

THE PROBLEMS FACING SMALL URBAN CENTRES  
IN PHYSICAL DEVELOPMENT PLANNING - A  
CASE STUDY OF KARATINA TOWN, KENYA.

BY  
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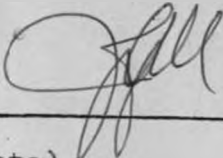
A THESIS SUBMITTED IN PART FULFILMENT  
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MASTER OF ARTS IN URBAN AND REGIONAL  
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DECLARATION

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

Signed  \_\_\_\_\_  
(Candidate)

This Thesis has been submitted for examination with my approval as University Supervisor.

Signed \_\_\_\_\_  
(Supervisor)

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ABSTRACT

Every time local authorities in Kenya fail to execute their duties effectively and efficiently, shortage of finance is usually given as the reason accounting for this failure. Another reason, and which has led to some local authorities such as Mombasa, Kisumu and Kiambu being dissolved, is maladministration.

However, there are other underlying problems which include: shortage of skilled man-power, housing shortage, inadequate infrastructural services and facilities, inadequate employment opportunities, land shortage, etc. These problems largely contribute to the failure of the growth centre strategy in Kenya, to achieve its objective of balanced development and equity in distribution of economic and social benefits.

It is clear that if the high and middle level centres have not been able to overcome such problems, low level or small centres are least able to overcome them. The latter have little or no resources at their disposal to deal with these problems. And yet they form the backbone to the human settlements strategy. The success of the strategy depends on the success of the service centres because they are stepping stones to the growth centres. Thus if the rapid rural-urban

migration to Nairobi and Mombasa is to be effectively arrested, there is need to reduce the gaps between the large centres, the medium size centres, and small centres.

The strategy that the study suggests for solving the problems identified are as varied as the problems themselves. But most of them hinge on the question of funds, and most are so interrelated that they form a vicious circle. Thus, to provide more land for the provision of more facilities and services, funds are required to purchase the land and to service it such that it is within the reach of all sections of the society. Public participation is necessary to ensure implementation of physical plans, and especially to ensure success of development control. Public participation would also help in deciding whether: to acquire and compensate land owners in monetary form or in kind; to extend boundaries and leave the market to allocate land after zonation, or to acquire and compensate both in kind and in monetary form in terms of a plot within the town. Everything should be done to avoid speculation. The best strategy here, especially on leasehold land would be enforcement of leasehold conditions, and the provision of an effective inspectorate to police development control measures.

The housing shortage should be seen against the background of the land shortage, values, and

acquisition processes; infrastructural services; the building code; and the income structure of the society. The appropriate strategies in this field would involve: controlling land values; shortening land acquisition procedures; providing either sites with no services, or with limited services, promoting self-help, cooperative ownership, and core housing; relaxing building code regulations on standards and materials; raising of incomes and extending loan repayment periods. These measures would go a long way towards meeting low income housing demands.

To provide more employment opportunities and to raise people's incomes, the following strategies are suggested. More resources should be made available to the small urban centres from the central government and other agencies. Such parastatal bodies like the National Housing Corporation, the Housing Finance Company and the Industrial and Commercial Development Corporation, should be strengthened.

The shortage of skilled manpower is a national issue which should not be dealt with piecemeal. Thus the government should participate in the provision of technical manpower in local authorities, and especially the small authorities. The Local Government Service Commission (to be tabled in Parliament soon) should go a long way towards streamlining local government administration in Kenya.

The channelling of more resources to small urban centres will help them to provide better infrastructure and services to the public. However they should be encouraged to explore and exploit local resources. There are more sources of revenue which have not been fully utilised in most local authorities. Local authorities should be helped to explore these sources and in drafting the necessary legal machinery to cover the sources. The public should be involved to ensure success of the decisions taken, as well as to incorporate their ideas on the kind of services to be provided, and how this is to be done more effectively.

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## CHAPTER 1

### 1.1 INTRODUCTION

Kenya is a developing country on the Eastern Side of Africa which gained her independence from Britain on December 12, 1963. Kenya inherited an economy which was, and still remains, dual in character<sup>1</sup>. The modern sector exists side by side with the traditional or subsistence sector. The latter is increasingly changing sector to the former especially due to the increasing emphasis on rural development<sup>2</sup> by the government. The modern sector consists of commercial activities found in various levels of urban centres and market-oriented agricultural activities. The traditional sector consists of subsistence farming using traditional and inefficient methods of farming. Such a system has brought great regional inequalities especially when it is realised that the colonial masters only developed those areas that directly assured their administrative and economic existence. Nairobi was selected as the capital of the colony and it has now grown into a city of international status with a resident population of 834,500 people (1979 census). The next biggest town - Mombasa - has 341,500 while the third biggest town - Kisumu - has 150,400 people. Out of a total of 136 centres in Kenya with a population of over 1,000 people, 109 centres have a population of less than 10,000 people each while 87 centres have a population of less than 5,000 people each. Out of a total national population of 15,322,000, 2,379,300 live in centres of over 1,000 people. The rest live in the rural areas.



CENTRES WITH POPULATION OVER 1000 BY SIZE

| POPULATION           | NO. OF CENTRES | TOTAL POPULATION |
|----------------------|----------------|------------------|
| 500,000 <sup>+</sup> | 1              | 834,500          |
| 200,000 - 499,999    | 1              | 341,500          |
| 100,000 - 199,999    | 1              | 150,400          |
| 50,000 - 99,999      | 4              | 299,500          |
| 30,000 - 49,999      | 4              | 138,000          |
| 20,000 - 29,999      | 5              | 131,400          |
| 10,000 - 19,999      | 11             | 147,600          |
| 5,000 - 9,999        | 22             | 156,300          |
| 2,000 - 4,999        | 41             | 125,800          |
| 1,000 - 1,999        | 46             | 60,500           |
| <b>TOTAL</b>         | <b>136</b>     | <b>2,389,300</b> |

Source: Population census 1979 (Provisional). NB Nairobi, Mombasa and Kisumu fall in the first three categories respectively.

To correct the regional inequalities that existed, and have continued to exist since independence, and especially to enhance rural development, Kenya has adopted a human settlement strategy<sup>3</sup> as a guide to the urbanization process - which has been found to be inevitable, and a necessary strategy towards overall development. This involves limited decentralization at the national and regional levels and selective concentration at the local level. The strategy consists of the development of a planned network of Designated Service Centres at different levels throughout the country side to improve the quality of life in the rural areas and to complement and stimulate integrated rural development, alongside the selection and development of a few strategically located major Growth Centres, which are designed to

promote regional growth and counteract excessive urban congestion in Nairobi and Mombasa. The Service Centre Strategy consists of a four-tier hierarchy made up of 86 urban centres, 150 rural centres, 450 market centres and 1,015 local centres in a descending order of importance. There are 13 growth centres which are also known as Principal towns consisting of Nakuru, Kisumu, Kisii, Kakamega, Kitale, Eldoret, Nyeri, Kericho, Embu, Machakos, Malindi, Meru and Thika.

## 1.2 NEED FOR THE STUDY

The theme of the study is that small urban centres have not been able to play their role effectively in the Service Centre Strategy because they are disadvantaged in relation to medium and big urban centres, and because they have certain problems which, though peculiar to all urban centres in Kenya, are more serious and prevalent in the small urban centre. As a result of this, rural - urban migration continues to converge on Nairobi and Mombasa. The spread effects which were/are expected to flow from the Service Centres and the Growth Centres have not stimulated rural development fast enough to remove the imbalance in growth, create enough employment opportunities, and provide the necessary services to such an extent as to remove the bias on Nairobi and Mombasa. The fact that about half of the Growth Centres are located in the central region with about the other half being located in the western region, and the fact that the Service Centres are therefore more widely spatially distributed, emphasises the need to strengthen the latter in order to hasten rural development. Smaller urban centres are even more

widely spatially distributed and are even more effective in "delivering the goods" at the local level

So far the definition of a small urban centres has been taken for granted. Though the above urban hierarchy which is based on the Central Place Theory, as propounded by Walter Christaller, has been elaborately developed in the recent official documents in Kenya: "A Strategy for Urban and Rural Development", and given force by the recent development plans, no definitions have been hazarded although it is widely accepted that a town is a centre with a population of over 2,000 people. However the above hierarchy is not based on this definition as there are several urban centres with a population of less than 2,000 people. Some of the factors included in the designation of Service Centres include: the needs of the area in terms of services and infrastructural requirements; an examination of the present and likely future population distribution; an analysis of the existing infrastructure and the transportation network; the needs arising from the development of local resources; and consultations with the Provincial and District Development Committees. Thus a local centre serves approximately 5,000 people, a market centre approximately 15,000 people; while an urban centre serves approximately 120,000 people. The latter are expected to be truly urban, offering a wide range of services and they range in size and importance from divisional headquarters, district headquarters, provincial head-

quarters and subnational centres like Mombasa and Kisumu, and Nairobi itself. A.N. Ligale<sup>4</sup> talks of small and medium size centres he but does not define them. Taylor, D.R.F.<sup>5</sup> says that a basic problem in the study of urban places is how to define what an "Urban Place" is/ the Kenyan context because after defining an /in urban place, one has then to define what a "smaller Urban Place" is. Taylor therefore adopted a functional definition which encompasses centres with resident population ranging from 800 - 5,000 as per 1969 census. These are centres providing services in at least four of the following five functional areas: Administration and Protection, Social Services, Communications and Transportation, Commerce and Industry and Power. Thus there were 160 small urban places in 1969 as shown in the table below. Central Province had, and probably

SMALL URBAN PLACES BY PROVINCE. 1969

| PROVINCE                | CENTRAL | WESTERN | NYANZA | RIFT | EASTERN | NE | COAST | TOTAL |
|-------------------------|---------|---------|--------|------|---------|----|-------|-------|
| Small Urban Place, 1969 | 37      | 22      | 25     | 29   | 32      | 3  | 12    | 160   |

still has, the largest number of small urban places in 1969. Taylor's definition is probably still valid up to now and will be adopted in this study especially because a look at the 1979 census (provisional) suggests that most of the centres are still within the range used by Taylor. The study and its findings will also be

relevant to urban centres with resident population in excess of 5,000 people. Thus it is necessary to be flexible on the definition of a small urban centre.

It is also necessary to note that this is a study with a bias on physical planning. It therefore distinguishes physical planning from general planning. However, physical planning integrates social and economic development. It will therefore only cover those problems that have a direct bearing on physical planning. These problems will include: physical constraints, land shortages and population pressure, housing shortage, inadequate infrastructure and facilities, inadequate employment opportunities, shortage of finance and inadequate trained personnel. It is appropriate to explore briefly the nature of these problems and the powers and regulations available to the local authorities for tackling them.

Physical constraints can be considered as given and are the result of the topography of the area. They can, however, be overcome through use of advanced technology, e.g. levelling using bulldozers, or by careful adaptation of the superstructures to the landscape, especially in case of residential use. Physical characteristics of sites in towns are especially adaptable to recreational use. They include steep slopes, valleys, rivers, dams, pools or ponds, etc.

Land shortage and population pressure are closely related. Rural population in Kenya has been increasing at about 3.4 % per year, while the urban population has been increasing at 8% per year. The latter includes the natural growth rate and growth

due to rural-urban migration. The high rural population growth rate has increased pressure on land due to the fixed nature of the latter given the present level of technology and the fact that no more than approximately 1/6 of land area in Kenya can be classified as having high to medium potential<sup>6</sup> agricultural land suitable for cultivation. Land pressure in the rural areas has made land acquisition for town expansion a very expensive exercise both in terms of large sums of money required to purchase the land, and in terms of the displacement arising, in a situation where no alternative resettlement land exists. Land Acquisition for public uses is however provided for in the Kenya Constitution (section 75), Land Acquisition Act Chapter 295, Local Government Regulations, 1963 (Section 144) and the Planning Act (Draft), 1974 (Section 49). Land Acquisition and Compensation takes about two years so that even after land for town expansion has been identified there is a lot of delay before the land becomes available for development. Such land will need to be zoned for various land uses after which it will be subdivided. The latter will require the Commissioner of Lands approval (now the Minister for Local Government & Development) before any developments on the land can start. Plans have to be prepared on the use of this land. These processes involve further delays. However since local authorities do not always have the funds to acquire land, extension of town boundaries are usually gazetted without actual land acquisition and land is left in private freehold

ownership. Zoning and subdivision would then be done by the Physical Planning Department, so that any developments within the new town boundary or within say 3 miles radius of the boundary, would need approval from the local authority to ensure it conforms to the approved plans. Unfortunately, several developments, especially on private land, take place without approval and there is no effective enforcement machinery. Land use conflicts therefore exist in most towns. Land speculation usually makes town plans ineffective and could be the cause of the existence of vacant land in a situation of land shortage in most towns.

Housing shortage exists in most urban centres and is especially critical in such large centres as Nairobi and Mombasa, especially due to the influx of rural migrants into such centres. In the big centre, the critical problem is housing for the poor who cannot afford either to rent or buy the housing generally provided in such centres. Housing is generally beyond the reach of the urban poor because of the high land prices, high costs of infrastructural provision, low incomes, and high building standards required by the Building Code. Therefore in most urban centres there is overcrowding and unauthorized construction of unplanned dwellings built of unsuitable materials. This situation is compounded by lack of basic infrastructure such as water supply, sewerage, and roads. Housing policy in Kenya is under the Ministry of Housing and Social Services, which has implementing agencies such as the Housing

Finance Company of Kenya, the National Housing Corporation, the Housing Research Development Unit and other agencies. The Housing Policy<sup>7</sup> aims at catering for all the income groups which consist of: High Income Group (over 2,000 Kshs per month), Middle Income Families (1,200-2,000 Kshs, monthly income), and very Low Income Families (below 300 Kshs. monthly income). However emphasis is on the low income families with attention being geared towards self-reliance, self-help and "unconventional" approaches. Thus Site and Service Schemes have been started in many urban centres throughout the country aimed at alleviating housing problems for the low income families, and which are financed by the National Housing Corporation. The Corporation also caters for housing for the middle income families in form of rental housing through local authorities, and mortgage housing. It is important to note that in the big urban centres, it is only low income and, to some extent middle income people, who face housing shortages. The high income can afford either to rent accommodation or to provide their own accommodation in form of owner occupier housing. However in most small urban centres and some medium size urban centres there is a general housing shortage for all income groups. Low income families are however able to rent accommodation in the surrounding rural area where low cost housing is provided on individual farms. Due to the lower incomes of the families, especially in the small urban centres, low income families generally cannot afford even the



units provided in Site and Service Schemes which are therefore mainly rented by the middle income families. Though high income families are relatively very few compared to medium and especially low income families, their accomodation is not adequately available especially in terms of quality of housing and size of accomodation. The provision of housing by local authorities is provided for in Section 177 of the Local Government Regulations, 1963. The Housing Act Chapter 117 provides for the formation of the National Housing Corporation and Section 7 of the Act allows the Corporation to grant or loan money - from the Housing Fund (Section 6), - to local authorities for provision of housing. The following are the policies offered by the Government to provide housing for the low and very low income groups, given their low household incomes, cost of conventional houses and investments in housing in terms of the G.D.P. and given the prospects for Kenya in terms of accelerated urban growth, and the slow anticipated growth of incomes in urban areas:- Demolition of Slums, Improvement of Squatter Settlements, Aided Self-help and Site and Service Scheme, Land subdivision schemes, Development of mass production methods, and Stimulation of the private building and construction sector, Reviewing building, planning and health standards in connection with local needs, Substitution of imported building materials by locally produced materials using local skills and labour intensive technology, and the Review of finance systems and rent policy. The Housing Research

Development Unit, and a number of consultants have been carrying out a by-law study to make appropriate housing Legislation which will cover low-cost housing of the following categories: Site and Service, Rental, Squatter upgrading and Mortgage Housing Schemes.

Uninfrastructural services include such services as water supply, sewage disposal, garbage collection, roads and railways. Many towns in Kenya are experiencing periodic water shortages. An unreliable and inadequate supply of water can be a severe constraint on the longer term development potential of urban areas. Nairobi and Mombasa are already facing acute shortages and it is becoming increasingly difficult to rectify the situation due to high capital outlays required in increasing the supply, the rapid rise in population, and increasing developments. However in order to implement the human settlements pattern as noted above, priority will be given to Designated Growth Centres, while many new schemes are being undertaken in the Designated Urban and Rural Centres. The onus for water provision, especially in the small urban centres, falls under the Ministry of Water Development. There is a direct correlation between the level of water consumption and the amount of sewage produced. Once water supplies are provided, and there is no, proper sewerage, there is an endless problem of water supplies being drawn from sources which are polluted by the sewage which results from the provision of water supplies. In the past sewerage has not been provided together with water and

therefore a backlog in its provision now exists. Only 20 towns outside Nairobi and Mombasa have sewerage systems and only 50% of the total urban population is served. Many of the systems that exist are inadequate, obsolete, inefficient or badly maintained and there is very little control by Local Authorities over the disposal of industrial effluent. The Government is undertaking a ten year sewerage programme for 60 smaller towns which are selected from the Designated Urban Centres. Garbage Collection Services are also generally inadequate and inefficient in such big centres like Nairobi and Mombasa. In the smaller urban centres problems mainly arise due to shortage of personnel and vehicles. Most of them have only one tipper which is used in so many other ways that it is rarely available for garbage collection. Roads in many centres fall under local authorities except the major trunk roads which now fall under the new Ministry of Transport and Communications. Of the 1,600 Designated Service Centres, 212 or 13% have poor access. Principal towns are all served by the appropriate access. In most small urban centres only a small proportion of their streets are tarmaced. Murram streets predominate, with some streets being of earth surface. Drainage patterns in most of the centres are non-existent or inadequate and inefficient. This makes the towns unsightly during the rainy seasons. Any road improvements, except in cases where roads falls under the Ministry, are done using local resources, so that the general inadequacy of the latter means that

only limited tarmacing is possible. Railways can not be economically provided for every centre because they must be justified by adequate resources and because they involve heavy capital outlays.

Housing Facilities include such services as health, schools, recreational facilities, telecommunications, etc. These facilities, like infrastructure, are also inadequate and inefficient for most of the centres, especially the small urban centres. Health facilities are catered for by the Ministry of Health, especially in the latter centres. However Missions provide health facilities in several areas of the Republic. The government's aim in health service provision is to ensure equitable distribution and accessibility of the services to each individual. The long term target is 1 health centre for every 20,000 people. Every district headquarter (all district headquarters are Designated Urban centres) will be provided with a hospital. The Town Planning handbook gives the catchment population and size of the various educational institutions. Enrolment between 1963 and 1973 doubled for primary schools, while it increased six times for secondary schools. However for secondary education, the inequalities in regional distribution of schools and enrolment and the imbalance between male and female school attendance is even more marked than at primary level. Quality of education in private and harambee secondary schools is low due to lack of equipments and the employment of low quality teachers. The intro-

duction of free primary education has increased primary school enrolment tremendously; thus straining the existing facilities. There has not been a corresponding increase in classrooms and number of teachers, so that the student -teacher ratio is great. Since there has not been a corresponding increase in spaces in government aided schools, more and more students have enrolled in private and harambee schools. High fees in the latter has meant an increase in the number of drop-outs and an increase in the unemployment. Village polytechnics are being emphasised as reception centres to absorb primary school drop-outs in an effort to boost self-employment at the local level. Recreational facilities especially in the small urban centres are not fully developed although adequate land for this land use exists in most of them. Social halls offering leisure facilities or games do not exist except only in the higher level centres. The Kenya Posts and Telecommunications has earmarked several Designated Centres for telecommunications development and improvement in its current development plan period (1979-83). Shopping centres are usually well-developed in most centres although specialised services only exist in the higher level centres.

The low employment capacity of most Designated Centres results mostly due to the lack of sizeable industries. In most centres the public sector is the main employer, followed by the commercial sector.

This is because all Designated Urban Centres are administrative centres of various levels of importance ranging from division to the province. Kenya Industrial Estates Limited is however developing industrial estates in the Designated Growth Centres, and in some service centres. Due to the limited capacity of the modern sector to absorb the rapidly increasing unemployed people, the informal sector will be boosted rather than be discouraged as far as it is conducted in safe and sanitary conditions. It is a dynamic sector with great potential for providing employment and incomes. It is widely found in the small towns <sup>are</sup> ~~and~~ in the peripheries of the big towns. Rural development will be given more impetus by increasing infrastructural services, credit facilities, extension services, better seeds and fertilisers, etc, in an effort to bridge the gap between the rural and the urban areas - thus arresting the rural - urban migration. The informal sector includes craft based manufacturing and a wide range of small - scale services and trade activities. It combines the labour intensive and adapted technology and small scale operation characteristic of the traditional sector with the impersonal market orientation of the modern sector.

Local sources of revenue for local authorities include: rates, poll tax, leases, licences, cess, rent, market fees, slaughter house charges, stand premia, etc. Other sources include loans from local banks, and loans and grants from international agencies and foreign countries in case of Nairobi and Mombasa. Local authori-

ties also get revenue from investments in capital projects. Loans are also available from Local Government Loans Authority under the Ministry. All these sources of the revenue are provided for in "The Local Government Regulations, 1963". However not all local authorities, and especially the small urban centres have been able to exploit all of them. Some of them have no approved local legal provisions e.g. poll tax and therefore cannot be improved. Others like rates, taxes and other charges have adverse political consequences on the councillors and are therefore not fully utilised. However the Minister's approval is necessary every time loans are sought, when new sources are being introduced, or even when increases in charges are sought. This causes a lot of delays given the number of local authorities in the country. Lack of adequate and trained personnel, e.g. to update the Valuation/or to advise on various technical matters, Roll only helps to compound the situation.

It is probably because of the shortage of adequate trained personnel and the poor organisation structure that most local authorities, and especially the small urban centres are inefficient. Thus any available trained persons are over-worked by being made heads of many sections or departments. In most small urban centres the Town Clerks performs many duties and has little time to look at the administrative duties of the authority. In Karatina Town Council the Town Clerk does several duties including: estate management,

building control and planning. Up till 1978, the town had no technical department. The Planning and Works Committee does planning for new housing with the guidance of the Town Clerk, but most of its decisions are political so that any advice from the government physical planners at the provincial headquarter is not taken seriously in most cases. However the Ministry intends to assist municipalities and Town Councils to establish their own technical sections, and maintain their infrastructural development. Technical staff will be trained and distributed to the various local authorities. This should be accompanied by a relaxation of the tight hold that the Ministry has over local authorities, through the Local Government Regulations. This makes local authorities less effective and contributes to many serious delays and reduces any innovative qualities on the part of the authorities personnel.

As noted above, it is probably true to state that the uniformity of distribution of local authorities in Kenya is inversely proportional to the level of the centres. Thus the higher the level of a centre the lower the uniformity in spatial distribution in the country. The lower the level the higher the uniformity of spatial distribution in the country. However, this situation is less obvious in the arid and semi-arid northern frontier region. Designation of centres<sup>8</sup> is a deliberate government action which takes into account present and future needs, resources available, growth potential, and spatial location in relation to other



centres.

There are several other differences between small urban centres and the bigger centres. Land use types, though generally similar in all planned centre, differ in terms of intensity of development and use, level of activities carried out on them. size of the uses and technology employed in various activities. Land availability generally depends on level of a centre. This is because elevation of a centre, e.g. to a municipality, is generally accompanied by extension of boundaries to accommodate increased activities. Thus municipalities are generally big in terms of area and sometimes population - wise. In any case increased activities tend to increase employment opportunities and this in turn attracts labour. Elevation of a centre in most cases is also accompanied by an increase in the growth rate of the centre both in terms of the population and economic activities. Such an elevation in status involves channelling of more resources to the centres concerned. Thus the resources at the disposal of the centres increase and hence the ability to implement projects given an efficient organisation structure. Investment in government infrastructure and services gives preference to higher level centres. Private investment, which is profit-oriented, also tends to prefer priority areas so as to make use of economies of scale. Differences between levels of centres also exists in organisation structures. Size of personnel generally depends on size of a centre, given adequate

resources. However, bigger centres able to employ higher quality personnel. Small urban centres are not able to afford to employ more qualified and experienced technical personnel due to the meagre resources at their disposal. This partly contributes to their inefficiency in providing services to the public, and especially where they rich extended and populous hinterlands.

These factors help to explain the underlying differences brought by Designation of centres in Kenya. However, it is important to note that urban centres are highest centres in the Service Centre hierarchy, (urban, rural, market, local centres in a descending order), and therefore receive higher preference in government investment programmes. But they also differ in size, level of development and resources at their disposal. The latter may depend on their location in relation to the capital city, the political strength of the local administration, and the size and wealth of the hinterland. These latter factors may in turn determine the size of a centre. Small urban centres would therefore appear to be disadvantaged in terms of most of these factors.

### 1.3. OBJECTIVE AND SCOPE OF THE STUDY:

The following are the objectives of the study:

1. To study the problems facing small urban centres as far as physical development planning is concerned.
2. To assess the effects and implications of these problems to the physical development planning process.
3. To suggest solutions to these problems as well

as the strategies of overcoming them.

The study will be confined to those problems that have a direct bearing to physical development planning. It is a case study. The study therefore discusses the problems generally, and then focuses on a selected town - Karatina.

#### 1.4. METHODOLOGY:

The actual process of carrying out the study will involve the following broad areas within which the problems might prevail:

**The Physical Base:** The physical characteristics of the town have been studied under this heading. The analysis of data on the physical aspects may help in determining the potentialities of the town and the region for agricultural (region) and construction purposes. The difficulties if any, to be anticipated in development and their possible financial implications, will be assessed. Land use will also be analysed to determine land developed or undeveloped and therefore determine land availability or otherwise.

**Social Base:** This will involve an analysis of the population characteristics of the town, the housing situation, infrastructure and facilities. Analysis of data on these aspects will help in the projections and proposals of the future land use characteristics or trends.

**The Economic Base:** This will establish the economic base of the town and the roles played by the commercial and the industrial sectors in the town's economy. Data on these sectors will also provide a guide to land

use proposals and the financial standing of the town in terms of its sources of revenue.

Finally attempt will be made to raise some of the urban land policy issues that the study involves, with a view to providing a guide to a better urban land policy. A summary of the whole study will then be made and a final conclusion attempted.

#### 1.5 LIMITATIONS:

The study has various limitations. The author has not carried out any first hand survey and has relied solely on available documentation and some selected personal interviews. Thus the data may not in some cases be up to date. The size of the town also limits the type and amount of data documented in government reports, and though the data may be generally adequate, it may not be in some certain detailed and specific areas.

Lack of comparable data on the size of towns under consideration is another limitation to the study. However, various sources indicate that similar conditions to those prevailing at Karatina, also obtain in most of the other urban centres in the country. These include newspaper reports, various commission reports and papers presented in various forums.

Other limitations include: the short time available for the study, financial, and man power constraints.

