should be improved.

This study has not exhausted the full scope of the issues involved especially in the hinterland area. Further studies in the hinterland areas would be necessary to establish how innovations can best be introduced and indeed also the nature of the development problems of the hinterland.



Plate 1: A house in Demeto Estate



Plate 2: A house in Tanganyika Estate



Plate 3: A house in Maringo Estate



Plate 4: A house in Sinuti Estate



Plate 5: A Dredger at the lake



Plate 6: The salt factory



Plate 7: Salt pond



Plate 8: Packed salt



Plate 9: Pilled soda ash



Plate 10: Salt pond and factory



Plate 11: Magadi Konza Railway and Salt Factory



Plate 12: Railway Station



Plate 13: Magadi Nairobi Road



Plate 14: Magadi Sports Club



Plate 15: Magadi Shomhole Road

SELECTED BIBLIOGRAPHY

1. BREESE GERALD: 'Urbanization in Newly Developing Countries' Emplewood Cliffs, N.Y. Prentice-Hall 1966.
2. DAVID, KINGSLEY: 'The Urbanisation of Human Population' Ekistics 21: 4 - 7, 1966.
3. ETHERINGTON, D.M.: Projected Changes in Urban and Rural Population in Kenya and the Implications for Development Policy' Kampala, East African Institute for Social Research, 1965.
4. FAIR, T. Y .D: 'A Regional Approach to Economic Development in Kenya' South African Geographical Journal 40:55 - 77, 1963.
5. GOLDS, J.M.: 'African Urbanization in Kenya' Journal of African Administration 13 : 24 - 28, 1961.
6. CUGLER, JOSEPH: 'Rural-Urban Migration and Social Mobility in Sub Sahara Africa' paper read at the 2nd World Congress for Mimeographed 1968.
7. GUGLER, JOSEPH: 'On the Theory of Rural-Urban Migration - the case of sub-saharan Africa' in Sociological Studies 2: Migration edited by J.A. Jackson. London, Cambridge University Press, 1969
8. GUTKIND, P.C.W. 'The Small African Town in African Urban Studies' African Urban Model, 3 : 5 - 10, 1968.
9. HANCE, W.A.: '"Population Migration and Urbanization in Africa' New York, Columbia University Press, 1970.
10. HAUSER, P.M. AND L.F. SCHMORE (eds.) 'The Study of Urbanization New York Wiley 1965.
11. HEYER, JUDITH DUNSTAN IRERI AND JOHN MAVIS: 'Rural Development in Kenya', Nairobi: East Africa Publishing House, 1971.
12. KANUGA, JAMES G. 'Urban growth, Rural Innovation and Rural Planning' Staff paper presented at the Institute for Development Studies, University of Nairobi, 1970.

13. LITTLE, KENNETH, L. 'West African Urbanization. A Study of Voluntary Association in Social Change' London : Cambridge University Press, 1965.
14. MORGAN, W.T. AND N.M. SCHAFFER ' Population of Kenya Density and Distribution, 1966.
15. MUNGEAM, C.H. 'British Rule in Kenya 1895 - 1912 The Establishment of Administration in East African Protectorate' London, Oxford University Press, 1960.
16. OMINDE, S.H.: 'Rural Population Patterns and Problems of Kikuyu Embu and Meru Districts of Kenya' paper prepared for the Second Symposium of the East African Academy: Nairobi, 1964.
17. ORAM, N.: 'Towns in Africa' London Oxford University Press 1965.
18. RAMPEL, H.J.: 'HARRIS AND M. TODARO : 'Rural to Urban Migration : An Interim Report Staff paper No. 39, presented at the Institute for Development Studies, University of Nairobi, 1969.
19. SORRENSON, M.P.K.: 'Origins of European Settlement in Kenya' Nairobi: Oxford University Press, 1968.
20. STREN, RICHARD, 'Urbanization and Development in East Africa. A Case study of Mombasa' Ph.D. Dissertation. University of Michigan, 1967.