## REFERENCES

1. Soja, E.W. and Weaver, C.E. Urbanization and under-development in, Urbanization and Counter Urbanization. Edited by Berry, B.J.L. Volume 11. Urban Affairs Annual Reviews, Sage Publications, Beverly Hills, - London.
2. Kenya 1978 Human Settlements in Kenya A Strategy for Urban and Rural Development.  
Physical Planning Department  
Ministry of Lands & Settlement.  
p 31 - 40 and p. 60 - 66  
See also the Development Plan, 1979-83 - i.e. Rural Development Policies.
3. Ibid, p. 67 - 74
4. Ligale, A.N. Planning for Rapid Urbanization  
Journal of the Architectural Association of Kenya September - October 1972. Volume 111 No. 5 p. 30 - 33  
See also Urbanization in Kenya. Ford Foundation, 1974.
5. Taylor, D.R.F. The Role of the Urban Place in Development: A case study from Kenya.
6. Kenya, 1978 p. 15 - 21
7. Ibid p. 127 - 135
8. Ibid p. 108 - 109

## CHAPTER 2

## PHYSICAL BASE

2.1 HISTORICAL BACKGROUND

The origins of the Kikuyu tribe<sup>1</sup> are to be found in Murang'a District. According to Kikuyu legends<sup>2</sup>, God (i.e. "Ngai") dropped the father of the "Agikuyu" at a place in Murang'a District<sup>3</sup> called "Mukurwe-ini wa Nyagathanga", (near what is today the village of Gaikuyu in Location 10)<sup>4</sup> where He then brought him a wife called Mumbi. God then took Gikuyu to the top of Mount Kenya and showed him the rich and fertile virgin lands on the slopes of the mountain and told him that the land would from then henceforth belong to Gikuyu and his descendants. God then told Gikuyu to go and survey the land. Since then most of the old folks still believe that their creator, Ngai, lives on top of Mt. Kenya. Thus until late in 1960's Kikuyu elders used to pray under fig trees "Migumo", where they sacrificed to their Ngai while facing the Mountain.

Gikuyu and Mumbi had nine daughters. It was after Gikuyu and Mumbi had settled down with their children that God again visited Gikuyu in order to provide the husbands to his daughters. Thus the nine Kikuyu clans are named after the nine daughters whose marriage and multiplication is the result of the Kikuyu tribe of today. As time passed and the people spread out to fill the surrounding lands of the now Murang'a District, there was pressure on land and

various groups broke away and went to settle in other areas<sup>5</sup>.

The Nyeri Gikuyu's are one of these major groups that broke away and moved towards the slopes of Mt. Kenya in Nyeri District. They were in three groups. One group moved towards Othaya Division, the second towards Mukurwe-ini Division and the third towards Mathira Division. (Karatina Town is in Mathira Division). It is believed that these movements took place towards the end of the nineteenth century A.D.

Soon after settling on the rich agricultural soils of Mathira, the Mathira Gikuyu Elders started holding frequent meetings under a famous Gikuyu tree called Muratina. This tree is traditionally significant because it is from its fruits that the famous Gikuyu traditional beer called "Karugu" is brewed. Fortunately, just adjacent to the Muratina tree was another traditionally significant tree called Mugumo (fig tree). As noted above, the Kikuyu's, until late 1960's used to pray and sacrifice to their God, Ngai, under a fig tree. The place assumed another importance. It attracted traders from the surrounding areas who met there frequently to barter various products - both agricultural and commercial.

It is from these humble beginnings that the name "Karatina" was born. The place grew in importance and its catchment area increased as more expansions and settlements, as well as population, increased. Thus even before the arrival of the British and the

Asians, Karatina had a thriving open air market under the Muratina tree where people met every two days to exchange<sup>6</sup> goods. These included Maize, Millets and Beans from Ndia Division in Kirinyaga District; spears, pangas and unworked iron from Mukurwe-ini; and clay pots and straw trays from Gathinga in Tetu Division. Mathira traded maize and yams.

After 1910 Karatina was used as a junction town centre by people on transit to Ndia in Kirinyaga and other areas of Mathira. It is significant to note that travel in those days was on foot. Traders used to walk in groups on trade mission to various outlying regions, e.g. Kiangai in Ndia, Sagana in Kirinyaga. Kanyota in Mathira, etc. to barter their merchandise.

During this time, Karatina suffered one major disadvantage over other market centres. The Nairobi-Nyeri road passed five miles away from Karatina. However the road passed through Mihuti, another market centre 14 miles away. Thus Asians were able to settle here earlier than at Karatina. The people at Karatina persuaded Asians at Mihuti to come and settle at Karatina. Africans were in great demand of Asian merchandise which included blankets, brass, copperwire, beads, salt, necklaces and American cloth. Karatina had much to offer to the Asians: the road from Nyeri to Embu, Baricho and Kagio passed through it; it was nearer to building stones than Mihuti; its hinterland producing more maize than Mihuti, it had a cooler climate while Mihuti was drier and less productive



and mainly provided iron tools which Asians did not much need.

In 1916 Karatina was gazetted<sup>7</sup> a Trade Centre.

By 1917 there were 12 businesses<sup>8</sup> owned by Asians. Asians were middlemen buying maize from Africans which they milled and sold flour to Europeans to feed workers on their farms at Nyeri, Maragua and Thika. Not until 1925 did some Africans start buying maize in bulk to sell directly to Asia millers. They also started erecting rather temporary business houses e.g. tea shops, butcheries and maize and vegetable stalls in the African reserved areas.

By 1929 African had built 30 shops and 20 of them were dealing with meat. Most of the African shops

FREQUENCY OF A MARKET ATTENDANCE, 1916

| GAZETTED MARKET CENTRES | FREQUENCY OF ATTENDANCE |
|-------------------------|-------------------------|
| Mihuti                  | Every day               |
| Karatina                | Every third day         |
| Gathagana               | Every fourth day        |
| Ichamara                | Every fourth day        |
| Kianjege                | Every fourth day        |
| Gathinga                | Every fourth day        |

source: Ministry of Works, Roads Dept.

were built of timber, mud and thatch (grass) while most of the stalls were open - air type and temporary in structure. Not all Asians could afford stones buildings. Thus most of their shops and dwelling places were fully built of corrugated iron sheets for

both roof and wall structures but with timber plank frames. The last such structures were demolished by Karatina Urban Council in November, 1978 to pave way for better planning and more appealing and permanent structures. There was no planning in the early days. However there were definite Asian and African areas with their various cultural affiliations.

In 1925 a railway station was opened after the arrival of the railway line to Nanyuki. The Asian exodus from Mihuti continued and Karatina thrived to the disadvantage of other centres. The railway line has continued to boost the importance of Karatina since it is the only Urban Centre in Nyeri District served by a railway line. Nyeri town (now Municipal Council) is scheduled to embrace Kiganjo by 1981 because the latter is served by a railway line. In addition to transporting goods to and from Central Province the Nairobi - Nanyuki line used to have passenger services but due to stiff motor competition, passenger services were terminated in the late 1960's.

The growing importance of Karatina necessitated the establishment of a police station at the centre. Prior to this the main administrative duties were carried out from Nyeri. People used to be recruited from Karatina and surrounding areas to go and work at Nyeri. Colonial administration had by this time established itself and the District Officer and the District Commissioner had offices at a place called "Muharo" in Nyeri town. This was the administrative

centre of Nyeri.

In 1943 a Vegetable Canning<sup>9</sup> Factory was built at Karatina by the colonial administration. The choice of Karatina for the location of the factory illustrates the proven rich agricultural potential of Mathira Division. Agricultural production was greatly boosted by this factory. The factory canned vegetables which was taken to soldiers fighting in various places during the Second World War. Between 1943 and 1946 the factory produced Kshs, 24,435,272.50<sup>8</sup> worth of goods. Unfortunately after the war a conflict developed as to the future ownership of the factory. Africans vehemently objected to the continued ownership of the factory by the Europeans while they were the ones who wholly fed the factory with vegetables. To appease the Africans and at the same time save the factory from closing down, the European agreed to a joint ownership between the Africans and the Europeans. The former objected to this and insisted on a wholly African venture. The Europeans objected to this and the factory was closed down in 1946. However the vegetable industry did not die with the death of the factory. There were 16 vegetable co-operatives which continued to buy, store and transport vegetables to Thika and Nairobi.

In 1950 the Government boosted<sup>10</sup> the continued existence of the vegetable industry by sending a horticultural products specialist to advise the co-operative unions on the growing and storage of

vegetables.

With the establishment of the factory came the supply of electric power for use in the factory. A Post Office, was also established. Prior to this Karatina was served by a mobile post office from Nyeri. A Health Centre and an Asian Primary school were also established. The primary school was established on racial lines and did not serve other tribes except Indians. Africans had their schools e.g. the Kiamwangi Primary School whose history goes back to the arrival of the first Europeans in Nyeri District.

The growth of the Karatina town was slowed down by the Mau Mau War of independence and especially the Declaration of Emergency in 1952. People were swept from towns and their hinterlands and herded into villages. This saw the establishment of such villages as Kiamwangi, Mathaithi, Ragati and Karindundu which are now the thriving satellite centres of Karatina. Conditions in these villages were bad and cases of epidemics of fire, disease and famine were not uncommon. The villages were essentially "labour camps". People were forced to do hard labour from sunrise to sunset but the freedom struggle continued unabated. A police line was established at Kiamwangi village and a Catholic Church and a few shops were also established. After the war and especially after the Declaration of Independence in December 1963, people started leaving the villages and settling back on their former farms.

The Adjudication, demarcation and the consolidation process had been started even before the end of the War and most freedom fighters lost their former lands. Most of the villages have now been vacated and hence subdivided into plots mainly for commercial use with one or two church sites, school sites, dips and sites for social centres. Today only the poor and landless remain in the villages.

During the early 1960's the National and Grindlays Bank, Standard Bank and the Barclays Bank based at Nyeri sent mobile units to Karatina on Wednesdays and Saturdays and handled coffee, milk and tea money from the farmers, and traders in the town. However by 1965 the Banks had established branches at Karatina and were now able to serve the people for six (6) days a week. There are now two banks at Karatina. The National and Grindlays bank and the Standard banks were bought out by the Kenya Government to form the Kenya Commercial bank. The bank still /other existing is Barclays bank, now Barclays Bank, Kenya Limited because it has gone local. In addition, the prosperous Mathira farmers have built themselves a farmers bank under the auspices of the Co-operative Movement. The bank handles coffee, tea and milk money for the farmers. The Agricultural Finance Company has its offices adjacent to the Co-operative Bank and offers loans to farmers to develop their farms.

In 1958 the town boundary<sup>11</sup> was extended by the compulsory acquisition of land especially, lands on

the eastern side beyond the Ragati River. The lands were subsequently temporarily settled by Europeans who were tarmacing the Nairobi - Nyeri road during the late 1950's and early 1960's. The land was then subdivided and allocated to individuals and institutions. Conscious efforts at proper planning had by now started.

In 1970 the Blue Valley Estate was built by the National Housing Corporation and comprises of 94 units. In late 1973 the first site and Service Scheme, comprising of 105 units was completed and the people allocated them started developing them. Between 1972 and 1977 phases I to III of the Karatina Sewerage Scheme was completed at a cost of Kshs. 4 million.

In 1963 Urban Councils were created by the "Local Government Regulations, 1963" and Karatina was one of these Urban Councils. In 1973<sup>12</sup> the Karatina Urban Council was elevated to Township Status and henceforth became an independent entity from the Nyeri County Council and therefore assumed more functions. Thus the area of jurisdiction of Nyeri County Council does not include areas within Karatina township but only areas outside the town. These include the surrounding agricultural areas and the satellite villages whose planning is the county council's responsibility. The duties inherited by the Karatina Town Council included: Housing, Street lighting, refuse collection, bus stations, public lavatories, land use allocation, control of buildings, licences,

community services, self help activities, cemeteries, administration and financial control, nursery schools, slaughter houses, meat inspection, markets, animal ponds, beer halls, stadia, by-laws administration, representation on District Development Committees and the preparation and maintenance of a rating roll for the whole of the Urban area.

In October 1973,<sup>13</sup> a Kshs. 1.7 million modern Town Hall was inaugurated and is now complete and the council has moved its offices from the old offices near the Magistrates Court and other government offices, to the new building. Karatina Town is now a thriving urban centre which has grown to the 'brim' and needs more land for further growth.

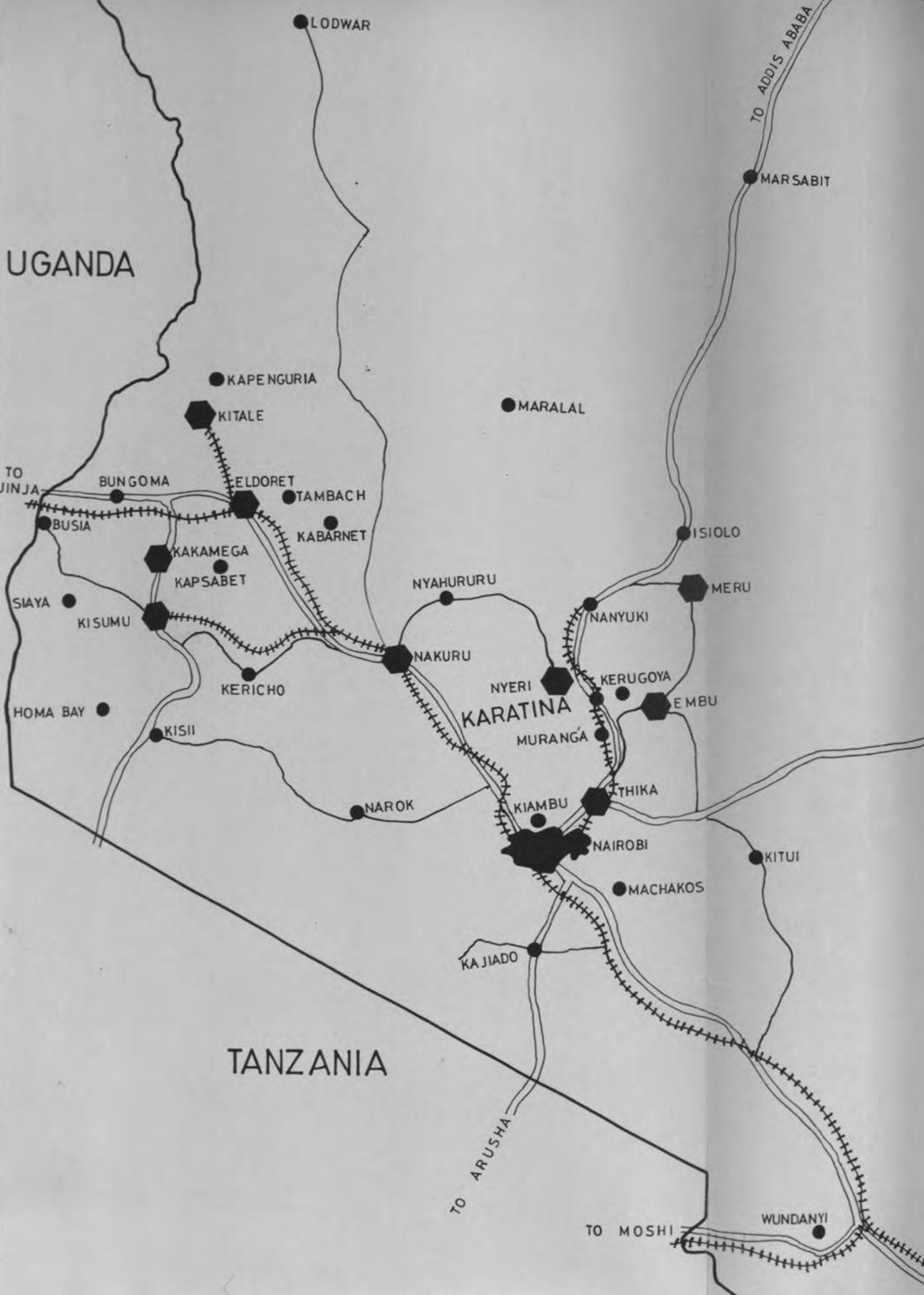
## 2.2 KARATINA IN THE REGIONAL CONTEXT—

### LOCATION:

In the national context Karatina town is located<sup>14</sup> about  $37^{\circ}1'$  E and  $0^{\circ}3'$  S. In the regional context the town is located in Mathira Division of Nyeri District in Central Province. It is located along the Nairobi - Addis Ababa Highway and is 75 miles (20Km)<sup>?</sup> from Nairobi. It is also located on the Nairobi - Nanyuki Railway Line. The town lies 16 miles (25Km) to the South East of Nyeri Town.

In addition to the Nairobi - Addis Ababa Highway, the town is also linked by tarmac roads to Kirinyaga, Embu, Murang'a, Nyeri, Mukurweini, Othaya, Kiganjo and Nanyuki.

UGANDA



LODWAR

TO ADDIS ABABA

MARSABIT

KAPE NGURIA

MARALAL

KITALE

TO JINJA

BUNGOMA

ELDORET

TAMBACH

ISIOLO

BUSIA

KAKAMEGA

KABARNET

SIAYA

KISUMU

NYAHURURU

MERU

KAPSABET

NANYUKI

KERICHO

NAKURU

KERUGOYA

HOMA BAY

KISII

NYERI

KARATINA

EMBU

NAROK

MURANGA

ATHIKA

NAIROBI

KITUI

MACHAKOS

KAJIADO

TANZANIA

TO ARUSHA

TO MOSHI

WUNDANYI





● GATARAKWA

● EMBARINGO

● MUYOGO

■ ENDARA SHA

▲ MWEIGA

● AMBONI

■ IHURURU

■ KINUNGA

● MUTHUA

■ GIAKANJA

▲ WAMA GANA

● GATUMBIRU

■ IHITHE

● MUKARARA

● GATHUTHI

■ GACHATHI

■ MAHIGA

■ KAGERE

● IHURIRIO

■ GACHICHI

■ CHINGA

● KAGICHA








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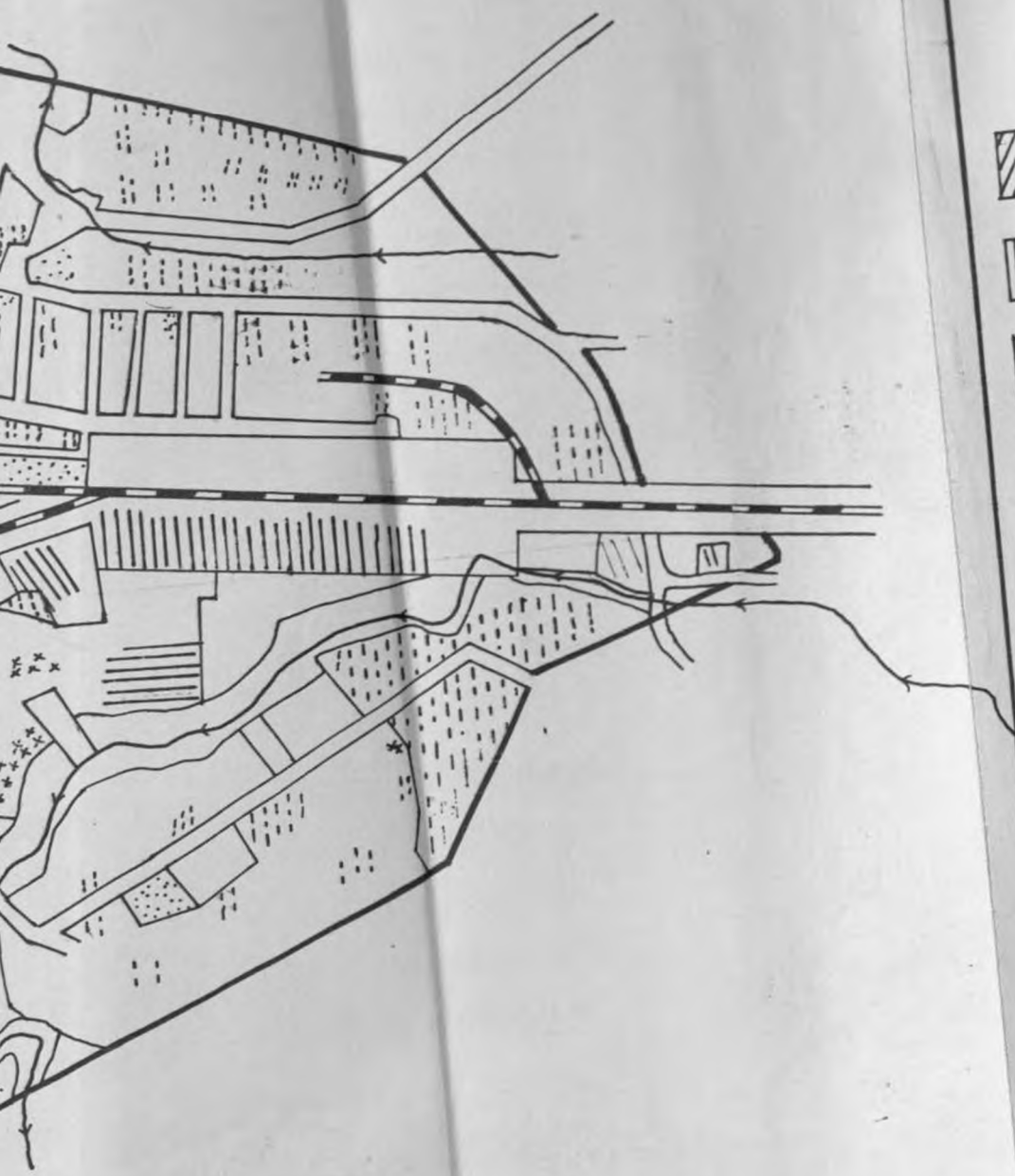
■ ANJO

● TUNGA

# KARATINA HISTORICAL DEV

## LEGEND

-  1911 - 20
-  1921 - 30
-  1931 - 40
-  1941 - 50
-  1951 - 60
-  1961 - 70
-  1971 - 80



DEPARTMENT OF  
PLANNING  
UNIVERSITY OF  
M.A. THESIS



PREPARED

### 2.3 REGIONAL INFLUENCES:

Karatina (2,929 people, 1979 census) is the Divisional Headquarter of Mathira Division. It therefore serves a hinterland of 247 square Kilometres and a population of 94,414<sup>15</sup> (1969 census). This is a rich agricultural area with a high population density and great agricultural potential. Thus in the public sector the town is important and various government ministries are represented in various capacities in the town. Thus it has a District Officer's office, Police station, Prison camp, Magistrates court, Assistant Education officer's office, Health centre, Community Development offices, Agricultural offices, Co-operative offices, etc.

In the commercial sector, the town's hinterland is extended far beyond the Divisional boundaries especially by the existence of the largest open air market in Kenya. 20,000 people flock into this market twice a week to buy and sell all kinds of foods and handicraft. Its importance as a commercial centre is further enhanced by the fact that the only other urban centres in Nyeri District are Nyeri and Othaya. There are no Rural centres in the Division although there are several market and local centres. The commercial influence of Karatina extends to such towns as Nyeri, Sagana, Kerugoya, Embu, Meru and even as far as Mombasa and Kisumu. This influence forms a great stimulus to agricultural production of Mathira,

Mukurweini, Ndia (in Kirinyaga District) Divisions and other neighbouring regions.

As noted above, Karatina is served by an efficient road and rail network. Thus it is connected to almost all tarmac roads. This contributes to its importance as well as its regional influence on the surrounding regions. In order to keep up its regional importance the town council is now making concerted efforts to have the whole town road network tarmaced.

Karatina is also the cultural, religious and educational centre of Mathira Division and the areas around the periphery of the Division. It is therefore also the employment centre of the region. However employment opportunities are not fully exploited and most of labour force, (especially the young school the leavers), migrate to nearby Nyeri Town and Nairobi and Mombasa to seek employment. Due to the efficient road network and the proximity of the town, and especially its central location, most of the people employed in various activities in the town travel back to their homes in the evening. Most of the low income workers are also housed in semi-temporary rented houses which are scattered all around the town boundary and which are constructed on freehold individual shambas. Thus the last census (August 1979) reflected rather a very low population figure of 2,929 as compared to 2,439 of 1969 census although in addition to the peripheral housing several of the Site and

and Service Scheme I units have been completed and a Town Council rental housing completed. Several residential plots in the town have also been developed.

Overall, the town and the surrounding areas have a great potential for development especially after the former's boundaries are extended. They lie in a high potential region<sup>16</sup> with the equatorial rain forests of Mt. Kenya to the north. Thus although the region has no mineral resources, other natural resources exist in abundant quantities and include: forests, rich soils producing such cash crops as tea and coffee and sustaining beef and dairy cattle, big reliable rivers like Sagana, (Tana River), and Ragati river, etc. The forests supply the saw mills at the town with timber and this has led to a proliferation of carpentry. The town also houses the main coffee mills and stores and a milk processing factory. The town has also got flour mills which process the maize from surrounding areas. There are also two Bakeries in the town which get their supplies from the wheatfields around Nanyuki and Naro Moru and even as far as wheatfields of Rift Valley Province.

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## 2.4 PHYSICAL CHARACTERISTICS:

### CLIMATOLOGY AND GEOMORPHOLOGY<sup>17</sup>

Karatina Town lies between attitudes of 5,000 ft (1,524m) to 7,000 ft (2,134m). It is about 5,800 ft (1,760m) above sea level. This is a plateau region on the slopes of Mt. Kenya.

The factors determining the inherent potential of a unit of land are its climate, topography and soils. Climate and especially rainfall is the primary factor which determines land potential in Kenya and therefore should receive first priority in land use planning. Karatina lies in a climatic zone with Humid to Dry Sub-Humid, (moisture index not less than - 10), atmospheric conditions. Thus, this is the equatorial climate. This zone forms a ring on the shoulders of Mount Kenya and the Aberdare Ranges.

Temperatures range between Mean Annual 22°C to 26°C maximum and between 6 to 10°C Minimum Annual Mean. The town lies in a rainfall belt with between 40"-50", (1015mm - 1217mm). The town has an Average Annual Rainfall of 1100mm. Rainfall is especially between March to September with two maximas in May and November.

Karatina lies within a narrow belt with Dark Red Fiable Clays with humic top soil (Latosolic soil), which runs from north to south. The soil is dark red-dish-brown with deep high humic content (3-7% carbon).

It overlies a dark red sub angular blocky friable clay. The soil is derived from both volcanic and basement complex rocks and occur on the summit of broad flat - topped ridges, formed mainly by parallel rivers, between 1,500 to 2,000m. and with a rainfall of over 1,000 mm. These soils are found in the humid regions which have well-drained soil.

The vegetation zone for Karatina coincides with the soil zone noted above. Thus the vegetation over this soil is Bushed grassland in a region with wooded grassland. The town and its hinterland lies in a region which was 51 to 60% cultivated in 1960/61 and which grows maize, pulses and potatoes. Maize (61 to 70% of cultivated) land is the staple food of the people in the region. Coffee and tea are the main cash crops. Coffee is generally cultivated in a region below the East to West line from Karatina while tea grows in areas above this belt. However very few areas in the region have their natural cover today due to the population density of the region. More land has been put under coffee and tea due to the last coffee and tea boom of 1976 and 1977.

Karatina and its hinterland is drained by Ragati and Sagana (Tana River), together with their tributaries. Ragati River and its tributaries drains areas to the north, north east and south east while Sagana drains areas to north west, west and south west.



Karatina town is drained by the Ragati river, which passes through the town, and Kirigu stream. Another small stream drains the coffee factory

MONTHLY RAINFALL DISTRIBUTION 1975 & 1976(in mm.)

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1975 | 6   | 13  | 36  | 279 | 318 | 33  | 65  | 39  | 49  | 50  | 95  | 38  |
| 1976 | 95  | 45  | N/A | 106 | 153 | 61  | 54  | 11  | 52  | 43  | 92  | N/A |

Source: Nyeri District Annual Report, 1976.  
Ministry of Agriculture.

2.5 EXISTING LAND USE:

| ZONE             | COVERAGE | %     | % of AVERAGE COVERAGE<br>IN TEN (10) TOWNS* |
|------------------|----------|-------|---|
| Residential      | 29.8     | 18.5  | 40.6  |
| Industrial       | 19.0     | 11.8  | 7.6   |
| Educational      | 12.6     | 7.8   | 14.2  |
| Recreational     | 13.5     | 8.4   | 19.1  |
| Public Purpose   | 25.1     | 15.5  | 12.4  |
| Commercial       | 15.9     | 9.8   | 3.3   |
| Public Utilities | 2.2      | 1.4   | 2.8   |
| Transportations  | 43.4     | 26.8  | -   |
| TOTAL            | 161.5    | 100.0 | 100.0                                       |

Source: Survey Data, 1979

\* Town Planning Handbook, 1971

The above table and the map below show the existing land use pattern in Karatina town. The table compares land use coverage in the town with Average land use coverage in ten (10) other towns in Kenya. Thus it is clear that residential land use is a major consumer of land in Karatina as well as in most other towns of Kenya. Detailed analysis of this land use is made below under Housing in Karatina.

Transportation is usually a second or even the largest major land consumer in most urban centres. It includes roads and road reserves, railways and their reserves, bus and car parks. However this was not calculated for the ten towns above so that the table shows that the next major land user for the ten towns is recreation.

Recreational facilities, however take a mere 8.4% of the total hectarage in Karatina. Recreational facilities

are generally lacking in the town and consist of a stadium, an undeveloped public park and land along river valleys. Unfortunately the latter land is cultivated and hence cannot be used as a recreational venue. This aspect has boosted soil erosion along river valleys and there is an urgent need to stop this cultivation along river valleys especially because even the river banks are stripped of their natural cover.

Public Purposes land use takes up 15.5% of land in the town while the average for the ten town is 12%. This use includes the public sector which is a major source of employment in most urban centres.

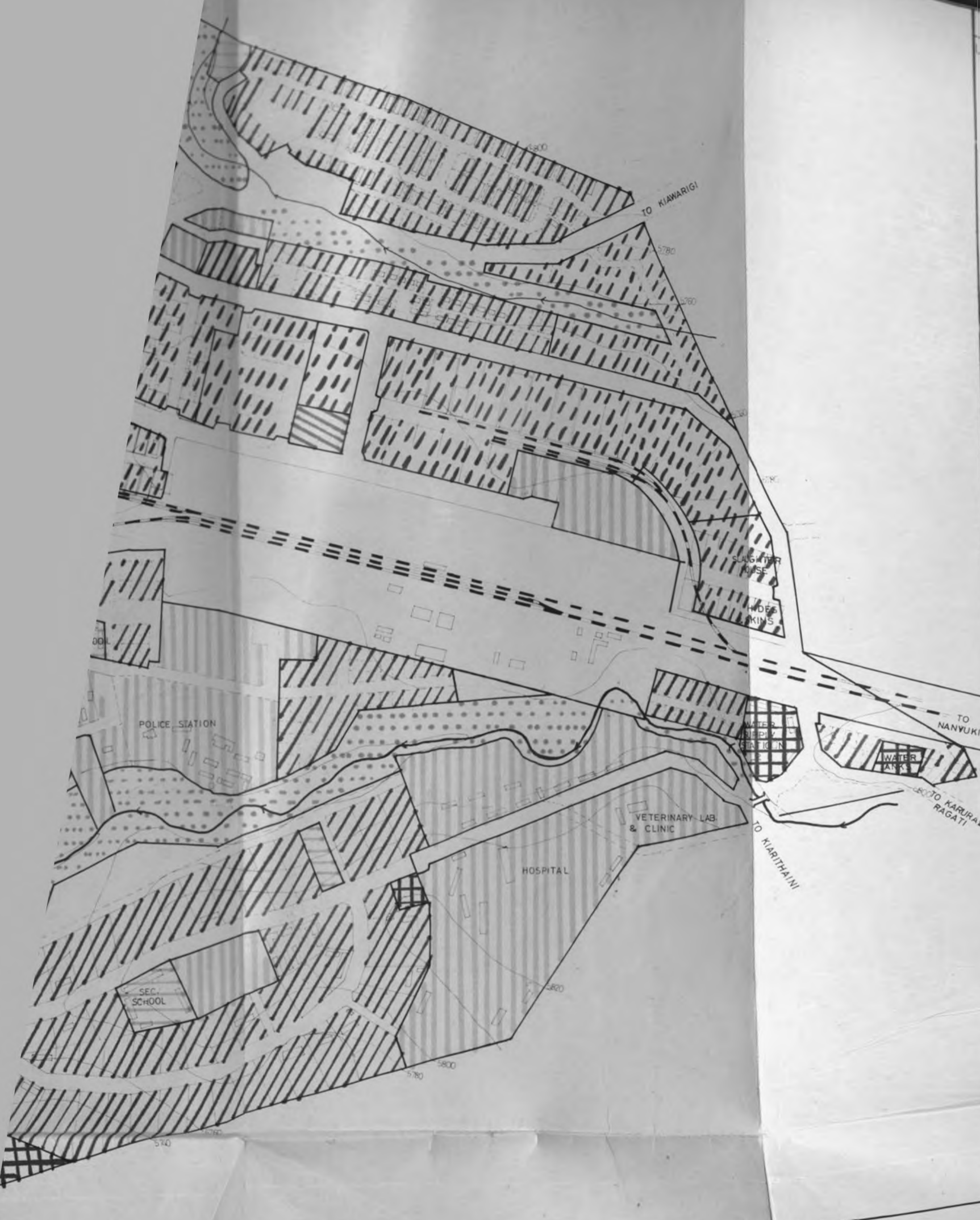
Recent rezoning has increased land under industrial use while slightly reducing that under commercial use. This rezoning has not been implemented since one of the areas involved had already been developed as a commercial sector.

Educational land use has also seen some rezoning recently. The Pan African High School had been allocated a site near the town hall (7 hectares) but this site was later ex-changed with a smaller (3hectares) site adjacent to the stadium. The recent removal of the Karatina health centre to the new health centre adjacent to the Veterinary clinic and laboratory will increase land under educational use if the vacated site is zoned educational.

Public Utilities occupy a mere 2.2% and is the

smallest land user. However land under this use will increase when the town boundaries are extended and if the existing land under public utilities outside the present boundary is brought within the new boundary.

The map below shows the existing land use pattern in Karatina town. A striking feature of the town is the lack of land under agriculture, (except fragments of cultivated land along river valleys which are zoned recreational), and undermined or deffered land, (except land which is currently unusable due to its nature e.g. very steep or the former quarry land adjacent to the water supply station). The existing land use map should be used together with the "Physical Thresholds to Development" map to show the amount of land under each use which is currently built up. For example, three of the sites intended for low cost housing and two Site and Service sites have not been developed or serviced. Site and Service Phase 2 has been serviced but only a few owners have started bringing building materials to the site. Similarly one of the three sites zoned Public utilities is not developed. Most of the land zoned industrial is not developed and some of it is under commercial use as noted above.



EXISTING LAND USE  
LEGEND

- ZONE BOUNDARY
- - - EXISTING PLOT BOUNDARY
- - - PROPOSED
- 0 [diagonal hatching] RESIDENTIAL
- 1 [cross-hatching] INDUSTRIAL
- 2 [horizontal lines] EDUCATIONAL
- 3 [dotted pattern] RECREATIONAL
- 4 [vertical lines] PUBLIC PURPOSES
- 5 [diagonal hatching] COMMERCIAL
- 6 [stippled pattern] PUBLIC UTILITIES
- 7 [dashed lines] TRANSPORTATION
- 8 [ ]
- 9 [ ]



DEPT. OF URBAN AND RE  
PLANNING  
UNIVERSITY OF NAIROBI

SCALE 1: 5000  
DATE 12-11-7  
PREPARED BY

PLAN - KARATINA

## 2.6 PHYSICAL CONSTRAINTS<sup>18</sup>

Karatina Town is located on a flat piece of land, although it is dissected by Ragati River and Kirigu Stream on the eastern and western sides respectively. On the south - eastern side, the land rises and then falls to accommodate the Kinyariti stream before rising again towards Kiamwangi village. The land then falls gently towards Ragati village to the north of the town. On the west, the land rises from the Kirigu stream valley towards Mathaithi village. Land also rises towards Karindundu but more gently than on the above two sides. However Mathaithi and Karindundu have extensive flat areas after the initial rise from the town boundaries and before falling off to accommodate valleys, while land to the east of Ragati and north of Kiamwangi village towards Kiarithaini and east of Ragati river, is relatively flat.

Thus river valleys and steep slopes on the east and west of the town form physical constraints to further expansion of the town. However areas beyond these immediate constraints are relatively good for development as noted above and the town lies in a roughly funnel - shaped basin. Silty soils on the river valleys form poor ground conditions for construction purposes. Swampy areas also exist along Kinyariti stream (near kiamwangi), to the north - east of the town opposite the Karatina Self Help Hospital, beyond Ragati village and along Kirigu

stream below the Sewage Pumping Station. Elsewhere the soils are good for foundations as they are volcanic soils.

The existing health and water supply facilities are inadequate and they hinder further development. The small water head meant that high rise buildings had to have their own internal pumping stations to raise water to rooms exceeding the existing water head. However both of these facilities are being improved as noted below.

The existing structures also form a physical constraint as they would have to be demolished to accommodate modern or further developments in the town. Thus since 1973 land zoned for commercial purposes has been re-zoned industrial and change will take time to be effective since it had already been developed commercially.

Shortage of land for further development is being experienced in the town as there is no other land left un-zoned. This forms a big constraint to development and expansion of the town. Negotiations for land acquisition take years to be completed. Such negotiations are currently under way and a Land Acquisition Commission has been appointed by the Ministry of Local Government.

Even when such negotiations are completed and land for expansion identified, problems will arise because the land surrounding the town is under free hold individual ownership. The owners are dedicated

farmers who will not accept monetary compensation in circumstances of natural shortage of vacant land for settlement and land for sale. Thus there might be more resistance than was experienced when the site for the existing Sewage Stabilization Pond was compulsorily acquired by the Government.

The south - eastern part of the town along the Ragati River is liable to flooding as shown on the map below. This area is currently occupied by the Rural Access Roads Camp. The area was allocated to the camp against the Provincial planning officer's warning of the unsuitability of the site for development. Thus during the last rains (1975) the area was flooded and the camp had to be vacated until the water drained and more embankments provided to safeguard against further flooding in future.

Institutions and vacant or areas zoned as public open spaces form other physical thresholds to development since, though vacant or sparsely developed, especially in a situation where there is no further land for development, they cannot be developed without probably distorting the balance previously provided.

Finally, other physical thresholds to development include roads and railway line including their land reserves and auxiliary facilities like the petrol stations, bus and car parks and stations. Thus as the map shows and as is clearly shown by the land use coverage, transportation takes up a



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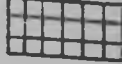

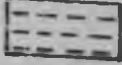




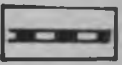
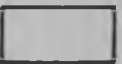
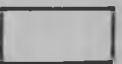
Finally, other physical thresholds to development include roads and railway line including their land reserves and auxiliary facilities like the petrol stations, bus and car parks and stations. Thus as the map shows and as is clearly shown by the land use coverage, transportation takes up a

large part of the town's land especially the international truck road and the railway line.

All the physical thresholds or constraints identified (probably with the exception of the undeveloped land), have one thing in common. To overcome them in order to provide new or alternative development, extra costs are involved. Undeveloped land here is that land which has been zoned and subdivided and actually allocated but which has not be built up. Clearly, this state of undevelopment involves a waste as well as a physical, economic and/or social development retardation. This point is further discussed below. However, although the trunk and the railway line through the town are identified as physical thresholds/constraints to development, these facilities offer a very useful service to the town and have greatly contributed to its growth. But until the recent shifting of the health centre to the new site, the railway engines noise used to be a great nuisance to the health centre whose location was adjacent to the railway line. The adjacent primary school has also been experiencing the same problem. The railway line divides the town into two almost equal parts. The trunk road also cuts through the town on the southern side.

# PHYSICAL THRESHOLDS DEVELOPMENT

## LEGEND

-  BUILT UP AREAS
-  INSTITUTIONS
-  OPEN SPACE / SPORT
-  STEEP VALLEY SL
-  FLOODING
-  UNDEVELOPED
-  ROADS
-  RAIL LINE
- 
- 



DEPARTMENT OF URBAN

27 CONCLUSION:

Karatina has had a steady but sure development since its beginning. This development must have been given considerable impetus after independence when the African Government took over from the colonial government.

However since the straggle for independence Karatina has always been the political "hot-bed" of the surrounding regions. The town has also got considerable economic influences on its hinterland. Thus social, economic and political factors have influenced the growth of the town and hence land uses.

However there are several abuses to the laid down regulations and requirement on land uses. Some developers disregard the plot beacons while undertaking construction. This may be **intentional** or some time **unintentional** probably due to the engagement of unqualified fundi's/contractors.

Other developers do not submit their building designs to the local authority for approval and most of these designs are not done according to the building code stipulations.

Even where accepted building designs are provided as a condition to plot allocation and development, developers have always disregarded these and provided theirs which exceed the stipulated coverage. This has happened in the case of Muthua Site and Service Scheme I where the allowable coverage is 50% thus providing 6 rooms. Some developers

however have constructed 12 rooms on the same plots thus covering almost 100% of the plots. (see the photograph below).

A land use conflict has arisen due to the location of Sofia "town" in an industrial area. There is need to relocate this "town" taking into consideration that the residents belong to the very low income group (incomes below Kshs. 300 per month).

Lack of land for further development has meant that incompatible land uses are put together or near each other. A case in point is the location of the slaughter house, (A noxious industry), near a residential area on one side and a commercial area on the other. These include the Muthua medium density residential area, and adjacent farms and the Ragati Shopping centre respectively which are in both cases separated from the slaughter house by a road only.

Finally, the location of the Rural Access Roads camp in an area liable to flooding, (as shown by the last rain season), is a big miscalculation on the part of the local authority. Though an embankment had been provided as a precaution, it was destroyed by the flood waters and the whole site was flooded. If this location was necessitated by shortage of land, then among other reasons, this should underline the urgent need for more land.

Shortage of land, may also have necessitated the location of residential areas in "cul de sacs". A

case in point is the two site and service scheme proposed - one adjacent to the police station, (site and service scheme No 2), and the one bordering the water supply station on one side and railway station on the other. While the former has an inlet, the latter has neither inlet nor outlet - unless the railways or the water authority provide access through their sites. For the site and service scheme No 2, the railways would also have to provide land if an outlet is to be provided because of the river valley on the eastern side. Even if the design were to be based on the Neighbourhood Concept, the design should allow limited outlets without generating through traffic. The shape of the site (site and service scheme No 2) has given odd plot shapes.

REFERENCES

1. Kenyatta, Jomo Facing Mount Kenya, The Tribal Life of the Gikuyu, Mercury Books London p 3 - 5
2. Kanja, H.M. The Story of Wakikuyu, Tribal History Pamphlets No 1, African Book Writers, Karatina p 1 - 3
3. Lambert, H.E. The Systems of Land Tenure in the Kikuyu Land Unit, Communications from the school of African Studies New Series, No. 23 Cape Town, 1950.
4. Taylor, D.R.F. A Geographical Consideration of the Problems & Potential of a Developing Area, Volume I, Fort Hall District, Kenya. PhD Thesis (unpublished)
5. Ngunjiri, M.M. (Miss) A History of Political Movements in Nyeri District. B.A. Dissertation 1973/74, Department of Government, University of Nairobi (Unpublished)
6. Murage, J.M. A Study in Development of Karatina Urban Centre, BA Dissertation, 1973. Department of Geography, University of Nairobi (unpublished)
7. Kenya, Nyeri District Annual reports since 1913
8. Ibid
9. Kabitū, P.K. "Mbaara Ya Wiyathi Wa Kenya Kuuma 1880 - 1963" p 44 - 45
10. Kenya, N.D. Annual reports since 1913 see also "Kenya Today" No 15, March, 1972.

11. Karatina, Town Council Records.  
District Development Committee:  
Sectorial Paper on Basic  
Infrastructure and Local  
Government. Karatina Town  
Council, 1977.
12. Ibid.
13. Ibid.
14. Kenya, Kenya National Atlas, 1970
15. Kenya, Population Census 1969. Central  
Bureau of Statistics, Ministry  
of Finance and Planning, Nairobi.
16. Maina, M.W. Aspects of the Agricultural  
Economy of Mathira Division, Nyeri  
District, Kenya. B.A. Disserta-  
tion, 1969. University of Nairobi  
(Unpublished)
17. Kenya, 1970
18. Klozowski J, Threshold Analysis  
Hughes, J.J. Architectural Press, London.  
Halsted Press, New York.



CHAPTER 3  
SOCIAL BASE

3.1 POPULATION:

The 1962, 1969 and 1979 censuses<sup>1</sup> gave the population of Karatina town as shown below:

POPULATION CENSUSES

| YEAR              | 1962  | 1969  | 1979  |
|-------------------|-------|-------|-------|
| CENSUS POPULATION | 1,691 | 2,436 | 2,929 |

Thus/the eight year period between 1962 and / during 1969 there was a population increase of 745 persons while over the eleven year period between 1969 and 1979 there was a increase of 493 persons. This means that within the seven year period from the 1962 census to the 1969 census, the population of Karatina Town increased at 5.3% per annum. However the 1979 census indicates that between 1969 and 1979 the population of Karatina town increased at a rate of 1.9% per annum.

Perhaps the low figure of 2,929 people as given by the census could be the result of the fact that some people were not counted during the enumeration. Although a public appeal to the public was launched for those not counted to report for counting to the local administration, it is possible that most of those not initially counted did not go for counting.

Another reason for the low figure although the town has grown considerably since 1969 as noted below, is/the surrounding farmers have realised that there is / th high demand for low income housing in the town itself. Thus farmers have set aside areas for rented residential

accommodation. This means that most of the low income workers in the town are housed outside the town boundaries, and were hence not counted together with those residing within the town and were therefore included in the rural population.

On the other hand, as noted above, most of the day-time population return to their homes in the rural areas around the town in the evenings. The town is especially swollen during the market days viz: Tuesday, Thursday and Saturday, with the latter day attracting more people than any other single day. However this maximum is usually exceeded when schools are re-opening and during important public occasions.

The figure below shows the age, sex composition<sup>2</sup> for Karatina in form of a pyramid. The female side of the pyramid generally conforms to the usual form of a pyramid except for the 10-14 year/age category. The male side of the pyramid is generally irregular. However the tender age of 0-9 predominate as usual in a population pyramid.

One of the reasons that can explain the fall in the 10-14 range, is the fact that generally it is the husband who works and lives in town. Mothers are usually left at home to look after shambas - hence the colonial remark that the African has one foot in town and the other in the rural areas. Hospitals and social amenities are found in towns. Wives usually come to their husbands in towns to deliver, only to return to the rural areas when the child is big enough to attend school. On the other hand some parents

work in town while their children attend schools in the rural areas while staying with their grand parents. This is probably to the small housing units in the town. Another possibility for the fall is the fact that some children attend schools in town while staying in the surrounding rural areas. Such children could not have been counted within the town although they attend schools in the town and are within 10-14 year range.

The secondary school ages are those generally within 15-19 years. The sharp rise in children within this range can be explained by the fact that the town has four secondary schools and most of the children formerly attending schools in the rural areas prefer secondary schools within the town. Two of these secondary schools have been amalgamated to form a bigger Pan African High School. Some of the students who attend these schools are from outside the district, let alone from the division.

AGE AND SEX COMPOSITION

| AGE GROUP | MALES |       | FEMALES |       |
|-----------|-------|-------|---------|-------|
|           | NO    | %     | NO      | %     |
| 60+       | 39    | 2.7   | 11      | 1.1   |
| 50-59     | 69    | 4.8   | 13      | 1.3   |
| 40-49     | 158   | 10.9  | 34      | 3.4   |
| 30-39     | 248   | 17.2  | 95      | 9.6   |
| 25-29     | 162   | 11.2  | 103     | 10.4  |
| 20-24     | 204   | 14.1  | 176     | 17.8  |
| 15-19     | 217   | 15.0  | 208     | 21.0  |
| 10-14     | 65    | 4.5   | 84      | 8.5   |
| 0-9       | 284   | 19.6  | 266     | 26.9  |
| TOTAL     | 1,446 | 100.0 | 990     | 100.0 |

Source: Population Census, 1969

However, it is important to note that there are only two Primary schools to the four (now three) Secondary schools. Each of the secondary schools has day and boarding facilities while the primary schools are solely day schools. These aspects will be related to the educational planning standards in a later section.

It is also important to note that some of the people who finish secondary and primary schools in the town go to work in the rural areas. Others get employed in the town, some come to seek employment in the town from the rural areas, while still others seek employment in other towns like Nyeri and Nairobi. Some people live in Karatina or its immediate surrounding, but they work at Nyeri where they commute daily.

Some of the people who work in the town prefer to go back to their farms in the rural areas before their retirement age, and after they have saved some money, so that they can develop their farms. In any case Africans have a special attachment to land and always prefer to spend their final years in the rural areas where they will be buried.

Women represent a steadily larger proportion of the population than men, probably due to their lower death rate. However the Mau Mau Freedom War, 1952-1956, greatly disrupted the sex ratio of Mathira in particular and Nyeri District in general.

# POPULATION PYRAMID FOR KARATINA TOWN

MALES

FEMALES

AGE

60+

50 - 59

40 - 49

30 - 39

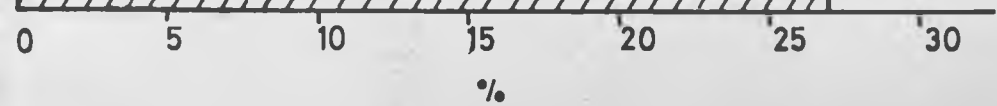
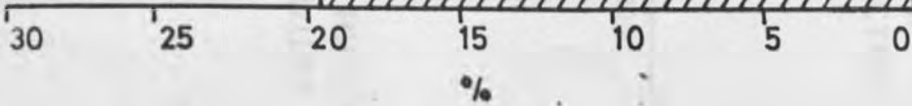
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20 - 24

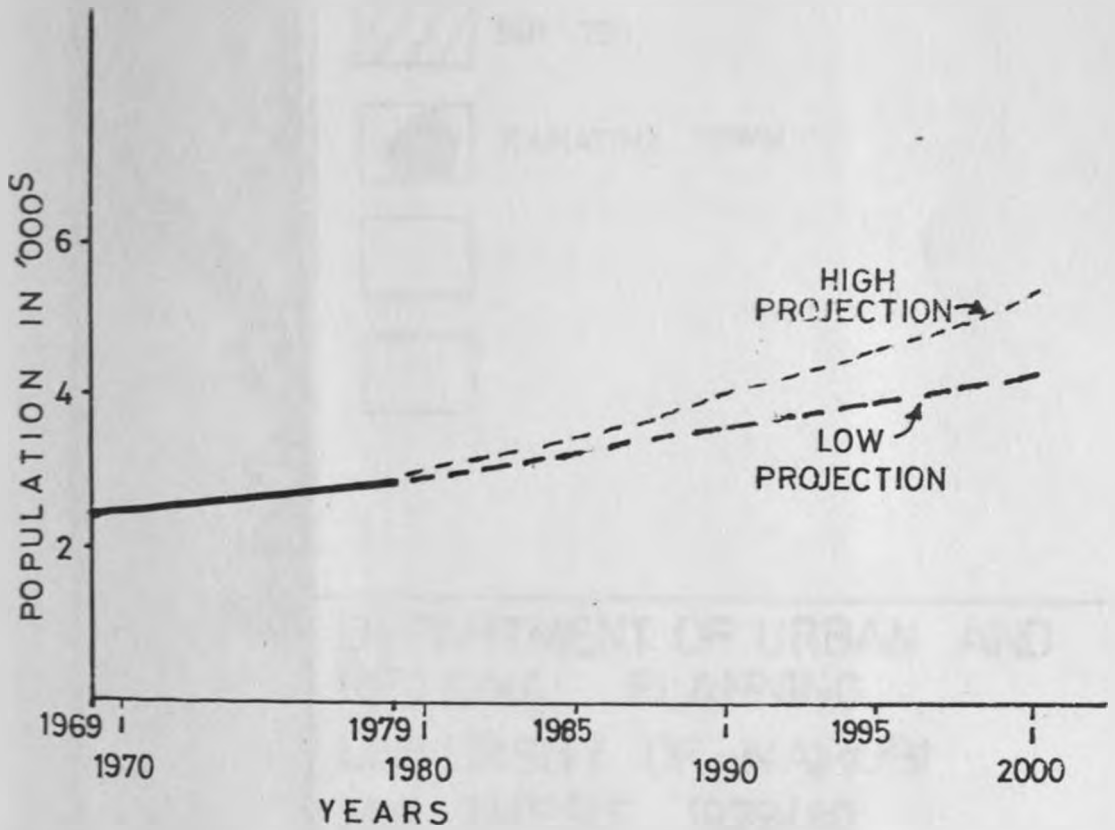
15 - 19

10 - 14

0 - 9




# POPULATION PROJECTIONS





J.M. RUTHUTHI  
D.U.R.P.


# POPULATION DISTRIBUTION IN MATHIRA DIVISION

## LEGEND

 PERSONS / SQ. ML.  
OVER 1000

 751 - 1000

 501 - 750

 KARATINA TOWN



8

DEPARTMENT OF URBAN AND  
REGIONAL PLANNING  
UNIVERSITY OF NAIROBI  
M.A. THESIS 1979/80

SCALE 1:100,000

DATE 17-11-79

PREPARED BY J.M. RUTHUTHI



### 3.2 HOUSING:

Like all urban centres in Kenya, Karatina experiences a shortage of housing of all categories. However Karatina's slum area is relatively small, probably due to land shortage and the provision of housing for low income in the surrounding freehold farms outside the town boundary.

Housing in Karatina Town Consists of the following:

#### 3.2.1 PUBLIC HOUSING:

The administrative role of Karatina town has meant that various government ministries are represented and the government has had to provide housing for some of its staff. The majority of the civil servants and other government staff are however housed within various institutions. These include the recently built animal health clinic and the new Health Centre, the Rural Access Roads Camp, Ministry of Works Camp, Water Supply Station, the Police Station and the Detention Camp. These institutions cater for all income groups but outside these, the Government has a few housing units in the low density areas for senior staff. The Postal authority and the Railways have also housed their staff. The latter has plans to construct 15 more unit as shown in the table below. The government would like to add more units but there is no land.

Schools within the town do not provide housing for their staff although the secondary schools have boarding facilities for their students.

The Town Council, in collaboration with the



National Housing Corporation, has been able to provide two housing estates. These consist of the 94 unit Blue Valley tenant purchase scheme completed in 1970, and the Muthua Rental Scheme<sup>3</sup> completed in 1976. The latter was planned to have 46 units but only 38 units were completed.

The town council has an additional few housing units for its staff inherited from the former Urban Council.

There are two site and service schemes in the town. The first scheme<sup>4</sup> started in 1968 but servicing started in 1970. The scheme was initially planned to have 94 units, but with 11 more units to be added later. 40 units of them have now been completed. Thus the scheme was intended to comprise of 105 units (see table below). The nature of demand for housing has dictated a change of design of the units to incorporate more units for low income people. Thus the intended site coverage of 50 is being illegally doubled to provide 12 units instead of the intended 3 - roomed detached units, being served by the already provided separate bathroom and toilet units. Developers are hence demolishing the latter. See the photograph below.

Site and Service No 2 Phase 2 has already been serviced and plots allocated. It consists of 72 units and is located near the police station and below the railway station.

Other similar schemes are planned but except for

the first scheme, others are being squeezed on to any available land with little consideration of adjacent land uses, accessibility and shape of the site and hence plots. Part of the proposed Site and Scheme No 2 Phase 3 has no site access.

#### HOUSING REQUIREMENTS IN KARATINA, 1973 - 1978

| TYPE OF HOUSING             | TOWN COUNCIL | GOVT. POOL HOUSING | OTHER INSTITUTIONS |
|-----------------------------|--------------|--------------------|--------------------|
| Site & Service,<br>Low Cost | 105          | 25                 | 14                 |
| Medium Cost                 | 55           | 5                  | -                  |
| High Cost                   | 30           | 5                  | 1                  |

Source: Ministry of Housing & Social Services

The Town Council has plans to build 55 mortgage housing units and 30 tenant purchase units.

#### 3.2.2. PRIVATE PARTICIPATION IN HOUSING:

Private participation in housing in Karatina town consists of houses provided in plots allocated for such purposes in residential areas and commercial - cum - residential housing. The latter especially caters for low income workers and is provided in the commercial areas around the retail market. Most of the plots allocated for residential development have not been developed and this is a matter of great concern especially when there is such an acute shortage of land and demand for housing.

Like most urban centres in Kenya, Karatina has got its share of slums.<sup>5</sup> This situation exists in the so called "Sofia Town". This consists of units of low quality semi-temporary timber materials

with a mixture of old corrugated iron sheets and  
debes. The area has communal water supply but no  
sewerage system and toilets are the bucket type. It  
is now in an area zoned for light industrial development.

POPULATION, INCOME DISTRIBUTION & HOUSING

| INCOME GROUP      | % OF TOTAL POPULATION | 1980  | HOUSE HOLDS | HOUSING TYPE AFFORDABLE |
|-------------------|-----------------------|-------|-------------|-------------------------|
| 0 - 100           | 12.0                  | 191   | 48          | SLUM TYPE HOUSING       |
| 100 - 600         | 68.4                  | 1,088 | 272         | LOW CLASS ""            |
| 600 -1500         | 12.4                  | 197   | 49          | MEDIUM CLASS "          |
| 1500 <sup>+</sup> | 7.2                   | 114   | 29          | HIGH " "                |
| TOTAL             | 100.0                 | 1,590 | 398         |                         |

Source: Urban Housing Needs in Kenya 1973-78(Adjusted)

The above table shows the type of housing various income groups in Karatina town can afford to rent. It also shows the number of households in each income group and therefore the housing units of each type of housing category in 1980. An average household size of 4 people<sup>6</sup> per family has been adopted. Although the above income groups are different from those now currently recommended by the Government in "Human Settlements in Kenya, A strategy for rural and urban Development",<sup>7</sup> they have been found to be more relevant for Karatina town.

Thus by the end of 1980 there will be 43 households with incomes below Kshs. 100 and who can only afford to live in substandard housing. 272 households, comprising 68.4% of the total resident population, can only afford to live in low class housing<sup>8</sup>. Unfortunately even the site and service scheme aimed at this group



PLATE 1

Low income Housing: Muthua Site and Service Scheme. Note the difference in building designs. Note also the condition of the newly tarmaced road.

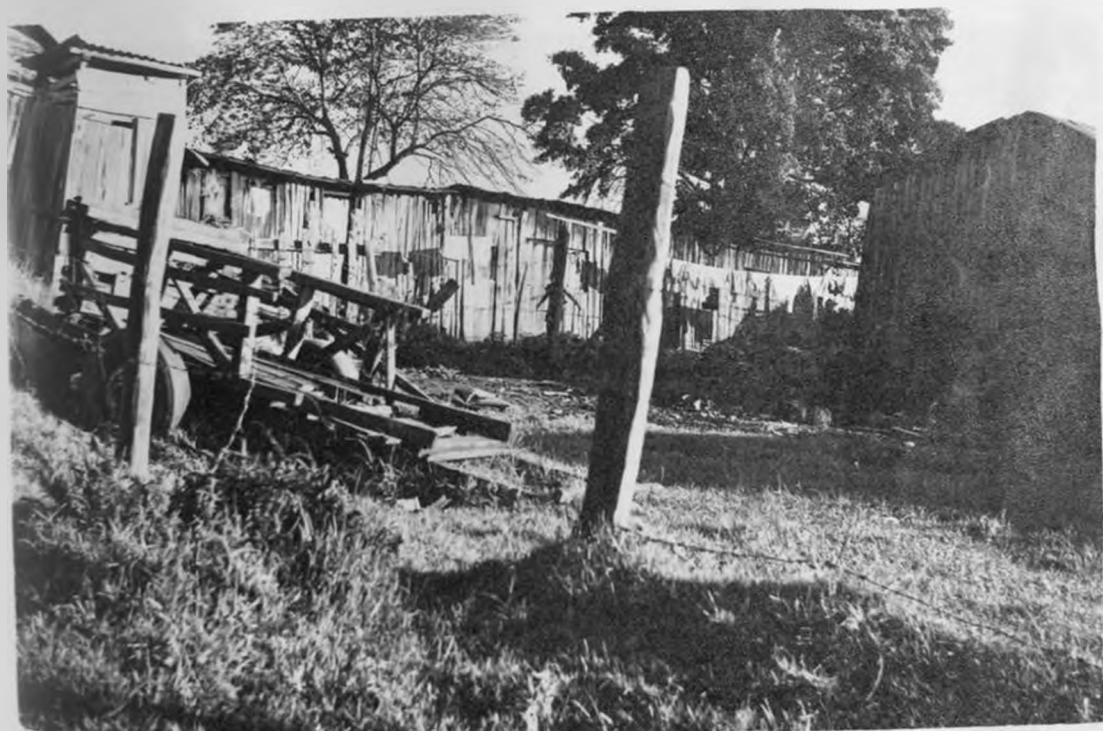


PLATE 2

Substandard housing: "Sofia Town"



PLATE 3

Medium Income Housing: Muthua Rental Scheme. The towering industrial buildings form part of the Rail-served industrial area.



PLATE 4

High Income housing.

is proving to be out of their reach due to the inflationally trend of the economy and hence the reduction of purchasing power. According to the Civil Servants Union's calculations, inflation rate over the period October 1979 to February 1980 stands at 14.4% for the low income group; 12.3% for the middle income group and 11.8% for the upper income group. The average for the whole country has been 14.8%. Costs of labour and materials have also been rising. Thus the low and lower income group in Karatina mainly find accomodation in temporary and semi-temporary houses in Sofia Town and outside the town boundary, on freehold farms. Fortunately, some people live in their rural houses outside the town boundary and commute to work in town daily.

The middle income group who form 12.4% of the population are able to afford the rents in the site and service schemes where rents range from about Kshs. 200 - 400 per month. The higher income group who form only 7.2% of the total population is able live in houses provided in low density areas and some of them can afford to build houses on their own.

### 3.2.3 HOUSING UNITS, FACILITIES AND INFRASTRUCTURE:

The size of Karatina Town does not warrant rent and value differentials which usually result from distance from town centres in big towns like Nairobi. However plot values are high due to demand for plots in view of the fact that all the land in the town has been zoned, subdivided and allocated. Commercial

plots are especially in high demand and their value is generally higher.

Housing is a relatively recent development in the town on an organised and planned nature. Planned housing like Blue Valley Estate, Muthua Site & Service Scheme, and Muthua Rental Scheme came up after 1970. The council has four blocks of older houses which need maintenance and repair. Junior housing units also need painting and improvement of sanitary facilities. Fortunately, the council started a Building and general maintenance department in August 1978<sup>9</sup> which is concerned with approval of building plans and maintenance of council property.

Rents at Karatina are generally lower than at Nyeri town. Rental charges depend on the size of accommodation, building materials and infrastructural facilities available. The condition of the house is usually a subsidiary consideration although most of the permanent units in the town are generally in good condition. Rents at Sofia town range from 25 - 100 shillings per month. For Muthua rental scheme, rents range between 100-400 shillings per month. Most of the accommodation provided in the Commercial - cum - residential zones also fall under the latter rental range from 400 shillings per month upwards. These rental categories roughly correspond with the income groups shown above.

About 80 % of the housing units are built with permanent materials and are provided with water and

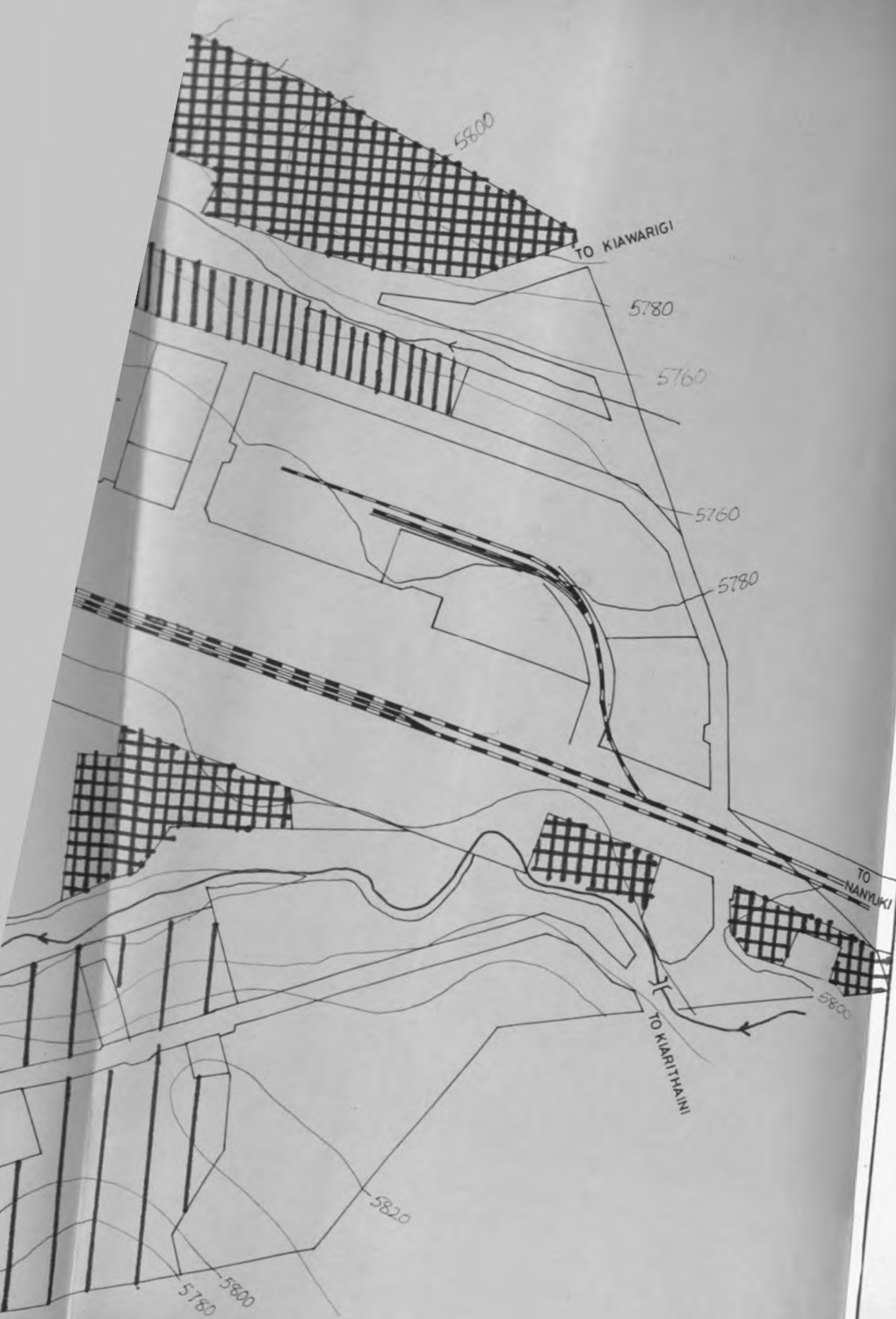
either sewerage system or septic tanks. Majority are however sewered. Water in Muthua site and service scheme is communal in units which deviate from legitimate designs. Communal water supply also exists in most of the units provided in Commercial - cum - residential zones. Housing units in the low density zone beyond the Ragati River on the eastern side of the town are not served but have septic tank and individual water connections.







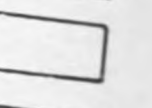

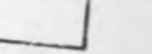
Thus at Karatina it is only Sofia town which is solely built of semi-temporary materials. Unlike most towns with slum quarters, Karatina's slum quarter has no mud and wattle pole walled structures. The units are built of low quality scrap timber planks and poles for walls and roofs with the latter covered by either flattened debes or old corrugated iron sheets. The area has communal water and bucket latrines as shown in the photograph above. The area is dirty and unhygienic. Family sizes here are higher than the average for Karatina of 4 persons per family.

There is no/served by tarmaced roads. However/residential area all residential areas are lucky because most have murramed distributor roads passing near, and in some cases, through them. Thus all roads within the planned housing areas are earth roads. However in a site and service scheme like Muthua, provision/murram or tarmaced roads would have made the plots very expensive for the intended income group. Moreover the demand for vehicular access is very low in most estates in Karatina.




# KARATINA TOWN - HOUSING



-  LOW DENSITY RESIDENTIAL
-  MEDIUM " "
-  HIGH " "
- 
- 
- 
- 
- 
- 

DEPARTMENT OF URBAN AND REGIONAL PLANNING  
UNIVERSITY OF NAIROBI  
M.A. THESIS 1979/80

 SCALE 1:5,000  
DATE 12-11-79

PREPARED BY J.M. RUTHUTHI

There are very few households owning cars or bicycles in the planned housing schemes except for the private and government housed tenants in low density areas.

Housing facilities such as schools, health centres, shops, etc, are within short distances from residential areas due to the relatively small and compact size of the town.

Most of the units generally rented or owned by low income group are single rooms with shared sanitary facilities. Most of those rented or owned by the very low income group do not conform to any planning or building standards in terms of layout, location or design of the units. The latter categories are in a state of disrepair. Most of the units provided in the suburban areas for the lower income group are in the same state. The Middle income accommodation usually consists of two roomed units mostly with water bourne sanitation. High income group persons can afford bigger houses.

### 3.3 INFRASTRUCTURE:

#### 3.3.1.1 TRANSPORTATION

##### ROADS:






Karatina has had until recently one tarmaced street. This street partly surrounds the open air retail market on the northern, eastern and southern sides but with extensions of the street to northern side up to near Cathoric Mission site and the one on the southern side up to near the railway line. However because all the other streets are not tarmaced,



# DEVELOPMENT PLAN - KARATINA

# ROAD NETWORK

## LEGEND

-  REGIONAL TRUNK ROAD  
(T-TARMAC)
-  DISTRIBUTOR ROAD  
(T-TARMAC, M-MURRAM)
-  ACCESS / LOCAL ROAD  
(M-MURRAM, E-EARTH)
-  CAR PARK  
(M-MURRAM, E-EARTH)
-  PETROL STATION



11

DEPARTMENT OF URBAN & REGIONAL PLANNING

UNIVERSITY OF NAIROBI

M.A. THESIS 1979/80

DE



SCALE 1: 10,000

DATE 10-1-1980

PREPARED BY J.M. RUTHUTHI

# MATHIRA DIVISION-ROAD NETWORK

## LEGEND



INTERNATIONAL TRUNK ROAD



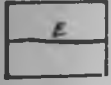
NATIONAL TRUNK ROAD



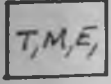
PRIMARY ROAD



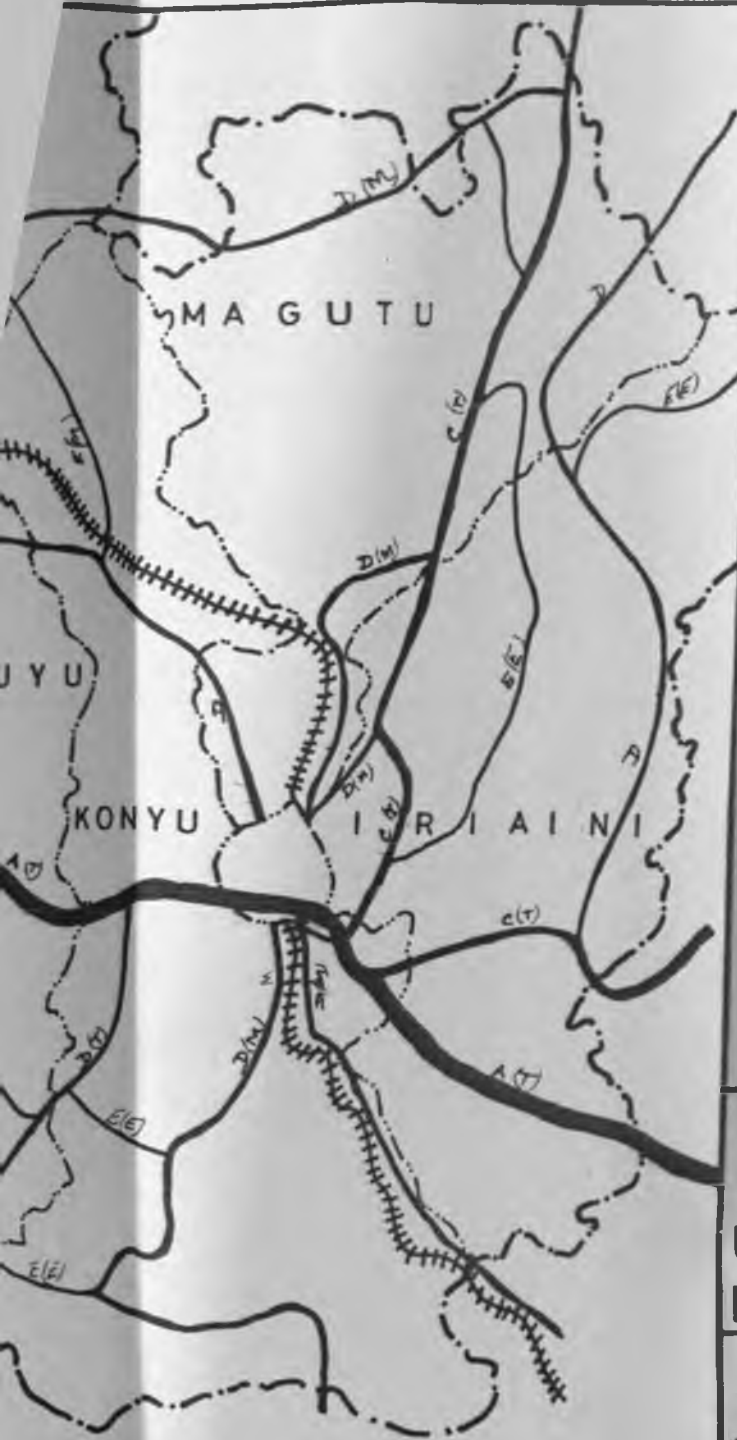
SECONDARY "



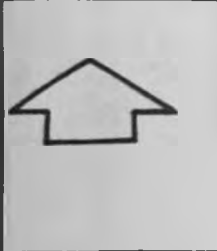
MINOR "



TARMAC, MURRAM, OR EARTH SURFACE



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|                           |
|---------------------------|
| SCALE 1:100,000           |
| DATE 22-12-79             |
| PREPARED BY J.M. RUTHUTHI |



even the tarmaced sections of the town become dusty and muddy during the dry and wet seasons respectively. The only presentable road is the Addis Ababa Highway which passes through the town on the southern side. This being an international trunk road, it is maintained by the Ministry of Works. The Ministry however helps the council to maintain the tarmaced street at a cost - at the latter's request. The council cannot maintain its roads because of lack of manual labour and machinery. However most of its untarmaced roads have been graded by graders from the Nyeri County Council.

The council plans to have all the streets tarmaced.<sup>1C</sup> This exercise has already started. In 1977 Tarmac East Africa Limited<sup>11</sup> won a Kshs. 2.3 million tender to tarmac roads in Karatina about two years ago but has failed to complete the work even after being given 3 months more to complete the work. The half-done sections are full of potholes and are either very dusty or muddy according to seasons.

When the current work is completed, 1.5 Km. of road from the market to the Gakara Printing Press and from Lamu Lodge to the same will have been tarmaced. The council expects to spend Kshs. 10 million to tarmac all the streets. It has already applied for a loan of K£ 400,000 from Local Government Loan Authority to tarmac the remaining feeder roads and the Bus Park.

The transportation sector at Karatina has increased in importance since matatu operators were allowed to compete freely with buses. Thus the number of vehicles



PLATE 5

Karatina Bus Stop: Note the condition of the surface.



PLATE 6

Condition of roads: Note the flooded nature of the main street - the only one with underground drainage in the town.

at Karatina town, (those registered there, those ending their journeys there, and those in transit ), have increased considerably especially due to increased incomes since 1971. A by-pass may therefore be necessary for the through traffic. This is especially so due to the danger posed to the public because the Town Hall is now located on the other side of the road from the retail market and the new Post Office which will be constructed adjacent to the Town Hall. A round - about may also be necessary at the junction.

### 3.3.1.2 RAILWAYS:

As noted above, the Nanyuki-Nairobi railway line which passes through Karatina, no longer handles passenger traffic. It is therefore solely a goods train service. This line has greatly boosted the growth of the town since the nearness railway - served centres are Sagana (Urban Centre), 15 miles to the south, and Kiganjo (Rural Centre) to the north. Thus in addition to the international trunk road, the railway has also helped to expand the town's hinterland. It has several godowns for storage purposes and some more are coming up at Ragati Village.

The big storage facilities, the rail service and the big plot sizes for existing industries forms a great incentive to industrialists. However there is no more land within the town boundaries.

The railway handles such goods as coffee, beans for the coffee mills in Nairobi; wheat, maize and cattle



from Nanyuki; timber; manufactured goods and raw materials for the industries at Karatina and elsewhere, etc. Thus the town serves as a reception and a despatching centre for the rail - deficient areas between Sagana and Kiganjo.

### 3.3.2.1. WATER SUPPLY:

Karatina town gets an adequate supply of raw water from Ragati River which passes through the town. Water supply in the town is the responsibility of the Ministry of Water Development. Karatina township is served by a W.D. gazetted water supply. From the Ragati River raw water gravitates to the Treatment Works.<sup>12</sup> After sedimentation and chlorination, the water is pumped to the storage tanks. These consist of two 270m<sup>3</sup> (60,000 gallons) ground level tanks and one 45m<sup>3</sup> (10,000 gall.) tank on a 12m (40ft.) tower, at a level of 1,784m. The two ground level tanks are at 1,772m. (5,818ft.) while, the town generally lies at a level of 1,768m (5,800ft.) above sea level. There is therefore very little water head and tall buildings in the town have problems getting their water e.g. the three - story Three-In-One Hotel.

The present system has a design capacity of 23,000 gallons per day and cost £ 17,614 to construct. It was designed up to 1994. However daily consumption is over 75,000 gallons with per capita consumption of 25 - 50 gallons. Demand has risen from 3,000 - to over 5,500 gallons per hour.

The present water system is grossly inadequate

because, since its installation over 10 years ago, the town has grown tremendously. Among the developments that have taken place since then are: The construction of Karatina Harambee Secondary School, Veterinary Clinic, St. Dominic's Secondary School, Mt. Kenya Secondary School, Karatina Self Help Hospital (200 beds), Muthua Site & Service Scheme (105 units), and Muthua Rental Scheme (38 units), Sewerage Scheme Phase I - III —with Phase/it high on the agenda, Wanja's Bakery, East African/ Industry godown, Block manufacturing firm, Slaughter house, several private<sup>c</sup> commercial and residential buildings, etc. In addition there has been several extensions and renovation of the then existing structures thus also increasing demand for water. More important is the fact that Ragati Village has already become a fast Growing Shopping Centre and the fact that a Rubber Industry is about to start operations. In addition to this a Boundary Commission has already been set by the Ministry of Local Government to look into the need to acquire more land for expansion. The surrounding satellite villages might be annexed and thus greatly increasing demand for water.

By 1977 the town council had realised that the existing water reticulation system was inadequate. Thus it approached the Ministry of Water Development which studied the situation and came up with plans to update the system. Fortunately, through the efforts of the local Member of Parliament, the government has taken over the running of the various locational Self-Help

water projects and is to spend Kshs. 18 million on the Mathira Water Supply which will serve the areas around the town and reduce stress on the town water supply.

### 3.3.2.2 KARATINA WATER SUPPLY (AUGMENTATION)<sup>13</sup>

This is the reinforcement to the present water supply and whose construction has already started. It will involve the augmentation of the whole water supply system, viz. Intake, Treatment Works, Storage and Distribution. A package treatment unit of capacity  $60\text{m}^3$  per hour has been chosen and will produce  $1,140\text{m}^3$  of water working for 19 hours. This is expected to meet the future demand up to 1987 from when it will be expanded for a capacity of  $105\text{m}^3$  per hour and will be able to meet a demand of  $2,520\text{m}^3$  per day when working for 24 hours.

To reduce chances of pollution by cattle and silt from the now cultivated river banks of Ragati River, a new intake site has been selected further upstream in the forested area and on a rocky area. The new site has sufficient water head for water to flow by gravity up to the treatment works.







The whole project will cost an estimated sum of K£ 150,925 (Kshs. 3,019,500). The figure below shows the site and layout of the new project.


It is important to note that all parts of the town can be supplied with water from the water mains which are fairly well distributed. This is because the water supply station was installed after the present town

# WATER RETICULATION: PROPOSED AUGMENTATION



## LEGEND

-  EXISTING INTAKE
-  PROPOSED INTAKE
-  EXISTING STORAGE & PUMP-HOUSE
-  PROPOSED & EXISTING TREATMENT WORKS
-  LIMIT OF SUPPLY
-  PROPOSED STORAGE

|   |                |
|---|----------------|
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|  | SCALE 1:10,000 |
|   | DATE 10-1-1980 |
| PREPARED BY J.M. RUTHUTHI   |                |

boundaries were extended in 1958 and there has been no further boundary changes. In fact the station serves even areas outside the boundary e.g. Ragati village and Karindundu village.

### 3.3.3 SEWERAGE:

Karatina town's sewerage disposal system, until after 1972, consisted of individual septic tanks, cess pools and bucket latrines. The latter posed a lot of health problems as the town grew. The sewage was dumped on various sites and covered by a thin layer of soil. Enough space for the exercise was then available but the transport means was inefficient. However modern sewerage systems were planned and between 1972 and 1977 phases I - III<sup>14</sup> were completed at a cost of Kshs. 4 million. These covered most of the town but as it is continuing to grow, an extension of the system is necessary. The need for this has been realised and the council has already applied for a loan from the Local Government Loans Authority to construct phase IV at an estimated cost of £222,000. The loan will be for 40 years at an interest of 6½%.

The existing system was designed by I.B. Patel Consulting Behal Construction Company. The latter went through a series of delays and inefficiencies which are being reflected in the working of the system. In mid 1978 the town council was taken to court for polluting Kirigu stream due to faulty pumps at the Sewerage Pumping Station. Therefore the Ministries of Water Development and Local Government are now

working on some studies to first of all alleviate the situation, and secondly, extend the system to cover areas not served by Phase I - III.

The Manholes along the streets of the town and infact the whole sewerage works were provided with reinforced concrete covers. As a result they are all broken and the manholes are uncovered. In a town that has no proper street lighting and which does not cover all the streets of the town, these holes pose a danger to human being at night and even during day time. They present a health hazard because of the foul smells emanating from them and the flies they help to breed. Reinforced concrete cover are not strong enough for street traffic and steel covers should be provided. This will also minimise the blocking of the sewers by inorganic objects as it means storm water will only enter the sewers at the right places—those with grills.

#### 3.3.4 REFUSE COLLECTION:

Refuse collection in the town is inefficient. The overall dust bins are displayed along the streets in front of shop doors. This is because the old areas around the town centre were planned by politicians and business - men who did not plan for access roads/streets and lanes at the back of the building. These would be used for refuse collection activites and loading and unloading activities, while leaving the building frontages free of unnecessary dirt and interference. They would also ensure accessibility in cases of fire.

Because of these deficiencies and the fact that

refuse collection is not regular nor efficient, the streets are usually very unsightly. The situation is compounded by stray dogs and children who scatter the litter all over the streets. These dirty streets are potential breeding grounds for rats, flies and fleas. The situation is further complicated by the uncovered manholes and the alternating dust and mud during the dry and wet seasons respectively.

Perhaps the situation will now hopefully improve because the council has employed a Sanitary Assistant and Manual workers, and has bought a new tipper. Previously a tractor was used for these activities, but only after other duties requiring the services of the tractor were executed. However since the council has no other lorry the duties of the tipper will be innumerable and there might not be time for it to collect refuse. There is need for more vehicles which could be shared by departments grouped together to ensure economy and efficiency. There should also be controlled tipping of the refuse.

### 3.4. FACILITIES

#### 3.4.1 EDUCATION:

The table below shows the enrolment characteristics at Karatina for the years 1969, 1973 and 1979 for Nursery, Primary and Secondary Schools within the town boundaries.

SCHOOL ENROLMENT

| SCHOOLS          | YEARS |       |       |
|------------------|-------|-------|-------|
|                  | 1969  | 1973  | 1979  |
| Nursery          | N/A   | 151   | 110   |
| Primary          | 1,216 | 642   | 1,035 |
| Secondary(F.1-4) | 408   | 1,126 | N/A   |

4.1.1 NURSERY SCHOOLS:

There are three nursery schools<sup>17</sup> within the town itself. Two of these are mission schools and include the Catholic Mission nursery school, and the Baptist Mission school. However the town council has planned to build two nursery schools. One of these has been constructed and admitted children for the first time this year (1979). Fortunately for the council an individual called B.M. Patel, volunteered to build the school with his money and he then presented it to the council as a gift. The council contributed by putting a sand-pit, swings and flower beds. The town needs more of such generous men.

NURSERY SCHOOLS IN KARATINA

| SCHOOLS NAME              | ENROLMENT |       |       |
|---------------------------|-----------|-------|-------|
|                           | Boys      | Girls | Total |
| Karatina T.C. School      | 18        | 22    | 40    |
| C.C.M. Nursery School     | 12        | 8     | 20    |
| Baptist(S.D.A.) N. School | 20        | 30    | 50    |
| TOTAL                     | 50        | 60    | 110   |

Source: Community Development Officer's Report

4.1.2 PRIMARY SCHOOLS:

There are two Primary schools in Karatina town. These are the C.C.M. Primary School(Kirigu) and the Karatina Primary school.



latter was the former Indian School and occupies only 2 acres of land. However expansion will now be possible with the shifting of the 7 acre Karatina Self-Help Hospital site. The table below gives the details of enrolment and number of classes for 1973 and 1979.

PRIMARY SCHOOLS IN KARATINA

| SCHOOLS          | 1973           |               | 1979           |               |
|------------------|----------------|---------------|----------------|---------------|
|                  | No. of classes | No. of Pupils | No. of classes | No. of Pupils |
| C.C.M. P.Sch.    | 10             | 442           | 19             | 673           |
| Karatina P. Sch. | 7              | 200           | 11             | 362           |

Note that a 2 - stream school has 14 classes. The Karatina primary school will now be able to build more classes to complete a 2 - stream course and accomodate more pupils to meet the rising demand. Availability of space (8 acres) has allowed C.C.M. primary school to build more than 14 classes for a 2 - stream school due to the high demand for primary education especially due to the recent provision of free primary education up to Standard Seven. The current scheme of free milk, provided an additional stimulus.

3.4.13 SECONDARY SCHOOLS:

Prior to 1979 Karatina had four (4) secondary schools; all being private schools. However the management of Pan African High Schools has bought the former St. Dominic's Secondary School. Thus the two now make up a bigger Pan African School now being a boy's school and the former St. Dominic's School now

becoming a girl's school. Pan African High School proper occupies the Karatina Stadium ground on a temporary basis. Before buying out St. Dominic's Secondary School it had been allocated 3 acres site adjacent to the stadium after having rejected a bigger site near the Town Hall, because it is far away from the stadium.

The other two secondary schools - Karatina Harambee Secondary School and Mt. Kenya Secondary schools-also provide day and boarding facilities to their pupils and have forms 1 - 4. The table below shows the enrolment in secondary schools in Karatina in 1973.

SECONDARY SCHOOLS IN KARATINA

| SCHOOL           | No. of classes | No. of Pupils |
|------------------|----------------|---------------|
| Karatina H. S.S. | 16             | 413           |
| Pan African H.S. | 12             | 543           |
| Mt. Kenya S.S.   | 6              | 170           |

Thus Karatina town is more than adequately served by schools according to the standards set in the Planning Handbooks which relate education facilities to population. One Two - stream Primary school is supposed to serve 5,000 people who need two Nursery Schools. One Secondary School serves 25,000 people and is fed by five Primary Schools and ten Nursery Schools. Karatina town according to the 1979 census has 2,929 people. Thus strictly speaking, it does qualify for a Primary School. Moreover, it is surrounded

by four Primary schools on its four compass directions all of which are less than 1 mile away from the town boundary. Each of these school is served by a nursery school.

However the town's immediate hinterland is densely populated and about  $\frac{3}{4}$  of the pupils who use the town's schools come from outside the town boundaries. Some of the pupils in the town's secondary schools come from outside the district. However the quality of education offered in these schools is low due to few qualified teachers, poor equipments and organisation.

#### 3.4.2 HEALTH:

Karatina town had, until recently (1979) only a small health centre established in the 1940's to serve the centre and the surrounding regions. It had a staff of 28 people who included a medical assistant, midwives, nurses and family planning officer. Its outpatient wing catered for about 600 patients, 20 inpatients and 3 patients in the Marternity wing.

This health centre was inadequate to cater for its hinterland's population and could not cater for the serious cases which were referred to the Nyeri General Hospital; which also supplied drugs and vehicles to the health centre. In addition to this it had a poor management and was inefficient.

Fortunately the long awaited Karatina Self-Help Hospital whose construction started in 1970, opened its doors to the public for the first time on 23/10/79. And it took a Presidential directive to achieve this! It has been designated a Health Centre with future plans to upgrade it to a Hospital. Unlike the former health



PLATE 7

Karatina Health Centre.



PLATE 8

Veterinary Investigation Laboratory and Clinical Centre.

centre, it is situated on a 7 acre plot and has adequate space for limited expansion. Similarly, it is located in a quiet area unlike the former which was adjacent to a railway line and near the railway station. It is a joint venture between the Government and local Harambee spirit with the former contributing 4/5 and the latter 1/5 of the total (Kshs. 5 million) cost. The health centre will provide 200 beds. It will also have an outpatient wing handling more people than the previous health centre. Unlike the latter, it will have a mortuary, x-rays, operation theatres, etc. and staff housing. It will have more qualified staff.

### 3.4.3 COMMUNICATIONS

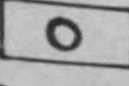
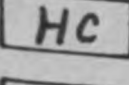
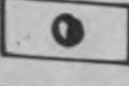
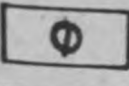
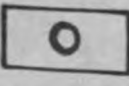
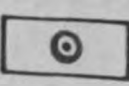
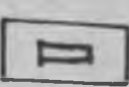
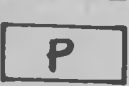

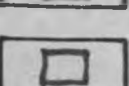
#### TELEPHONE SERVICES:

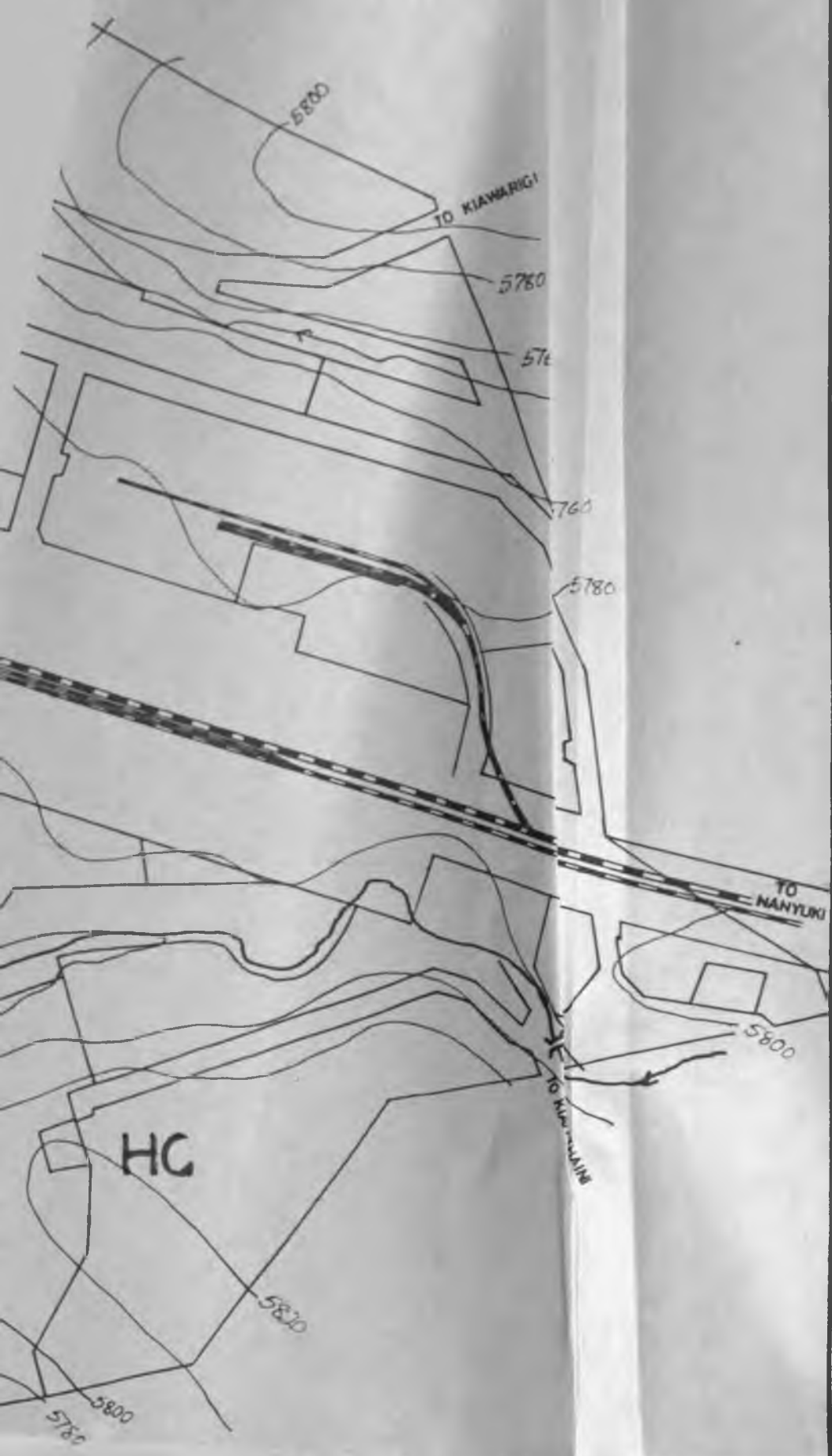
Karatina town has telephone services. It operates through Nyeri Exchange System and has no direct lines. There are only two telephone booths and these are not enough to serve the public.

There are plans to replace telephone wires by underground cables. There/also plans to build new /are Post Office adjacent to the new Town Hall. However the old site will accomodate a modern telephone exchange equipment. These new developments are contained in the current 5 - year Postal Development Plan (Appendix C/i), 1979-83. See the table below.

# KARATINA TOWN - COMMUNITY FACILITIES

## LEGEND

-  PLACE OF WORSHIP
-  HEALTH CENTRE
-  SECONDARY SCHOOL
-  PRIMARY " "
-  NURSERY " "
-  YOUTH CENTRE
-  POST OFFICE
-  PRISON
-  STADIUM
-  PUBLIC PARK



DEPARTMENT OF  
REGIONAL PLANNING  
UNIVERSITY OF  
MA. THESIS

 SCA  
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PREPARED BY E

TINA

POSTAL CAPITAL INVESTMENT AT EXISTING OFFICES

| NAME OF OFFICE | POSTAL |      | TELLECOMS. |      | REMARKS                             |
|----------------|--------|------|------------|------|-------------------------------------|
|                | 1979   | 1980 | 1979       | 1980 |                                     |
| Karatina       | 500    | 350  | -          | -    | New building to Replace the old one |

Source: Kenya Postal Development Programme 1979-83

The construction of the new postal office block will greatly improve communications at Karatina and especially when direct exchange with the outside world is provided. At present there are serious delays in communications with the rest of the country because this is done through Nyeri town. Nyeri is the Provincial as well as the District headquarters of Central Province and Nyeri District and such, it is a very busy town /as compared to Karatina town. Karatina in turn is also a relatively busy town being an important commercial centre and a Divisional headquarter, and will therefore, benefit greatly when it is provided with direct exchange with the rest of the country.

In addition to providing postal services like letters, parcels, telegrams, etc. the post office also offers savings facilities, including handling money orders, postal orders, etc.

### 3.5 CONCLUSION:

The rapid increase in population in Karatina and especially that of the Mathira Division has meant that the Karatina town council has had to cope with an increasingly large number of people. The town caters for the economic, social and economic needs of the town and rural populace. Unfortunately, most of the people who enjoy some of the social facilities provided by the local authority do not contribute to provision and maintenance of those facilities. The town has had to cope with an increasing number of problems in its bid to deliver the goods to the people.

There is an acute shortage of housing for all the income groups although land for housing these categories has been zoned. Thus when the map showing "Housing in Karatina" is used together with the map showing "Physical thresholds to Development", a better picture of the existing housing situation is derived. Three of the sites to be used for site and service schemes have not been built up although the services have been laid out in one. One medium cost residential site is not developed. Even those that have seen buildings coming up are only partially developed. The housing situation will be greatly improved when the sites allocated for housing are fully utilised. Infrastructural facilities are also inadequate to serve the urban human and vehicular traffic. Roads are very dusty during the wet and rainy seasons respectively. This gives the town an unsightly look and may discourage



the tourists who usually stop to admire the open - air market on their way to Mt. Kenya. Improvement of roads will also boost trade and people on transit to utilise the hotel facilities offered in the town. Access roads should be provided or upgraded, and preferably tarmaced. The market and the roads in general should be provided with proper drainage, while more roads should be tarmaced.

Until the existing augmentation to the water supply is completed water will continue to provide a constraint to further development because the existing supply capacity is overstretched.

Sewerage installation has been keeping up with town development but its maintenance and repair system, together with the concomitant refuse collection, has not. The latter leaves a lot to be desired especially because of the delays in collection, and the lack of access lanes between shops/streets. There is need to deploy more staff and equipments.

The increased population of the town and its immediate hinterland has strained medical facilities in the town. However the operating of the new health centre near the veterinary clinic might well revolutionise the health situation of the town. This will not happen if the new health centre will only be a duplicate of the old one whose organisation and service left a lot to be desired. The new centres is big enough to accommodate more equipments, beds, wards and more in - and out - patients. All these should be effectively

utilised. There are plans to upgrade it to a hospital of district status.

Increase in rural and urban population has also affected other facilities like education and recreation. Most schools have exceeded their capacity and the student pupil ratio has been exceeded. Some schools have had to increase the number of streams to three per standard. Unfortunately the number of teachers has remained constant and there is need for more teachers in almost every school.

Until recently, Karatina used to be a "Ghost" town at night due to lack of street lights except for the few streets around the Open - Air - Market or the town centre. However the local authority is extending electricity installation to the residential and the other parts of the town.

Communication with other parts of Kenya will be greatly improved when the new post office is constructed near the town Hall and when direct lines are installed. The development of the land allocated for a public park will go along way to meeting the recreational demand of the town.

REFERENCES

1. Kenya, Population Census, 1962, 1969 and 1979.
2. ibid
3. Karatina, 1977 District Development Committee: Sectorial Paper on Basic Infrastructure, Karatina Town Council. See also, Karatina Town: Annual Report, 1978
4. Kenya, 1971 Site & Service Scheme. Analysis & Report. Housing Research Development Unit, University of Nairobi. See also, National Housing Corporation Annual Report, 1978.
5. Daily Nation, Monday August 13, 1979.
6. Kenyua, P.M. Karatina Physical Development Plan. University of Nairobi, 1973 (Unpublished MA Planning Thesis.)
7. Kenya 1978 Human Settlements, in Kenya: A Strategy for Urban and Rural Development. Physical Planning Department. Ministry of Lands and Settlement.
8. Sunday Nation, February 24, 1980: "The vicious circle of providing housing for Low-income groups." See also, Housing for Low Income Workers. Housing Research Development Unit University of Nairobi; Housing the Lower Income Groups, The Government's View; and Some Planning Perspectives on the availability of Land for Low cost (Low Income) Housing in Kenya,

A.N. Ligale, former Director of Physical Planning - Papers presented at the Workshop on Housing for Low Income Workers organised by C.O.T.U and the Ministry of Co- op Development at Kisumu, 23 - 26 November, 1977. See also, Abrams, C. Man's Struggle for Shelter in an Urbanizing World. The M.I.T. Press, London, England. pp. 25-27 and pp. 51-68.

9. Nyeri District Nyeri District Annual Report, 1978  
See also, Karatina Town, Annual Report, 1978.
10. Karatina, 1978
11. Dairy Nation, Thursday, September 20, 1979. pp. 11.
12. Kenya, Karatina Water Supply (Augmentation)  
Ministry of Water Development.
13. Ibid
14. Karatina, 1977, opp. cit.

CHAPTER 4

ECONOMIC BASE

Karatina is mainly a commercial centre. This fact is also borne by the town's history. Thus the growth of the town has not been so much due to the establishment of the administrative function by the colonial administration, unlike most other towns in Kenya, but due to its strategic location in a rich agricultural area and on an international highway. As noted elsewhere the town is the divisional headquarter of Mathira Division. However, this administrative role is greatly affected by Nyeri town. Nyeri town (a Municipal Council) is located 16 miles from Karatina town and it is the provincial as well as the district headquarter of Central Province and Nyeri District, respectively. Thus most people prefer Nyeri to Karatina when they have important duties requiring administrative attention.

However, Karatina has one of the biggest open air markets in Kenya and most people in the district, as well as outside the district, prefer Karatina to Nyeri town especially when they have any business connected with agricultural produce. The stiff commercial competition at Karatina leads to traders undercutting each other, and it is not surprising that traders at Nyeri town and elsewhere, come to Karatina to buy clothing materials and other finished product, to go and stock in their shops.

Other sectors such as the industrial sector are not well developed. Lack of more land for development

has probably diverted industrial investment to Nyeri town and other centres like Sagana. However, the economic base of Karatina town might be greatly strengthened by the completion of the Industrial Promotion Centre at the town.

#### 4.1 EMPLOYMENT AND INCOMES:

##### 4.1.1 EMPLOYMENT:

The table below shows the wage employment and self employment at Karatina in 1976. It shows that in the same year 28.2% of the people in the town were employed in the Commercial Sector. Employment in the commercial sector averages 425 people from 1972-1976, while that in the public sector, and agriculture and forestry has been 216 and 259 respectively. However, employment in agriculture and forestry has remained constant (276 people) since 1974 while employment in the public sector increased by 195 people in the same period. This shows that although agriculture and forestry accounted for 18.5% of the people employed in 1976, it has little scope for absorbing more labour. The coffee (and dairy) factory which accounts for most of those employed in agriculture and forestry is under industrial land use and there is no agricultural land use, within the town boundary. The Manufacturing sector employed 12.1% of the people, and like the commercial sector, has potential for absorbing more people especially because it is also capable of engaging self employed labour. Thus the manufacturing sector is only second to commercial sector in self-employment potential and is followed by the

public sector. This includes the informal sector.

INCOMES:

That Karatina is a commercial centre is also indic-

WAGE EMPLOYMENT & SELF-EMPLOYMENT IN KARATINA, 1976

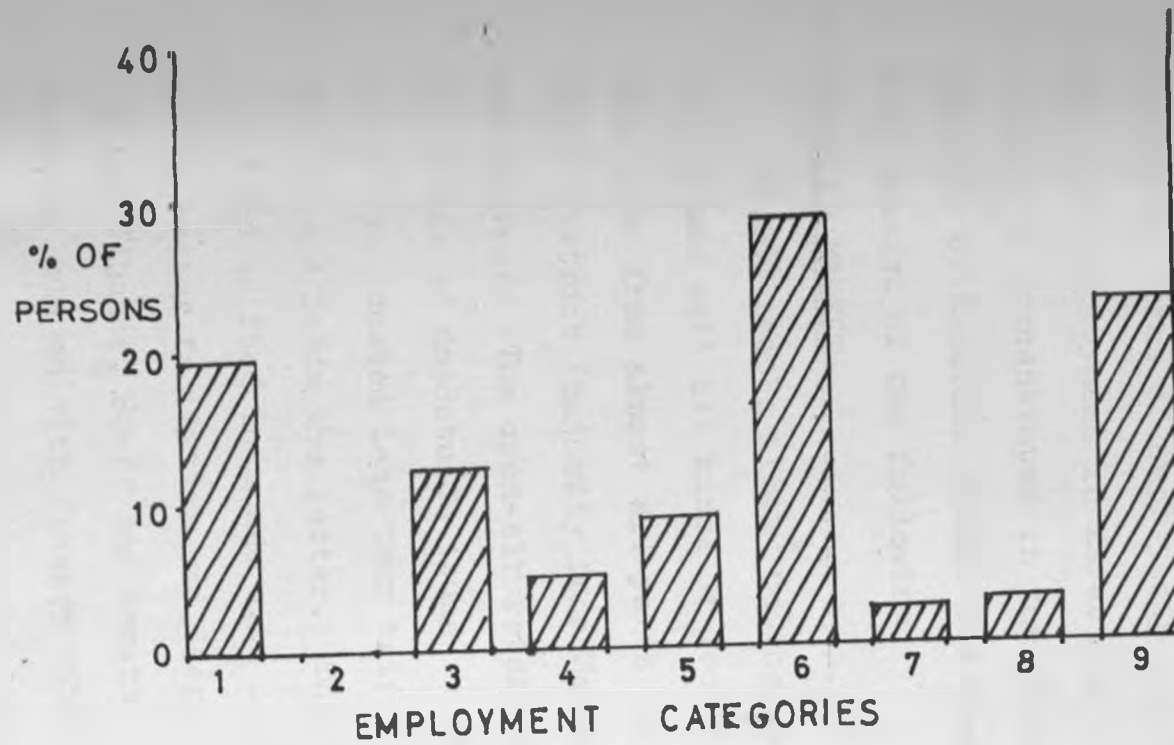
|    | SECTORS   | NUMBER EMPLOYED | % OF TOTAL |
|----|---|-----------------|------------|
| 1. | Agriculture & Forestry                              | 276             | 18.5       |
| 2. | Mining & Quarrying                                  | -               | -          |
| 3. | Manufacturing                                       | 180             | 12.1       |
| 4. | Electricity & Water                                 | 70              | 4.7        |
| 5. | Construction  | 130             | 8.7        |
| 6. | Wholesale, Retail, Restaurants & Hotels             | 420             | 28.2       |
| 7. | Transport & Communications                          | 35              | 2.4        |
| 8. | Finance, Insurance, Real Estate & Business Services | 43              | 2.9        |
| 9. | Community, Social & Personal Services               | 335             | 22.5       |
|    | TOTAL   | 1,488           | 100.0      |

Source: Employment & Incomes in the Modern Sector, 1976. The table below showing earnings from the various sectors of employment in 1976. The commercial sector nets the highest income followed by Finance, Insurance, Real Estate & Business Services Sector.

EARNINGS BY SECTOR IN KARATINA, 1976

|    | SECTORS   | EARNINGS K£'000 | % OF TOTAL |
|----|---|-----------------|------------|
| 1. | Agriculture & Forestry                              | 23.1            | 9.5        |
| 2. | Mining & Quarrying                                  | -               | -          |
| 3. | Manufacturing                                       | 8.2             | 3.4        |
| 4. | Electricity & Water                                 | 17.8            | 7.3        |
| 5. | Construction  | 38.2            | 15.7       |
| 6. | Wholesale, Retail, Restaurants & Hotels             | 61.7            | 25.4       |
| 7. | Transport & Communications                          | 12.3            | 5.2        |
| 8. | Finance, Insurance, Real Estate & Business Services | 43.4            | 11.9       |
| 9. | Community, Social, & Personal Services              | 37.8            | 15.6       |
|    | TOTAL   | 242.7           | 100.0      |

# WAGE-& SELF-EMPLOYMENT IN KARATINA





#### 4.2 COMMERCE:

According to our physical survey (1979), commercial land use amounts to 15.9 hectares and is the fifth highest consumer of land. This trend is not in keeping with the average of 10 towns calculated by the Physical Planning Department of Ministry of Land & Settlement. However in terms of employment, it is the largest single source of employment in Karatina. Commercial activities are mostly concentrated in the 'Central Business District' of Karatina around the open air retail market. They consist of the following:

##### 4.2.1 OPEN-AIR MARKET:

20,000 people flock<sup>1</sup> to the market twice a week to try and sell all kinds of foodstuffs and handicraft. They come from almost all parts of the country especially Nyeri District (majority from Mathira) and even Kisumu and Mombasa. The open-air retail market sells almost all kinds of foodstuffs found in Kenya. The wholesale market is located less than half a mile from the retail market and feeds the latter. The old wholesale market has been shifted to a new site near the Town Hall, where better facilities and, services will be provided. In the Finance, Staff and General Purposes Committee meeting held on 17th January 1979, among the projects recommended to be financed by Local Government Loans Authority were markets. This will involve the modernization of the open-air market and construction of a closed market at a cost of Kshs. 3 million and the loan will be for 40 years at 6½% interest.



PLATE 9

The main Commercial Street.



PLATE 10

Karatina open-air retail market during a market day.

The open air retail market is one of the biggest such markets in Kenya and is a tourist attraction.. Tourists in transit towards Mt. Kenya must stop at Karatina. It is as a result of this that a Tourist Class Hotel run by the Kenya Tourist Development Authority was constructed just opposite the retail market. The town council should ensure that it shares the proceeds of the charges from the service offered to the tourists on transit who stop at Karatina.

However the retail market needs to be improved. It is tarmaced but it is poorly drained. Thus pot holes and pools of water are a common phenomenon. Thus part of the loan will be used to overhaul the market surface and instal proper drainage. There is also need to provide stalls for the proper display of foodstuffs and other merchandise. The present system of display on the ground, on cartons, boxes, debes, etc, is not healthy. More revenue could be collected if stalls were constructed. At present traders are only charged a minimum fee based on the amount and kind of goods to be sold.

The market has also got shops, clothing and packed foodstuff shops. Toilets have been constructed by the council within the market itself. The tarmacing of the roads surrounding the market will improve its attractiveness and convenience.

#### 4.2.2 SHOPS:

The market is the nerve centre of the town and all streets radiate from it. Shops selling various commodities are, found on these streets. These include:

#### 4.2.2.1 FOODSTUFF SHOPS:

These are retail and wholesale shops dealing with packed foodstuffs of many kinds. The former are the majority and there are over 70 of them excluding kiosks and those within the market and those outside the boundary. There are about 10 wholesale shops with some of them combining retail and wholesale activities.

#### SPECIALISED SHOPS:

These deal in one or two kinds of goods and include those selling shoes (6), books (3), record and radios (5), furniture shops (excluding carpentry sheds which stock their furniture and retail them) (5), butcheries (12) etc. Thus there are over 45 specialised shops.

In addition there are about 25 shops dealing in clothing materials excluding hawkers trading their goods along the streets and on the site adjacent to the Town Hall. There are over 50 of the latter. The latter only operate during the market days when the market is full of people i.e. on Tuesday, Thursday and Saturday.

There are two banks in the commercial sector i.e. The Kenya Commercial Bank and Barclays Bank (Kenya) Limited. The Co-operative Bank is located over  $\frac{1}{2}$  a mile away with the Agricultural Finance Company adjacent to it.

#### 4.2.3 HOTELS:

There is one Tourist<sup>7</sup> Class (A) Hotel as stated above. A second one is planned. Both of them are located along the Nairobi - Nyeri Road. In addition there is one class.B hotel called Elephant Castle which

approaches the tourist class hotels in standard.

In addition, there are many other hotels, bars and restaurants with boarding and lodging facilities, including night clubs. In all they are over 25. However in the Finance, Staff and General Purposes Committee meeting of 17th January 1979, it was resolved to borrow Kshs. 2 million for the construction of a Hotel similar to the one of Meru County Council or Nyandarua County Council. The loan will come from Local Government Loans Authority and will be repaid over a period of 40 years at 6½ %.

#### 4.2.4 OTHERS:

There are 5 studios which include Jishinde Ushinde Studio, Starlight, Globe Studio, etc. There are two barber shops and over 2 hair saloons excluding open air barbers. There are three dry cleaners, excluding hand cleaning establishments.

#### 4.3 INDUSTRY:

There are no heavy industries at Karatina. The former Member of Parliament for Mathira Constituency and Assistant Minister for Home Affairs recently noted during a Parliamentary Election Campaign that there are only two industries at Karatina town worthy of being proud of, viz:- Kiganjo Saw Mills and the newly built Tyre Retread factory. Industrial activities at Karatina consist of small scale light industries which consist of

##### 4.3.1 SAW MILLS:

There are 4 saw mills at Karatina. Kiganjo saw mill is the largest of these. They get their supplies

of timber from Chehe Forest on the slopes of Mt. Kenya. They also buy timber from farmers who plant a few trees on their farms. Between them they employ about 100 people. Most of these are Casual Labours.

Unfortunately these saw mills have no space for expansion. All of them are sandwiched between other enterprises and were not initially provided with adequate space. Some of them are located in go-downs while others occupy one or two plots. Since they cannot expand horizontally on their present sites, it is necessary to relocate them on site with space for future expansion.

Accessibility to the forests of Chehe and Ragati have been improved greatly by the tarmacing of Kiamwangi - Kiarithaini - Ragati road. The road also serves Muthira timber saw mill which is in the forest area West of Ragati Forest Station Nursery.

#### 4.3.2 CARPENTRY::

Carpentry workshop are located near the saw mills in the area now legally zoned for light industrial activities. There are over 10 carpentry workshops engaging between them over 50 people. Most of them sell their merchandise at the spot and are mostly open air with only semi-temporary sheds for storage purposes. Some of the furniture shops in the town centre buy from these carpenters but some get their supplies from Nairobi.

Perhaps there will be proper location and layout of carpentry workshops, (with enough space for expansion

provided for), when the tenants of Sofia town are provided with proper sites and accommodation elsewhere in a residential area. This is a lower income village surrounded by carpenters, garages, and tin smiths, in an area which is now zoned for light industrial small scale industries.

#### 4.3.3 BAKERIES:

There are two bakeries at Karatina . These are Gakuu and Wanja bakeries<sup>2</sup>. Between them they have driven the Elliots brand of bread out of market in Karatina. They employ over 40 people and work in shifts. They serve the town as well as the surrounding areas of Mathira and beyond. Wanja's Bakery has been relocated from the commerical sector to a Kshs, 2 million venture in the rail served industrial sector. It serves most of the Mt. Kenya region.

#### 4.3.4 SALT FACTORY:

Mbichi Salt Factory<sup>3</sup> is the only such enterprise at Karatina. However the town also receives salt and sugar by rail and motor from Nairobi and is stored in the godowns to be sold to retail and wholesale traders. The factory crushes and packages salt from Magadi and serves Karatina town and its hinterland. The factory is located in the commercial sector near the bus stop but it has been allocated a new site in the rail-served industrial area. However, it has not moved to the new site.

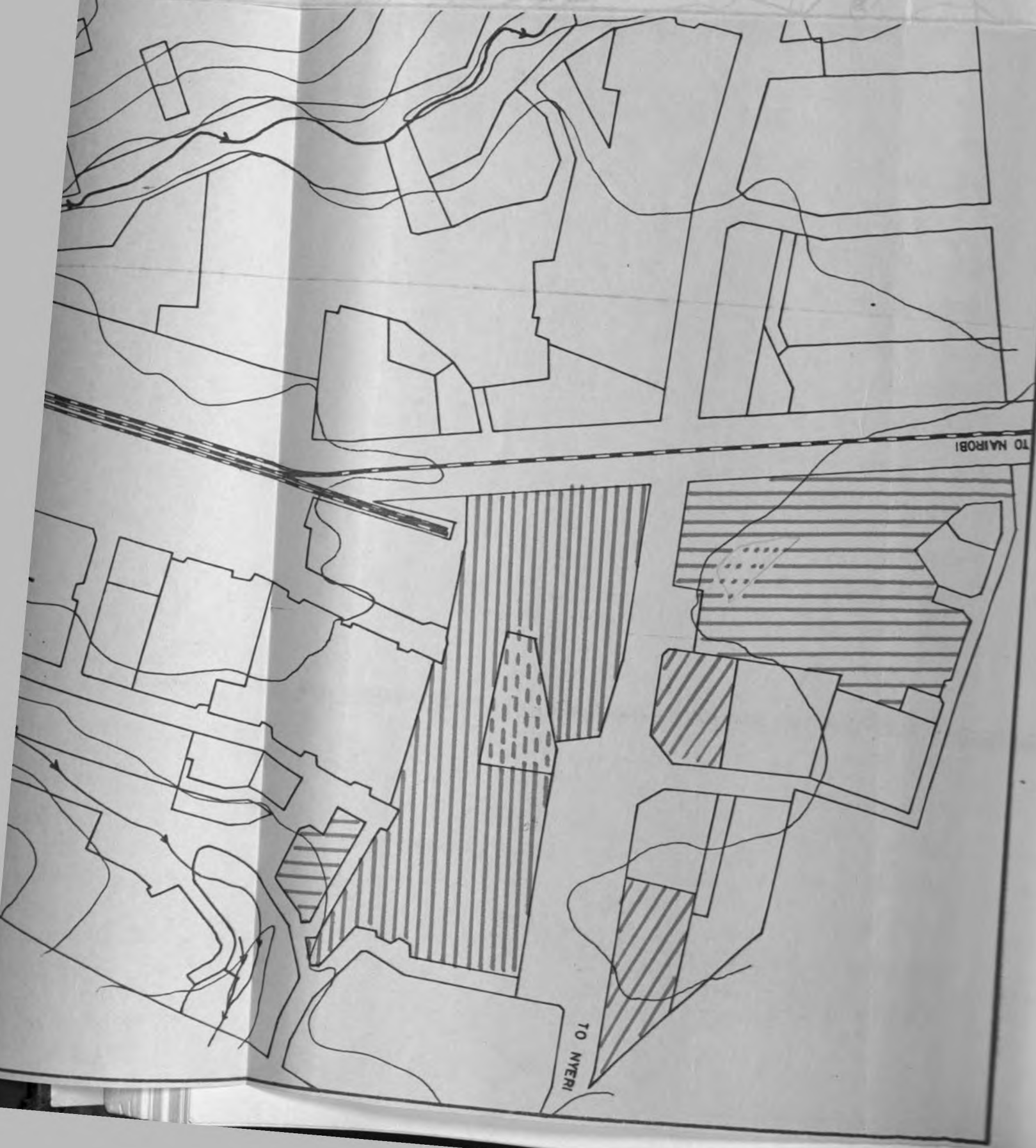
#### 4.3.5 PRINTING PRESS:

Gakara Printing Press is the only such venture at



on the same basis

DEVELOPMENT PLAN



TO NAIROBI

TO NYERI



Karatina. Like the salt factory and the Bakery it has been allocated a new site in the rail-served industrial area. It has moved to the new site although the building to house the press is not complete yet. The entrepreneur has run out of funds. If the envisaged storied complex for the press is finish and funds made available to expand a very prosperous industry as the literacy rate in Mathira.

The press deals with the production of exercise books for schools, wedding cards, advertisements, publishing of small books pamphlets, especially on Kikuyu culture, Kikuyu magazines, rubber stams, etc.

#### 4.3.6 BLOCK MANUFACTURING:

There is one block manufacturing enterprise in the rail-served industrial area supplying the town with building blocks and serving the town and the hinterland.

There are other small scale block making ventures in the town located in various places.

#### 4.3.7 DAIRY & COFFEE FACTORIES:

Both of these are located within the town and they operate on Divisional basis. The dairy factory receives and processes milk from farmers all over Mathira Division and is located in the Light industrial area. There are several milk collecting sheds located in various areas of the division and which are spatially located to reduce the distances travelled by the farmers. From these sheds, the Mathira Dairy Co-operative vehicles collect milk and take it to the Dairy factory for processing. Mathira Farmers Coffee Co-operative Complex operates on the same basis

but here several factories are spatially located to reduce the distances travelled to factories. These however receive and process the coffee berries after which they dry them. The dry berries are then transported to the godowns at Karatina ready for all rail transport to Nairobi for the final crushing and packaging for local and foreign markets. The factory at Karatina town, used to serve the areas immediately surrounding the town and which were not served by other factories. However the factory is now decentralising and factories are now being established around the town. One of these is already operational at Kiamwangi village.

The table below shows Average family income and production level in 1975/6 as compared to 1974/5 in Mathira Division. The loss of Branzil's coffee due to adverse weather raised the price of coffee and Kenya had a "Coffee Boom" up to 1977 when incomes from coffee hit an all-time high. Farmers in Mathira experienced high incomes and commercial activities were at their maximum at Karatina town. Like coffee, tea production and prices continued to rise since 1975 up to 1977/78 and there were more incomes for the farmers. However the prices of both started falling between 1977 and 1978 and the country has been experiencing balance of payments problems. A credit squeeze has been imposed as a remedial measures and this has affected commercial activity in the country as a whole.

AVERAGE FAMILY INCOME AND PRODUCTION LEVEL 1975/76 COMPARED TO 1974/5 SEASON (MATHIRA)

| NO. OF MEMBERS |        | COFFEE AREA (HA) |        | COFFEE SALES (KG) |         | GROSS VALUE (KSHS.) |           | AVERAGE FAMILY INCOME (KSH.) |        | AVERAGE PRODUCE PER (HA) |        |
|----------------|--------|------------------|--------|-------------------|---------|---------------------|-----------|------------------------------|--------|--------------------------|--------|
| 1975/6         | 1974/5 | 1975/6           | 1974/5 | 1975/6            | 1974/5  | 1975/6              | 1974/5    | 1976/6                       | 1974/5 | 1975/6                   | 1974/5 |
| 9,947          | 10,850 | 2,183            | 1,963  | 1,200,360         | 976,107 | 27,760,038          | 9,652,574 | 2,790                        | 625    | 611                      | 497    |

NOTE:

Average Production is based on hectarage on ground in 1975.

SOURCE: District Agricultural Annual Report,  
Ministry of Agriculture.



PLATE 11

Informal Sector: The site is zoned for a Public Park.



PLATE 12

East African Industries Limited.

godown, motor garages (about 10 of them), Bicycle repairs, Warehouses, Metal casement making, etc.

Industrial activities at Karatina suffer from low production, low managerial skills, shortage of funds, and land for expansion. They offer few employment opportunities and have limited scope for expansion due to these constraints.

#### 4.3.9 KENYA INDUSTRIAL ESTATES. KARATINA:

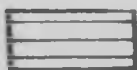
However, the situation will be greatly improved after the completion of the construction of an industrial promotion centre by the Kenya Industrial Estates. The Kenya Industrial Estates is a subsidiary of the Industrial and Commercial Development Corporation (I.C.D.C.) which has been implementing a programme for industrial estates as recommended by the Government through the former Ministry of Commerce and Industry. The Industrial Promotion Centre at Karatina, like other centres at Nyeri, Nakuru, Kisumu Eldoret, Mombasa, Nairobi, etc, will undertake technical, economic and commercial appraisal of industrial projects before and after operation; offer well planned factory premises at reasonable rents; provide loans; building and plant layout and installation of machinery; give technical training; and provide management and marketing assistance.

#### 4.4 SOURCES OF FINANCE FOR THE TOWN COUNCIL<sup>5</sup>:

As noted elsewhere the elevation of Karatina urban council to a Township Status meant that the town would from then on stand on its own feet. Therefore it had to look for and develop various sources of revenue for

# DISTRIBUTION OF INDUSTRIAL ACTIVITIES

## LEGEND



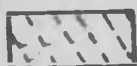
RAIL SERVED INDUSTRY



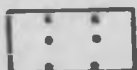
LIGHT INDUSTRY & WORKSHOP



SMALL SCALE INDUSTRY



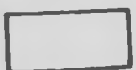
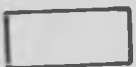
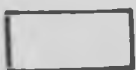
NOXIOUS INDUSTRY



I.C.D.C. SHEDS



COFFEE CO-OPERATIVE



its sustenance. It had assumed more function and responsibilities to the public. The abolition of Graduated Personal Tax, and the fact that grants from the government are such a rare commodity, called for urgent exploration of the possible sources of finance. The following are the main sources of revenue for Karatina Town Council: Market fees, Slaughter House fees, Sewerage Charges, General Trade licences, Bus Stop fees, House rents, Stand Premium and others.

Market fees are by far the largest single source of revenue for Karatina. This is due to its regional importance. Its importance as a source of revenue is further illustrated by the fact that it has been earning increasing revenue over the years as the table below shows. Thus there is scope for further improvement and higher revenue. There is however a high number of defaulters. Perhaps this situation will be alleviated by the recent employment of a Market Inspector and 3 Market Askaris. More revenue could be expected after the shifting of the old wholesale market to a new site near the Town Hall. Better facilities and services will be provided on this site. However more staff will be required to reduce the number of defaulters.

More revenue could be collected if the present retail (open air) market was provided with stalls for the proper display of foodstuffs and other merchandise. More traders could be accommodated and attracted especi-

ally after the overhaul of the surface of the market surface and proper provision of efficient drainage system.

The expansion of the slaughter house and the extension of the sewerage system will raise revenue receipts.

Bus stop fees revenue will be substantially increased by the coming into operation of the Bus Stop Carteen and rents from the adjoining kiosks by the end of 1979. It is expected to earn £ 1,350 per annum.

The informal sector is not fully developed and there is much scope for further development and hence more revenue. However more land is required for this exercise. There are over 50 hawkers selling clothing materials on the site proposed for the modern Town Hall on the proposed Public Park. Thus an alternative site will have to be provided when improvement ; on the site begins. Other the past 5 years, these traders have been shifted to an alternative site on over four occasions. This has the effect of disrupting their trade and hence discouraging more entrants into the trade while causing confusion to their customers.

However most of the sources will bring increasing revenue with the expansion of the activities especially if more land is acquired and the boundaries extended. This is especially so because costs do not increase as much as the receipts and thus there is always an overall gain in revenue.



Water supply in the town is the responsibility of the Ministry of Water Development. More revenue could be expected if this responsibility was passed on to the township authority. It is important to note that Nanyuki and Nyahururu are responsible for their Water Supply and hence levy water charges.

When the G.P.T. was abolished local authorities other than municipalities were not compensated. Thus municipalities receive grants from the government to compensate for this loss. Other local authorities are boosted to be self-reliant financially and grants are only granted in cases of serious deficits. Moreover the Minister is likely to dissolve a local authority in such a case. This encourages efficiency and vigilance in conducting the affairs of local authorities.

The central government sometimes collects more revenue from traders than local authorities. This has the effect of reducing traders' profits and slowing down commercial expansion. It also limits the amount of revenue local authorities can levy without driving traders out of business. Thus the central government should withdraw or reduce its levies to allow local authorities to earn more revenue and be able to effectively meet their obligations to the public. There is need for a review of the fees and charges levied. There is scope for more revenue in this field.

Poll tax is a colonial legacy and was provided for in the Majimbo Constitution. It should be

ADDITIONAL SOURCES OF DEVELOPMENT FINANCE:

LONG TERM LOANS

|    | PROJECT                                     | SOURCE                      | AMOUNT<br>£ | YEAR<br>BORROWED | REPAYMENT<br>PERIOD<br>(YRS) | INTEREST<br>RATE<br>%P.A.) |
|----|---|-----------------------------|-------------|------------------|------------------------------|----------------------------|
| 1. | Sewerage                                    | LGLA <sup>*1</sup>          | 177712.5    | 1976             | 30                           | 6½                         |
| 2. | Town Hall                                   | LGLA                        | 77037.52    | 1975             | 40                           | 6½                         |
| 3. | Roads                                       | "                           | 61963.83    | 1977             | 40                           | 6½                         |
| 4. | Muthua Rental<br>Scheme                     | NHC <sup>*2</sup>           |             |                  |                              |                            |
|    |   | "                           | 52951.83    | 1975             | 40                           | 6½                         |
| 5. | S & S. No 1                                 | "                           | 17052.98    | 1972             | 40                           | "                          |
| 6. | Blue Valley<br>Tenant<br>Purchase<br>Scheme | Central<br>Housing<br>Board | 2364.92     | 1963             | 20                           | 6¾                         |

Source: Annual Report, Karatina town, 1978.

\*<sup>1</sup> Local Government Loans Authority. This is the main (and more reliable) external source of finance for local authorities and finances all types of projects.

\*<sup>2</sup> National Housing Corporation (formerly Central Housing Board) This corporation only finances and Housing.

NB.

Local authorities except Nairobi and Mombasa are not allowed to borrow money from foreign countries or foreign aid donors. Thus they mainly rely on LGLA which is a fund pooled by all local authorities according to their capabilities. However local authorities also borrow from local banks but any such borrowing must be approved by the Minister of Local Government and Urban Development.

properly provided for in the Local Government Regulations. There is need for proper definition of those eligible to pay it and improvement of the collection system. Creation of more employment opportunities will increase the working population and hence raise revenue collected in form of poll tax. Expansion of the town boundary might also increase revenue from this source.

Cess is a levy charged when marketing agricultural produce. There are several coffee farms bordering the town. Thus extension of the town boundaries would encompass them and hence bring them under the jurisdiction of the town council. Cess would then be charged during the marketing of the produce.

Perhaps more revenue could be expected if the incomes of the urbanites were raised and more people attracted to settle in the town permanently. At present the majority of the people who enjoy the services provided by the council have "one foot in the town and the other in the rural areas". In fact most of them come to the town in the morning to conduct various businesses and then leave in the evening.

#### 4.4.1 EXPENDITURE:

The table below (appendix) shows that the main drain of the council's revenue is salaries and wages. The council has a staff of about 80 employees including the recent 10% increase in employment as per the President's Directive. The 10% increase plus the need to employ more staff to cater for increased demand for efficiency and better services has raised this kind of expenditure substantially during 1978 and 1979.

Loan Charges form the second greatest single expenditure for the town council. 1975 had the lowest loan charges repayment (in terms of interest charges). However by 1976 the loans borrowed to finance the construction of the modern Town Hall, road construction, etc, had started falling due for repayment, This accounts for the higher figures for 1976, 1977, and 1978.

Expenditure on water supply sewerage connections and electricity increased with increase in more developments as more loans and finance for development become available.

Other items of expenditure are: insurance, travelling expenses, clothing for council employees (uniform/overalls), postage, equipment, tools and materials, legal fees, grants, etc.

Since Karatina became a town council, roads have been added to the list of the responsibilities, the town is supposed to shoulder. Thus expenditure has risen substantially due to the urgent need to tarmac the

streets because they become very unsightly during the wet and dry seasons. This aspect of the streets discourages tourists and other visitors and might also make the town less attractive to investors.

#### 4.5 CONCLUSION:

As noted elsewhere in connection with other problems facing Karatina town, the employment situation could greatly be improved if land allocated for Commercial and Industrial activities was developed. This is a great handicap to development of the town. The land allocation committee should make sure land is allocated to people ready and financially able to develop them. Some of the people who had applied for industrial plots, (see the Appendix), had indicated their financiers - some of whom had pledged support for the applicants. Others did not indicate their financial ability to develop the land if allocated to them.

On the other hand, some of those people who are allocated land for various uses do not carry out feasibility studies to determine the liability of their investments. This leads to failure and financial losses. A notable example is the envisaged corrugated iron sheet and nail manufacturing industry which stopped after almost half of the building shell had been constructed. However even the material used to build the buildings shows that the owners had not consulted experts in industrial installations.

In allocating land, especially for industrial purposes, preference should be given to labour intensive industries and those using local raw materials. This will help to absorb work labour.

The informal sector has great potential for employing

more people and thus raising their standard of living. It should also provide increased incomes to the local authority in form of hawker licences.

There is more scope for earning or collecting more revenue from the various trades. Thus there is need to explore the various sources of revenue which remain untapped. However more staff are required as well as expert advice on various sources of revenue for local authorities. The formation of a new Ministry of Local Government and Urban Development, the new blood injected in the Ministry and in the new government in general, coupled with the Nyayo Philosophy, augurs well for local authorities to solve, or alleviate, most of the problems that have plagued them in the past.

The establishment of an Industrial Promotion Centre at Karatina will definitely revolutionise the industrial sector in Karatina. Karatina is an ideal place for a prosperous industrial sector because it is rail-served and is located in a rich agricultural area which is inhabited by an industrious people. viz: the Kikuyus. The incomes of the farmers and businessmen are generally high and demand for most commercial and industrial goods is high. It has ample raw water and adequate connectivity with other parts of the country.

The establishment of more industries at the town will also expand employment opportunities of the town. Thus in the long run, the industrial sector might overtake the public sector as the second highest employer

after the commercial sector. Karatina is unlikely to change from a divisional headquarter and, although the public sector might employ more people in future its expansion and employment capabilities are limited. This is not so with the commercial and especially the industrial sector.



## REFERENCES

1. Daily Nation, July 26 1979 Karatina  
Town Council: Message from the Charman.
2. Karatina, Karatina Town Council: Annual Report, 1978
3. Ibid
4. Ibid
5. Diejomoah,  
V.P., 1970. Financing Local Government  
Authorities in Kenya.  
Institute of Development Studies,  
University of Nairobi.

## CHAPTER 5

### 5.1 SUMMARY OF THE MAIN PROBLEMS IDENTIFIED

1. Physical Thresholds. These consist of river valleys and areas liable to flooding especially along the Ragati River which flows roughly from north to south along the eastern side of the town. The Kirigu stream follows the same trend but runs along the western side of the town. There is an abandoned quarry site opposite the Water Supply plant which has been partly filled by garbage.

2. Shortage of Land and Land Use Conflicts. As shown by the land use and the Physical Thresholds to Development maps, the whole of the town has been zoned and subdivisions done accordingly, and there is no land which is deferred. However, as the latter map indicates, some of the plots allocated especially industrial, commercial and residential have not been developed.

A land use conflict exists in the area zoned light industrial and workshops where both commercial and residential uses (Sofia town) exist. Commercial use predominates on southern side of this zone.

3. Shortage of housing and Substandard Housing. There is a general shortage of housing for all income groups but especially for the low income group. Substandard housing exists in the "Sofia town" in terms of the building materials and infrastructure. The situation exists in the Peri-urban areas around the Karatina town where farmers have provided housing for the low income town workers.

4. Lack of proper access and poor and inadequate road

network. The commercial sector within the light industrial zone has no back lanes for loading and unloading purposes. Such lanes could also serve for garbage display and collection and fire fighting purposes.

Few of the town streets are tarmaced as shown on the Road-Network map. Most of the roads consist of earth and murram surfaces. This makes the tarmaced sections unsightly and almost impassable during the rainy seasons.

The situation is compounded by lack of adequate drainage system along the roads. There is no proper surface drainage system along most of the roads. This makes the only existing underground drainage along the main street inefficient. The market itself is not properly drained.

Car parking facilities are few and not well developed

5. Poor and inadequate garbage collection facilities. Shortage of staff and vehicles and inefficient organisation means that the frequency of the services varies and not all parts of the town are covered.

6. Low quality secondary education. Secondary education is offered by private and Harambee schools which employ few and unqualified staff. The schools lack of books and laboratory facilities. There is no library in the town except at Nyeri town 16 miles away.

7. Lack of Recreational Facilities. The town has no Social Hall and the site zoned for a public park has not been developed (opposite the Town Hall).

8. Inadequate employment opportunities. The town has

LEGEND

- F FLOODING
- LC LAND USE CO
- PJ POOR JUNCTIO
- ALR LACK OF ACCESS OR POADS
- SH SUB-STANDARD
- 
- 
- 
- 
- 



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 M.A. THESIS 1979/80

no heavy industries and most of the industries are light and small scale ones with low employment capacity. However with availability of land more industries could locate in Karatina as indicated in the list of Applications for industrial sites in the Appendix. The town has rail facilities.

9. Shortage of Finance. Sources of revenue for the local authority are not fully developed. The Collection and enforcement machinery is inadequate and inefficient due to shortage of staff.

## 5.2. PROJECTIONS AND PROPOSALS

### 5.2.1 POPULATION:

The high rate of overall population increase in Kenya of 3.5% p.a., is a matter of great concern to the government. The high rate of rural - urban migration especially to Nairobi and Mombasa is another great concern to the nation. Urban population growth averages 7% p.a., which includes both the natural growth rate and the increase due to migration. It is on the basis of this growth rate that urban population in Kenya after 1969 census was projected at 70% p.a. for the low growth rate and 8% p.a. for the high growth rate. A look at the 1979 census (provisional) indicates that only the big and medium towns have grown by any rates approaching 7%.

The population of Karatina between 1962 and 1969 increased at a rate of about 5.5 % p.a. Between 1969 and 1979 the population has grown at a rate of 1.9% p.a. On the other hand the rural population in the

Mathira Division in the latter period has been growing at 3% p.a. Assuming that the rate of growth of the population within the town will not fall below 1.9% and given that the rural population will continue to grow at 3% p.a., it is reasonable to project the town's population using these growth as the low and high population growth rates respectively. It should be noted that if any land is acquired in future, the peri-urban areas already housing most of the low income town workers and rural households will be brought within the town boundary. This might affect both the town population and its growth rate in a positive way.

POPULATION PROJECTIONS FOR KARATINA TOWN 1980-2000AD

|                 | YEARS |       |       |       |       |       | GROWTH RATE |
|-----------------|-------|-------|-------|-------|-------|-------|-------------|
|                 | 1979  | 1980  | 1985  | 1990  | 1995  | 2000  |             |
| LOW PROJECTION  | 2,929 | 2,961 | 3,271 | 3,587 | 3,933 | 4,312 | 1.9%        |
| HIGH PROJECTION | 2,929 | 3,002 | 3,495 | 4,051 | 4,693 | 5,439 | 3%          |

The projections have been done using the formula

$$P_n = P_o (1+r)^n$$

where,

- $P_n$  = The population after n years
- $P_o$  = The base year population
- r = The rate of growth of the population
- n = The number of years.

It is important to note that the two bordering Satellite villages of Karindundu and Ragati are rapidly growing into shopping centres. These are found on the southern sides of the town respectively.

### 5.2.2 RESIDENTIAL LAND USE:

The table below shows the income groups, the projected number of people in each income group, and the affordable housing category. The income groups and the percentage of the income groups to the total are assumed to be constant up to the year 2000 A.D.

#### POPULATION, INCOME DISTRIBUTION AND HOUSING TYPES

1980 - 2000

| INCOME GROUP | % OF TOTAL POPULATION | YEAR/PERSONS |       |       | TYPE OF HOUSING      |
|--------------|-----------------------|--------------|-------|-------|----------------------|
|              |                       | 1980         | 1990  | 2000  |                      |
| 0-100        | 12                    | 191          | 231   | 278   | SLUM TYPE HOUSING    |
| 100-600      | 68.4                  | 1,088        | 1,317 | 1,584 | LOW CLASS HOUSING    |
| 600-1500     | 12.4                  | 197          | 239   | 287   | MEDIUM CLASS HOUSING |
| 1500+        | 7.2                   | 114          | 139   | 167   | HIGH CLASS HOUSING   |
| TOTAL        | 100.0                 | 1,590        | 1,926 | 2,316 |                      |

Assuming a household size of 4 people the housing units required can be calculated from the above table according to the various housing types. Thus the table below shows the projected housing units required up to the year 2000 aAD.

#### PROJECTED HOUSING UNITS AND CATEGORIES

| INCOME GROUP | YEARS/HOUSING UNITS |      |      | TYPE OF HOUSING      |
|--------------|---------------------|------|------|----------------------|
|              | 1980                | 1990 | 2000 |                      |
| 0-100        | 48                  | 58   | 70   | SLUM TYPE HOUSING    |
| 100-600      | 272                 | 329  | 396  | LOW CLASS HOUSING    |
| 600-1500     | 49                  | 60   | 72   | MEDIUM CLASS HOUSING |
| 1500+        | 29                  | 35   | 42   |                      |
| TOTAL        | 398                 | 482  | 580  |                      |

Using the standards set out in the Town Planning handbook as to plot sizes for the various housing types, the table below, showing the land requirements for the housing categories, has been derived. The recommended plot sizes are as follows: 1/6 of an acre for the Low class housing and for slum type housing, 1/8 of an acre for the medium class housing and 1/4 of an acre for the high class housing.

LAND REQUIREMENTS FOR HOUSING

| INCOME GROUP | YEAR/LAND NEEDED(HA) |      |       | TYPE OF HOUSING      |
|--------------|----------------------|------|-------|----------------------|
|              | 1980                 | 1990 | 2000  |                      |
| 0-100        | 1.2                  | 1.45 | 1.75  | SLUM TYPE HOUSING    |
| 100-600      | 6.8                  | 8.23 | 9.9   | LOW CLASS HOUSING    |
| 600-1500     | 1.22                 | 3.0  | 3.6   | MEDIUM CLASS HOUSING |
| 1500+        | 0.72                 | 3.5  | 4.2   | HIGH CLASS           |
| TOTAL        | 9.94                 | 14.7 | 19.45 |                      |

5.23 INDUSTRIAL LAND USE:

The Kenya Industrial Estates Limited of the Industrial and Commercial Development Corporation has started building its site. The site has been slightly increased by the shifting of the wholesale market to the new site near the Town Hall. The industrial climate of Karatina will greatly be influenced by this industrial promotion centre due to the inherent interdependence of industries. Industrial employment will increase and with this, the commercial sector.

With availability of land, it might be necessary to consider the industrial ventures which use local materials, or feed the agricultural sector of the sur-



rounding rural areas, or which are necessary for promoting and sustaining a high level of the local economy. Some of these are in the Appendix and include: Animal feed industry, Leather works, Wood-wool cement manufacture, Utamaduni products manufacture, Educational toys manufacture, Biscuits manufacture, and corrugated iron sheets manufacture. These might need 1.6 hectares at an average plot size of 0.2 hectare per industry.

The new industrial equation might also necessitate additional godowns and additional land for the increased small scale and informal sector.

#### 5.2.4 COMMERCIAL LAND USE:

Commerce is an expanding sector and there is great need for more land. Already Ragati and Karindundu villages are rapidly falling under this use. Commercial land within the town is now being rapidly developed. Increased industrial activities will mean increased commercial activities due to multiplier effects. It might be necessary to provide 10 hectares over the next 20 years for commercial use.

#### 5.2.5 EDUCATIONAL LAND USE:

According to our population projections and using the Town Planning Handbook standard on provision of education facilities, Karatina Town is adequately served as far as education is concerned. The Planning Handbook has set a catchment population of 25,000 people for a 1-4 stream secondary school, which is to be served by 5 primary schools (double stream each serving 5,000

people), and 10 Nursery schools (at 2 Nursery schools per double stream, primary school).

However, according to the Human Settlements strategy for rural and urban development, an urban centre should, in addition, contain a senior secondary school and a Technical school (primary level). Thus about 4 hectares could be provided for the former in future. A village polytechnic exists adjacent to the town boundary on the southern side of the town. This school could be expanded and developed further by providing more land, say 4 hectares.

An urban centre should also have a library. Provision of a library will greatly improve the standard and quality of education in the town and the surrounding rural areas. 0.5 hectares could be considered for this purpose. Harambee and Private secondary schools should be required to have laboratory facilities and where necessary, land should be provided for this purpose.

#### 5.2.6 OTHER LAND USES:

There is need for another and preferably more centrally located public park. The existing one has not been developed and is currently being used by open-air clothes dealers. Acquisition of more land will provide more recreational land especially along river valleys.

There is enough land within the next 20 years for administrative purposes given that high rise developments can be provided. However although the town has now adequate health facilities, in future the new health

centre might need 5 more hectares to be able to provide more facilities e.g. a bigger mortuary and more staff houses. The town has no social hall and there is need to provide one.

The government has acquired a new site on the north western side of the town for the location of the new storage tanks for the water Augmentation project. From here water will flow by gravity to add on to the existing supply network. Even the small amount of land adjacent to the water supply station and the storage tanks should be left vacant for any possible expansion of the said use. The land, especially that one on the southern side of the water supply station which is zoned residential is not suitable for the latter use. It has no access to the site. It is therefore proposed to relocate the housing sites on Ragati Village and to leave the current sites vacant for any necessary expansion of the water supply station in future.

The long and short term land/uses includes proposal /use plans shown below includes proposals and the existing facilities and services.

#### 5.2.7 EMPLOYMENT:

The table below shows projections of the wage and self - employment up to the year 2000 AD. It has been assumed that the percentages of people employed in the various sectors will be constant. This includes the total proportion of the employees to the total population of the town. Thus in 1976 1,488 people out

of a total population of 2,771 people were employed.  
This formed 53.7 % of the total

PROJECTIONS OF WAGE & SELF-EMPLOYMENT, 1976-2000AD

| SECTOR   | 1976  | %     | 1980  | 1990  | 2000  |
|--|-------|-------|-------|-------|-------|
| 1. Agriculture & Forestry                                    | 276   | 18.5  | 294   | 356   | 428   |
| 2. Mining & Quarrying  |       |       |       |       |       |
| 3. Manufacturing   | 180   | 12.1  | 192   | 233   | 280   |
| 4. Electricity & Water                                       | 70    | 4.7   | 75    | 91    | 109   |
| 5. Costruction   | 130   | 8.7   | 138   | 168   | 201   |
| 6. Wholesale, Retail Res-<br>taurants & Hotels               | 420   | 28.2  | 448   | 543   | 653   |
| 7. Transport & Communications                                | 35    | 2.4   | 38    | 46    | 56    |
| 8. Finance, Insurance, Real<br>Estate & Business<br>Services | 43    | 2.9   | 46    | 56    | 67    |
| 9. Community, Social &<br>Personal Services                  | 385   | 22.5  | 358   | 433   | 521   |
| Total Employment   | 1,448 | 100.0 | 1,590 | 1,926 | 2,316 |
| Total Population   | 2,771 | 53.7  | 2,961 | 3,587 | 4,312 |

The table indicates that the employment sections will have to grow fast enough to be able to absorb over 2,000 people by the year 2000 AD. However it is important to note that the absorption capacity of certain sectors such as the Public sector is limited especially given that Karatina is only a Divisional Headquarter. It is therefore necessary to redistribute employment to those sectors with more expansion and employment potential. These include the commercial and the industrial sectors. Agriculture & Forestry is another limited employment absorption sector as past trends indicate. However this situation might change if rural land is acquired, thus bringing coffee farms and subsistence farms within the town boundary.

ADJUSTED PROJECTIONS OF WAGE & SELF-EMPLOYMENT

| SECTOR   | 1976  | %     | 1980  | 1990  | 2000  |
|--|-------|-------|-------|-------|-------|
| Agriculture & Forestry                                 | 276   | 18.5  | 294   | 200   | 300   |
| Mining & Quarrying                                     |       |       |       |       |       |
| Manufacturing  | 180   | 12.1  | 192   | 243   | 415   |
| Electricity & Water                                    | 70    | 4.7   | 75    | 91    | 109   |
| Costruction  | 130   | 8.7   | 138   | 168   | 201   |
| Wholesale, Retail, Res-<br>taurants & Hotels           | 420   | 28.2  | 448   | 654   | 789   |
| Transport & Communications                             | 35    | 2.4   | 38    | 46    | 56    |
| Finance, Insurance, Real<br>Estate & Business Services | 43    | 2.9   | 46    | 56    | 67    |
| Community, Social & Personel<br>Services               | 335   | 22.5  | 358   | 368   | 378   |
| Total Employment                                       | 1,488 | 100.0 | 1,590 | 1,926 | 2,315 |
| Total Population                                       | 2,771 | 53.7  | 2,961 | 2,961 | 4,312 |

In the adjustment of the employment figures, it was found reasonable not to adjust the 1980 figures partly because of the Presidential Directove on a 10 % increase in employment in every firm and partly because of the coffee and tea booms of 1977 and 1978 which greatly influenced the economy of the town.

### 5.3. MODELS OF GROWTH

#### 5.3.1. THE ROLE OF MODELS IN PLANNING

A model is a representation of reality. It is usually a simplified and generalised statement of what seems to be the most important characteristics of a real world situation.

The value of models lies in the fact that they help us to understand the possible future behaviour or trend of a system in a situation where it is not possible (because of technical, economic, political or moral reasons), to experiment with a real world situation. Planners use Abstract Models, (using symbols), while Architects use Physical Models (scaled down replicas).

Models of growth of a town indicate the various possible directions of growth and development of a town given various thresholds to its physical development. These constraints include those resulting from the topography of the area, infrastructure and facilities, land tenure systems, etc.

After a careful consideration of these factors, three growth models have been suggested for Karatina town.

#### 5.3.2. LINEAR GROWTH MODEL

This will involve growth both towards the north and south of the town following the railway line. This means embracing both the Ragati and the Karindundu

sattelite villages which border the town both on the north and the south respectively. The Linear Model figure below shows the roads proposed for this kind of growth, the facilities available in the villages and the land use proposals.

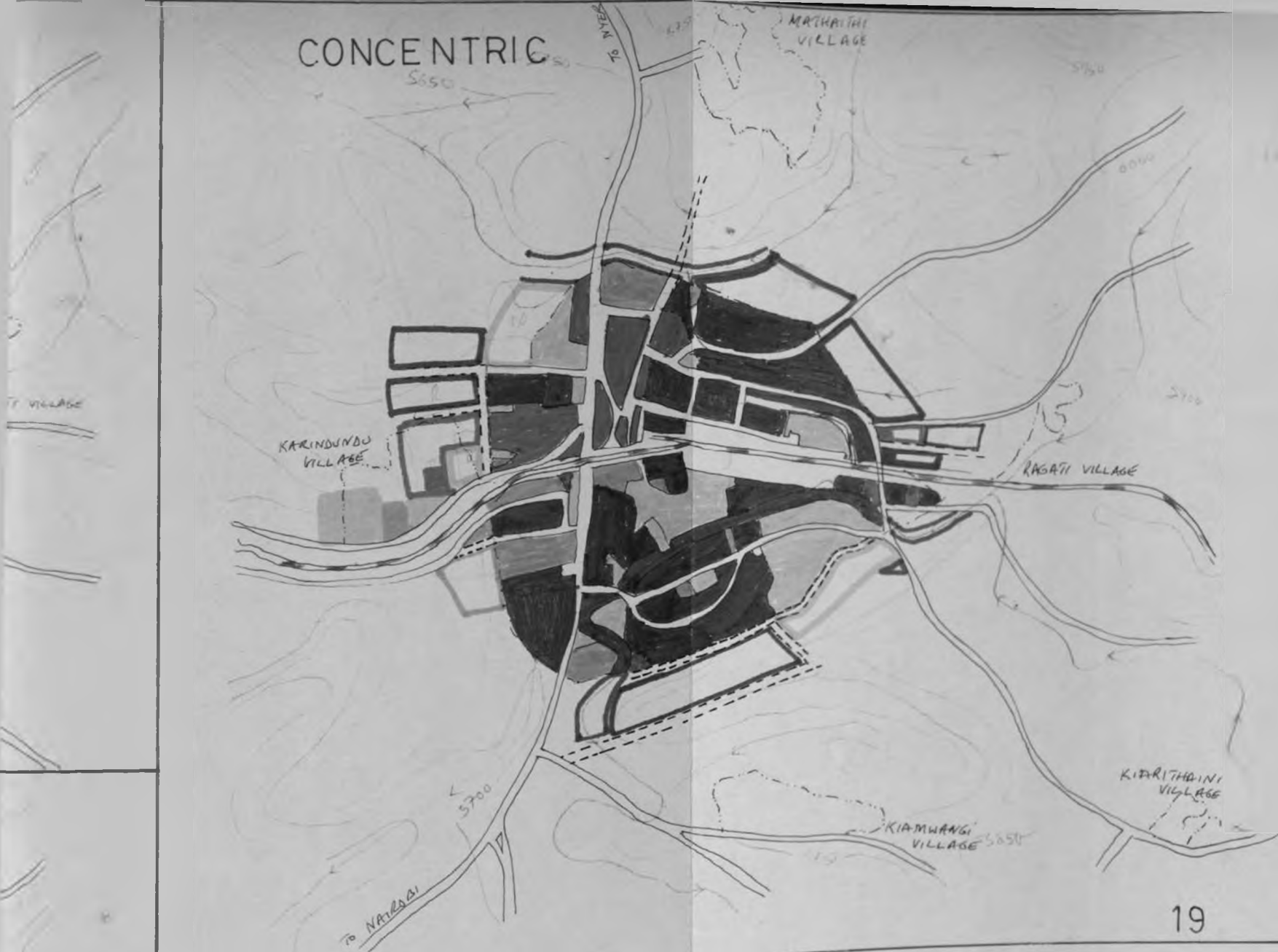
### 5.3.3 STAR-SHAPED GROWTH MODEL

This involves growth as suggested in the Linear Model as well as growth along the Nairobi Addis Ababa Highway. The road network proposed for this model, including some of those proposed for the Linear growth, and facilities available, are shown on the relevant figure below. However, due to the facilities available in the bordering villages of Ragati and Karindundu, as well as the ownership of the land involved, much of the growth for this model will be towards the north and south of the town. However the growth of the town might in the long run encompass the Mathaithi and the Kiamwangi villages (also sattelite villages of the town).

### 5.3.4 CONCENTRIC GROWTH MODEL

This growth pattern will be concentric in general and will involve growth in all directions. However, growth might be biased towards the north and south in the short run due to the land tenure system involved and the facilities already existing at the Ragati and Karindundu villages. The model provides a by-pass to Ragati village from the road that goes towards Kiamwangi.






# CONCENTRIC



## GROWTH

## MODELS

### LEGEND

-  RESIDENTIAL
-  INDUSTRIAL
-  EDUCATIONAL
-  RECREATIONAL
- 

-  PROPOSALS



Ragati village might in future grow into an important industrial centre. Thus traffic from the direction of Nairobi might find it easier in future to use the by-pass when travelling towards the towns industrial area. This might ease traffic congestion in the town centre. Access to the industrial area from the direction of Nyeri is easier but the access road passes near to main commercial area. A more direct access by-passing the main commercial area might be necessary in the long run.

#### 5.3.5. EVALUATION OF THE MODELS

The models show land use proposals for the short term period only (1980-1990). Thus they indicate the short term land use proposals under each of the three alternative growth models. The models involve the same amount of land and take into account the existing facilities outside the town boundary. The physical planning of villages outside town councils is done by the County Council's planners. They occupy trust land. The growth of the satellites is limited by the influence of Karatina market on the economy of the area.

The Linear growth model covers the trust land in the two villages and some freehold land. The star-shaped growth model however, covers the linear model and in addition it involves growth along the Addis Ababa Highway. This latter involves freehold land. The concentric growth model covers the Linear and the Star-Shaped Models, and therefore involves growth in

all directions but with a biased growth towards north and south. However, the Linear Model seems to provide only a short term solution to the land shortage. It also distorts the compact nature of the town's plan. Linear growth is not economical in terms of provision of services. The Star Shaped Model of growth encourages growth along the railway line and the Addis Highway. However, growth towards the east and west along the Highway is limited by the topography of the area. However, though growth in these directions could involve residential land use, which adapts well to the topography, it might however mean locating workers far from the places of employment. The town is small but it is growing.

The linear growth model may be the cheapest in terms of land purchase for town extension. The concentric growth model may be the most expensive. However, it is the preferred model after a careful consideration of the following factors: viz. Long term land requirements, economy in the provision of services and the existing services, the need to preserve the compactness of the town, and the topography of the area.

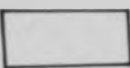








#### 5.3.6. LONG AND SHORT TERM LAND USE PLANS

These are developed from the concentric growth model. The short term land use plan cover the period between 1980 and 1990, while the long term land use plan

# SHORT TERM DEVELOPMENT PLAN



## LEGEND

-  PROPOSALS
-  RESIDENTIAL
-  INDUSTRIAL
-  EDUCATIONAL
-  RECREATIONAL
-  PUBLIC PURPOSE
-  COMMERCIAL
-  PUBLIC UTILITIES
-  TRANSPORTATION

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MATHAITHI VILLAGE

RAGATI VILLAGE



# LONG TERM DEVELOPMENT PLAN



## LEGEND



PROPOSALS



RESIDENTIAL



INDUSTRIAL



EDUCATIONAL



RECREATIONAL



PUBLIC PURPOSE



COMMERCIAL



PUBLIC UTILITIES



TRANSPORTATION

#### 5.4 CONCLUSION:

Availability of more land will help solve some of the problems identified. For example, Land shortage, shortage of housing, shortage of finance and inadequate employment opportunities. Thus more land will be available to provide housing for the various income groups; more revenue might be secured from poll tax due to the increase of residents, cess from the coffee farms that will be included within the town, and increase in revenue from rates and especially if capital value rating system is adopted and collection and enforcement machinery improved, while those industrialists who could not get land to establish industries, as shown in the Appendix, will get land and hence help to provide employment opportunities.

However, availability of more land does not necessarily solve the problems. In all cases finances will have to be made available in one way or the other, e.g. to service the land, to provide housing and finance the industries. Moreover, if land is to be acquired, funds will have to be available to compensate the freehold owners of the affected land. There will be a time lag before the land is finally made ready for development by allottees. Some of the allottees will be able, either using their own capital or loans, to develop their plots within stipulated time while others will not. Although much more is involved to solve these problems, the above factors help to illustrate the complex nature of the problems

and their solutions.

Land use projections for a small town like Karantina is difficult due to lack of adequate data. For example, the industrial sector is small in terms of employment figures and the type of industries involved. The plot sizes for the various industries differ and most of the sites are not developed. More over, some of the land zoned industrial is now being occupied by commercial uses. It is therefore difficult to project industrial land use using employment figures, i.e., applying number of people per hectare to the total employment in industries. Projection of commercial land use faces more or less the same problems. Here, the intensity of use of space does not only depend on the urban population, but also depends on the total population and commercial activities in the catchment area. Besides, the previous records of the annual increase of commercial floor spaces are not available nor are the existing floor space figures available. The Projection of residential land use also faces certain problems. The population figures in the various income groups are obtained by applying the percentages shown to the total population of people employed in the years 1980, 1990 and 2000 AD. The total are got by applying a total employment percentage of over 53% to the total population. The household size of 4 has been used to calculate the household, from which land needed to accomodate the housing units for the various income groups has been calculated.

However, it is important to note that some of those enumerated as forming part of the employees would not actually be included in the census counting because they do not reside in the town. Population projections are based on the census figures from the last census. On the other hand, a household size of 4 may not be representative of the average household size, given that some of the residents are unmarried while some of the married ones send their families to live in the rural areas.

Weak points could also be found in the other estimates and projections. However, what this indicates is the fact the proposals and projections are not meant to be the exact figures. They are just indications of the trend that might obtain and can only be used as a guide to detailed and more exact calculations of land requirements and the design of the same. Thus subdivisions can only be done according to established demand and ability of the urban economy.

The population projections as indicated above may not hold in the future. The establishment of an Industrial Promotion Centre by the Kenya Industrial Estates might affect the population of the town. Thus given that no more land is acquired and developed after the centre is completed and occupied, the current town density of about 18 people per hectare might rise. Given the existing hectarage and the current urban population growth of the town, the density will still rise to about 27 people per hectare



by the year 2000 AD. The effect of the population growth will be to aggravated the problems identified where no corrective measures are taken over the period.

However if more land is to be made available the following issues will need to be resolved. If land is to be compusorily acquired, compensation will be paid to the people affected. This could be avoided by acquiring only the Ragati and Karindundu villages which are trust lands. However it is submitted that this is only a temporary solution to shortage of land for urban development. In the meantime land prices will be rising and it will be even more **expensive** to acquire land in future. Where land is compulsorily acquired the question of providing alternative land to the displaced families might also need consideration. It might therefore be necessary to consider the following proposals and probably choose one or a combination of one or two or all of them to resolve the issue.

The land acquired could be zoned and subdivided and then the displaced families given one or two plots as part of payment for the land acquired, and then given the balance in cash so that they can develop the plot. The families would also have the option of buying land elsewhere given the amount of money available either from the compensation, savings or loans. Alternatively the local authority could have a new boundary (encompassing the required extension) gazetted and then the land zoned and subdivided without acquiring it. The freehold owners could then be

allowed to sell the land in the open market or to develop it according to the plans. The developers would have to obtain permission to develop the land. This alternative has been applied in Kiambu town and it is working well. The local authority could put a condition that it should be given the first chance of refusal wherever any person wants to sell land within and without the gazetted boundary. Thus if the local authority has money it could eventually acquire all, or most of the land and later lease it. This would probably ease the administration of the land. Still another alternative might be to acquire the freehold land and either settle the displaced families elsewhere, (this might require further acquisition and a situation where one acquisition only leads to further acquisition should be avoided), or ignore their resettlement and just pay them compensation, and then either sell the plots or lease them, or combine both selling and leasing. The advantages of selling and leasing will be discussed under "Urban Land Policy".

The first alternative appears the best of the three because there will be public participation and the people's attachment to the land will not be endangered. The cash payment will provide capital for development and will ensure plan implementation and the plots could be given under a lease. These three alternatives adopt the concentric growth model. Enough land should be acquired with a provision for a

reserve or land bank. However, there should be a balance between urban and agricultural land.

The latter underlines the need to encourage high rise buildings especially in commercial and residential land uses. This would help to use land more economically and would help to conserve land, especially given the high rural densities, lack of alternative land for settlement, and the high land values.



## CHAPTER 6

### URBAN LAND POLICY

#### 6.1. INTRODUCTION

It is not intended, nor is it possible in a small section like this, to cover the whole spectrum of the urban land policy in Kenya. In fact Professor Yahya has written a Doctor of Philosophy thesis on this topic. Thus it is only intended to touch briefly on some of those issues that have a bearing on the task at hand. It is expected that the issues discussed will especially be relevant to any land that may in future be acquired for town expansion. Unlike in case of the other problems discussed elsewhere, the discussion on the problem of shortage of land as discussed here, does not involve an analysis of the problem in Karatina town involving various forms of land tenure. This is because the last land acquisition for town expansion was done in 1958 and all land is in public hands. Most towns, especially those recently upgraded into municipalities, have large shunks of agricultural land under freehold ownership. It is therefore difficult to prepare effective comprehensive plans for these privately owned lands unless the owners agree, or such land is compulsorily acquired. Fortunately with the formation of the new Ministry of Local Government and Urban Development, the Minister responsible for the portfolio has power to prepare and approve all

4. To prevent concentration of land ownership in a few private hands and safeguard specially the interest of the poor and underprivileged sections of urban society. Such a policy should in addition contain measures aimed at curbing speculation and containing land prices.

To achieve such objectives, the following instruments can be used.

#### 6.2. LAND ACQUISITION

Land acquisition, as noted in the introduction is provided for by various legislations and especially the Kenya Constitution and the Land Acquisition Act, 1968. The objectives of compulsory purchase or acquisition of land are to make land available for public purposes and the creation and maintenance of a land bank. The objectives of creating a land bank or reserve on the other hand include: provision of cheap land available when needed; to control land prices, and to control the supply of land for housing and other developments.

Unfortunately land acquisition and the creation of land reserves faces many problems. These include lack of public participation, assessment of the compensation to be paid, the taking and possession of the land, resettlement of the displaced families, lack of adequate finance for the compensation, estimating the land to be reserved, time and conditions of the disposal of the land and keeping away unauthorised occupiers from the vacant land

i.e. squatters.

Land acquisition is a very expensive process both economically and socially. This is especially so in view of the fact that most of rural Kenya is densely populated. This has forced prices of land to rise tremendously. This situation is worsened by the social stigma attached to land ownership, and the lingering resistance of various tribes, and even sections of certain tribes, to allow members of other tribes, or from other sections of the country (e.g. Nyeri and Kiambu Kikuyus), to own land in their areas. The importance attached to land ownership is such that people resist government efforts to acquire land for public purposes e.g. when the government was acquiring the land for the Karatina sewerage works outside the town boundary. People in the surrounding rural areas will certainly insist on resettlement elsewhere instead of monetary compensation given that there is no land in the land market and, if there is, the money will end up buying less land. Lack of alternative land for resettlement could partly explain why there has not been any recent acquisition given the need for more urban land for development.

Unfortunately people were alienated because some unscrupulous local leaders, during the last acquisition due to the illiterate nature of most families then ended up cheating and being compensated for land they never owned. In the subsequent allocation of the land after

zoning and subdivision the same unscrupulous people ended up cheating again and getting more than one plot by using different names. The previous owners should have been given priority. Speculation is largely caused by people who are allocated more than one plot either in one or different centres because they leave land undeveloped to sell when prices rise. And prices are rising rapidly in urban centres in Kenya due to the high rural-urban migration, especially in the big and medium size centres.

Shortage of finance by local authorities could largely explain the reluctance to acquire land for further expansion. For if adequate funds were available, perhaps it would be better to zone rural land required for expansion, and then provide that owners should give the local authorities preference in any land sales, while allowing those of the private owners with funds to develop their land according to the zoning regulations. This alternative might be more popular with the public than the wholesale acquisition. Private owners and agencies could be made to contribute more to the serving of the land.

Availability of suitable land could go along way to solving the squatter colonies in most urban centres in Kenya (i.e. the Majengo's). Professor Yahya's idea of Selective Development Control could be adopted for the development control of urban land and would be especially



relevant to solve the squatter problem. This means that varying degrees of control are applied to various land uses depending on their nature and implications to the planning machinery.

### 6.3. LAND DEVELOPMENT

Land development in the technical sense means the servicing of land or preparing land before use. Thus it may consist of survey and preparation of sites, roads and streets, water supply, sewerage and storm water drainage, electricity distribution and street lighting, and landscaping. For providing these services, local authorities levy rates from the owners whose land benefits from them. These levies are provided for in the Local Government Regulations, the Rating Act and the Valuation For Rating Act.

When used in the general sense, land development implies not the installation of infrastructure, but building structures (superstructure). Land development in both sense is mostly done by private contractors through tendering. This ranges from major government projects which might need foreign private expertise, to the lowest level where individuals employ local craftsmen when building simple structures, e.g. a shop or a residential house in areas where services either exist or are non-existent. However in certain cases the government and its parastatals, is able to undertake land development without soliciting private agencies.

Development using private agencies has the advantage of relieving the government and its agencies of a lot of work, especially in situations where there are inadequate trained personnel, and benefiting from the expertise and trained personnel already available within the private sector. The land development process becomes faster and easier.

#### 6.4. LAND DISPOSAL

Land disposal is usually done after acquisition and development (including subdivision). Land disposal can be done either by selling or leasing. Selling has the advantage of immediate recoupment of capital. Various forms of payment could be adopted including lumpsum payment, a payment in instalments, which includes the principal and interest. To the allottee, outright sale provides the security necessary and is not far removed from the existing rural land ownership. It provides security of tenure and an incentive to develop the land and would probably be more appropriate to residential land.

Urbanland disposal through leases has become a popular system in Kenya. Freehold ownership on the other hand, has become a common feature of rural land ownership, and is adequate (though it has several flaws), covered by the various Acts of Parliament especially the

Registered Lands Act Chapter 300 and the Land Control Act of 1967. Leases for residential development are normally given for a period of 33 to 66 years, while those for commercial and industrial users are issued for 99 years. An advantage in disposal through leases is the ease of development control because leases are subject to various conditions as to the type of development, standards of development, period within which to complete developments, and especially the term of the lease. After the expiry of the lease term, land and buildings revert back to the government but the Commissioner of Land or the Minister can renew the lease. Thus change of user through zoning can be effected easily after the expiry of leases. Where this is aimed at in future, leases can be given for a uniform term so that they expire together.

Leases also provide a continuous source of revenue in form of the ground rent after the initial premium and in terms of the rates charged for the various services.

However leases are not considered as secure as freehold titles, although for valuation purposes any lease with a running term of over 45 years is as good as freehold title. Thus value of a leasehold property varies with the term of the lease. The advantage of the leasehold system in terms of development control are offset by lack of adequate inspectorate and enforcement machinery, given that breach of lease

conditions makes the lease void. This also partly explains the existence of undeveloped land in many urban centres although free land for development is scarce.

However a better policy would be a combination of selling and leasing to ensure flexibility in land disposal, but with more emphasis on leasehold system. The public authority should not incur any loss during the disposal, and should perhaps make a reasonable profit. Thus disposal prices should be equal to or less than the market value of each plot of land considering the locational and land use aspects and catering for the underprivileged groups.

#### 6.5. LAND TAXATION

The objectives of land taxation are to raise local authority revenues and to control price levels of land. The main tax on land is the rates. Rating is covered by the Rating Act and the Valuation for Rating Act. Rating can also be used to curb speculation and to boost development of land and implement land use planning.

The principles used for rating taxation are the same as the general principles of taxation. Thus rating system should be equitable. It should be efficient and accurate and capable of being checked and effectively challengeable. It should provide a stable source of revenue and be able to sustain itself,

by being able to pay for the administrative machinery used. The services provided should benefit all members of the public either directly or indirectly.

Three types of rates are provided for by the Kenya Act, viz; Area Rate, Unimproved Site Value Rate, and Unimproved Site Value and Improvement Rate. Local authorities in Kenya use the Unimproved Site Value Rating. They are allowed to make and maintain Valuation Rolls and the valuer preparing the Rolls is allowed to use any appropriate method of valuation. Unimproved site value taxes land only and exempts any improvements or buildings on the land. It therefore makes it uneconomical to leave land undeveloped and thus boosts land development. Unfortunately Valuation Rolls are prepared (or land revalued) every 5 years although supplementary Valuation Rolls are allowed in between. Because of shortage of skilled manpower (valuers) it is not possible to revalue land after every 5 years. Nairobi, which is reputed to have its own manpower, is still using the 1971 Valuation Roll in 1980. Other local authorities depend on the government valuers who are grossly inadequate and are therefore far more worse of than Nairobi and Mombasa. However land values keep on rising every year and therefore the rolls are grossly outdated by the end of the 5 year period. Thus revenue from the land is less than what it should be if the Rolls were up-to-date. Moreover the definition of the unimproved site value is inadequate and does not

explain what site value is. U.S.V. means value of land bare of improvements, i.e. value as determined by nature. However site value reflects some value for a specific use - from a valuation point of view - depending on the availability of services, e.g. water, schools, hospitals etc. The supply and demand for land, especially due to population influx into towns, also influence land values.

Unimproved Site Value Rating is not equitable because land which is developed to the best optimum use bears a lower tax burden than land not so developed. Land may not be so developed because of several factors, e.g. lack of loans, technical novice, or because the owner is awaiting for the right time to invest, depending on the observed characteristics of the market.

However the existence of many vacant but allocated plots in most towns perhaps indicates the failure of U.S.V. to boost development. As a source of revenue it may be considered also a failure since most local authorities suffer from shortage of finance. U.S.V. faces another problem in that virgin land for comparison in site valuation is scarce and there is a shortage of data for the valuation.

To expand the tax base and ensure flexibility and more efficient control, it is appropriate to adopt the Capital Value Rating instead of U.S.V. This method taxes both land and buildings/improvements. The two are taxed separately and it is therefore possible to tax

land more heavily without discouraging development. Where the land has not been developed it will still be taxed and improvements will only be taxed where they exist. Annual Value Rating is based on rents accruing from property and does not tax land which is not developed, or land which is not earning an annual income, e.g. a residential or commercial property which has no tenants. Rental Value Rating is however based on potential rental when land is developed to the best optimum use and is not based on existing improvements.

Other taxes on landed property include: the capital gains tax, Death Duty, Stamp Duty etc. Capital Gains Tax taxes the windfall gains accruing from sale of property. Its objective is to curb speculation, inflation, and to raise revenues, and is based on the fact that part of the value of the property is not due to any tangible factors like improvements on it, and is therefore unearned. The public which could have contributed to the unearned value should therefore share the benefits. Stamp Duty is charged on transfer of property, while Death Duty is charged on property changing hands after the death of its previous owner.

#### 6.6. REGULATORY DEVICES

These include zoning, subdivision, official mapping, bye-laws, building code, planning regulations, etc.

Zoning is the physical division of an urban

community into districts (zones or areas) for the purpose of regulating the use of land and buildings, height and bulk of buildings, plot-coverage and density of population. It gives a district character, function, and intensity of development to each part or section of the urban area. Zoning therefore differs from building by-laws, subdivision regulations, sanitary codes, and land use controls which in general apply uniformly to all lands or buildings of similar use and character, wherever they may be located in the urban community. Zoning also deals with aesthetics. The main objective of zoning is to direct and regulate development or redevelopment of a town in appropriate directions and ensure proper uses of land and buildings with a view to creating a healthy, efficient, and stimulating living environment. Professor Yahya observes that zoning should seek not only to control use and density, but also to establish the measure or degree of control and therefore each zone should be further subdivided into smaller areas according to the degree of control necessary. He suggests the use of a selective development control based on the type of use.

Subdivision controls embrace space standards, servicing standards and densities and are provided for by the Land Planning Act, 1968, Building By-laws, Registered Lands Act Cap 300 (s.89) and the Street Adoption Act. Subdivision applications therefore, for both rural and urban, are sent to the various authorities e.g. local authorities, Land Control Board and the



Commissioner of Lands or Minister for Local Government.

Building control is done through the Building Code (Byelaw) which contains Grade I (provides for permanent structures) and Grade II byelaws which provides for temporary structures or other buildings. Building controls aim at ensuring a healthy environment, safety, preventing fire hazards and establishing space standards.

Official mapping and planning regulations could be considered as part of zoning and are the devices used for effecting the zoning practice.

Development control in Kenya is done by the Physical Planning Department and the instruments for effecting the control include: planning and plan-implementation, legal statutes, liaison meetings, development committees, and leases and conditions for user. The purpose of development control is: to harmonise various land uses in order to secure convenience, the best possible advantage and economy in the use of land. A development control authority in pursuit of this objective can therefore discontinue use, impose development conditions, alter or remove any development that does not conform or constitute proper and orderly development. Prior to the formation of the new Ministry of Local Government and Urban Development, which has incorporated the Physical Planning Department, the latter's plans were in some cases ignored by local authorities because enforcement of implementation was difficult. The Department might now be more effective

and is expected that among the measures to ensure this will be: the adoption of town planning schemes (physical development plans) into the local authority by-laws, the establishment of inspectorate teams to monitor and supervise illegal developments, introduction of heavier and harsh penalties for those who breach the appropriate laws, and the cooperation among various development implementing agencies.

Section 38 of the Land Planning Act provides that consent is required for any development within, or 3 miles radius from a local authority, or 100 metres from the centre line of a classified road. However very few people apply for planning permission even within urban centres, let alone outside their boundaries. The main constraint here is the ignorance on the requirement, and lack of enforcement machinery or inspectorate to monitor developments, coming up within and without urban centres. In Karatina town, people do not submit building plans for approval before starting construction on the sites provided. This is especially so in the Site and Services Schemes although the National Housing Corporation has provided the necessary design guidelines. Others build on others plots while others uproot beacons on adjacent plots. Thus a monitoring inspectorate in towns will go along way to making planning and urban land policy more effective.

## CHAPTER 7

### SUMMARY AND CONCLUSION

In this chapter, an attempt has been made to summarise the study and to tie up the physical, social and economic sectors under which the case study has been studied. A final conclusion has also been attempted.

The physical base of the town has shown that the Karatina town has important and far reaching influences on its hinterland which extends far beyond the Division's boundaries. The historical growth of the town has demonstrated that, unlike most other towns in Kenya, Karatina's growth is not so much due to the colonial influence but due to its hinterland. However its central location in this hinterland could explain the low figure of permanent residents, although the proximity of Nyeri town, and the few employment opportunities in the town itself could be other contributory factors.

As in some other towns in Kenya, the problem of shortage of land for further development exists side by side with vacant land - land that has not been developed by their allottees. Unfortunately, most of the vacant land involve the most important sectors and which could help solve housing shortage and increase employment opportunities. These undeveloped plots are in residential, commercial and industrial areas. Solutions to the issues involved here have been suggested under

Urban Land Policy in chapter 6.

Sewerage in the town is keeping pace with the town's development and Phase IV of the Sewerage Scheme is planned. Fortunately, the Ministry of Water Development is augmenting the water supply grid - thus removing a constraint to the development especially of high rise buildings. However, there will be need to monitor the town's pace of development and to plan further into the future than the current project has done. The project should have been designed to meet water demand beyond 1987 and, preferably up to the year 2000 AD. The local authority is doing a commendable job in providing other services such as tarmaced roads and garbage collection. More and better services could be provided if more funds were made available from Central Government and especially local sources.

There is need for a re-organisation of local authorities with a view to making them more efficient. A major constraint in this field is shortage of skilled manpower. The few personnel that exist are forced to be 'jacks-of-all trades." This does not augur well for effective, efficient and speedy execution of services to the public. In addition to training technical manpower for local authorities, a system of secondment of government officers and officers from other agencies, should be adopted by the government. Local authorities should be so structured as to ensure minimum duplication

of duties, optimum co-ordination and effective public participation in the decision-making process. Various studies have been conducted on Kenyan local authority structure and several recommendations made. However, none of these has been implemented. These include the Ndegwa Commission and various Local Government Commissions, as well as the Association of Local Governments Authorities of Kenya.

Karatina's economic base depends mainly on the commercial sector which employs the largest number of people. The town's open air market is perhaps the biggest in Kenya, and plays a very important role in the town's economy. It provides the highest source of revenue for the town while the people it attracts to the town help to promote commercial activities in the town. Several of the other towns of Kenya and especially the small urban centres have open air markets which greatly help to sustain their economies. It is therefore necessary to undertake studies to establish the exact role of these markets, with a view to promoting them and deciding what importance, if any, should be given to them in designating centres into either growth or service centres. There is probably a very strong case for considering them in the designation criteria. The informal sector which is closely related to the commercial activities, should be given the same treatment as the open air markets. It has great potential in

providing self-employment and therefore helping to reduce unemployment and rural-urban migration especially in big towns such as Nairobi and Mombasa.

It has been mentioned elsewhere that an industrial promotion centre is being started at Karatina. The possible effects of such a venture include: increase of industrial activities in the town related directly or indirectly to the centre; increase in employment opportunities and improvement of the income structure of the local people; increase in local entrepreneurship, etc. This underlines the need to strengthen the Industrial and Commercial Development Corporation (I.C.D.C.) and hence its subsidiary, the Kenya Industrial Estates, Limited (K.I.E.) Other agencies, including multinational organisations should be assisted and encouraged to channel their resources to the rural areas. The ICDC should establish more rural Industrial Development Centres (R.I.D.C.)

Land, a traditionally sensitive issue in Kenya, was complicated by the colonial administration. Many families lost their farms during the colonial land alienation and more lost their pieces by engaging in the freedom struggle. The great attachment to the land, makes land acquisition difficult. Land and every other property is jealously guarded by the Kenya Constitution and other relevant legislations. However, land acquisition takes long to effect (over 2 years) and

land values rise in the process. Speculation also sets in to raise land values and gains. This, coupled with rising costs of labour and materials, raises the costs of servicing the land after acquisition. Thus the low income workers cannot afford the housing units provided on such land. The building standards are also another constraint because they are very demanding on standards of accommodation. The lending terms in the money market are also not within reach of low income people whose conditions are made worse by extended families. It is these factors that have made housing in site and service schemes, started to meet low income housing demands, also out of reach to most low income workers. The strategies for alleviating the housing situation in Kenya could include, in addition to site and service schemes, provision of: site only; aided self-help and cooperative housing; extending loan periods and laxity in security demands: relaxing planning, building, and health requirements/regulations; use of local resources and materials, freezing land values and shortening of the land acquisition process; more private participation in housing, including encouraging more agencies to participate in housing, etc.

However, the appropriate land policy for an area should be based on local resources and conditions. For planning purposes physical characteristics of a site should be seen not as constraints, where the terrain is

rugged, but as challenges which should be used to promote the aesthetic nature of the area. However, the issues and alternatives discussed in chapter 6, should be considered carefully.

The study has established the inter-relationship between the various broad areas under consideration. The historical background provides the origins and growth of the town. Land is however the basic resource which provides sustenance to the people and provides space for location of the various structures necessary for community development. The study of the organisation of this space, and that of the human activities on the land and buildings, as well as the rules and regulations governing their conduct, location and construction of the structures, is necessary. The formulation of efficient and appropriate policies and strategies to guide these activities is also necessary.

The study has established that, among the problems discussed in the introduction, those that exist in Karatina (summarised in chapter 5) include mainly land shortage and land use conflicts; housing shortage and substandard housing; lack of proper access and inefficient road network; poor and inadequate garbage collection; low quality secondary education; lack of recreational facilities; inadequate employment opportunities; and shortage of finance. These are basic issues which touch on planning, implementation and management of



physical development. It is hereby submitted that these problems have greatly affected the efficiency of the Karatina Town Council in "delivering the goods" to the people, and that they need urgent attention based on the solutions and strategies suggested above. Such problems, and probably others, also exist in similar centres, and in higher level centres, in varying degrees of magnitude and intensity, and their solution is necessary before efficiency can be ensured. It is heartening to note that the Physical Planning Department has now been embraced by the now bigger Ministry of Local Government and Urban Development and it is hoped that its physical plans, which were hitherto ignored by local authorities, will now be taken more seriously and that their implementation will be easier and more effective. Monitoring and feedback will be ensured through a policing inspectorate. J.M. Ohas, in Safier, M, notes that development in urban centres in the country has not been satisfactory because of the weaknesses and ineffectiveness of the day-to-day administrative procedures and decisions made to implement plans. He attributes this to shortage of finance and personnel. However, it is expected that local governments will now be strengthened.

BIBLIOGRAPHY

1. Abrams, C.            Man's Struggle for Shelter in  
an Urbanizing World.  
The M.I.T. Press, England.
2. Brownwood, D.O.    Limitation on the Exercise of  
1968.                    Power by Local Government  
                             Authorities in Kenya.
3. Chapin, F.S.Jr.    Urban Land Use Planning  
University of Illinois Press  
Urbana, Chicago, London.
4. Chege, O.J.N.      Land Constraint to Urban  
Development, Nyeri Town  
Unpublished M.A. Thesis.  
University of Nairobi.
5. Cherry, G.E.        Urban Planning Problems.  
(Ed.)                    Leonard Hill Books, London.
6. De Chiara, J.      Planning Design Criteria  
1969.                    Van Nostrand Reinhold Company  
New York, Toronto, London,  
Melbourne.
7. Diejomoah, V.P.    Financing Local Government  
1970.                    Authorities in Kenya. Institute  
of Development Studies, University  
of Nairobi.
8. Ford Foundation    Urbanization in Kenya.  
1974.
9. Heyden, G.         Local Government Reform in Kenya.  
et al (Ed.)             East African Journal,  
1970.                    Volume 7. No.4.

10. Hulton (Ed.) Urban Challenge in East Africa.
11. Jakobson, L. Urbanization and National  
Prakash, V.(Ed.) Development. Volume 1 South  
and South East Asia Urban  
Affairs Annuals.
12. Kenya Republic. Development Plan 1979/83  
Government Printer, Nairobi.
13. \_\_\_\_\_ . Population Census, 1969.  
Central Bureau of Statistics,  
Nairobi.
14. \_\_\_\_\_ . Town Planning Handbook, 1971.  
Physical Planning Department,  
Nairobi.
15. \_\_\_\_\_ . Local Government Regulations, 1963.  
Kenya Institute of Administration,  
Kabete. Government Printer, Nairobi.
16. \_\_\_\_\_ . 1966 Proposal for Local Government  
Change in Kenya. Institute of  
Development Studies. D.P.No.31,  
University of Nairobi.
17. \_\_\_\_\_ . Land Acquisition Act Chapter 295  
of Laws of Kenya. Government  
Printer, Nairobi.
18. \_\_\_\_\_ . The Planning Act (Draft) 1974.  
Government Printer, Nairobi.
19. \_\_\_\_\_ . Human Settlements in Kenya. A  
Strategy for Urban and Rural  
Development. Physical Planning  
Department, Nairobi.

20. Kenya Republic. Central Province: Regional Physical Development Plan, October 1973. Physical Planning Department, Government Printer, Nairobi.
21. \_\_\_\_\_ . Nyeri District Development Plan 1974-78. Physical Planning Department, Government Printer, Nairobi.
22. \_\_\_\_\_ . 1977 District Development Committee: Sectoral Paper on Basic Infrastructure and Local Government, Karatina Town Council.
23. \_\_\_\_\_ . Karatina Town Council: Annual Report, 1978.  
Nyeri District Annual Report, 1978.
24. Keeble, L. Principles and Practice of Town and Country Planning. The Estates Gazette, Limited. 28 Denmark Street, London WC2.  
1959.
25. Kinyua, P.M. Karatina Physical Development Plan 1973. Unpublished Diploma Thesis, University of Nairobi.
26. Lean, W. and Aspects of Land Economics. Goodal, B. The Estates Gazette, Limited, 151 Wardour Street, London.
27. Manaseh, J.M. Problems of Planning and (Mrs.) Management within Nairobi City Council. Unpublished M.A. Thesis, University of Nairobi.

28. Stren, R.E.            Local Government in Kenya:  
1969.                    The Limits of Development  
                             Planning. University of Toronto.
29. Yahya, S.S.           Land Policy in Kenya.  
1976.                    Unpublished Ph.D. Thesis.  
                             University of Nairobi.
30. Vagale, L.            Development Control: Its  
1970.                    Importance in Regulating Urban  
                             Growth. Technical College,  
                             Ibadan. Town Planning Department,  
                             Ibadan.

## APPENDIX I

APPLICATION FOR INDUSTRIAL PLOTS

| NO  | DATE     | DESCRIPTION  | EMPLOYMENT CAPACITY | AREA COVERAGE | COST OF VENTURE |
|-----|----------|--|---------------------|---------------|-----------------|
|     |          |  |                     | Acres         | Kshs.           |
| 1.  | 26/6/79  | Wakwa Gen. Traders Ltd-<br>Manufacturers'<br>Representatives. Dealers in:<br>All hardware goods (incl.<br>various spare parts, all<br>textile goods, all wood-<br>ware goods, jewellers, etc.<br>- importer and exporters. |                     | 0.96          | 200,000         |
| 2.  |          | Building Block Manufactu-<br>ring & Steel Structural Co.<br>Water consumption 20,000<br>lit/day 3000 blocks/day.   | 36                  |               |                 |
| 3.  |          | Biscuits Factory: Production<br>capacity 300,000-400,000<br>cartons per day  | 50                  |               |                 |
| 4.  |          | Holiday Bakeries. Financ-<br>ier I.C.D.C.  |                     | 1             |                 |
| 5.  | 29/9/78  | Industrial Plot  |                     | 1             |                 |
| 6.  | 26/9/78  | Industrial Plot  |                     |               |                 |
| 7.  | 23/12/75 | Sugar Cane Cruster   |                     |               |                 |
| 8.  |          | Mbuchi Salt Industry   |                     |               |                 |
| 9.  | 5/6/74   | Animal Feed Industry   |                     |               |                 |
| 10. | 23/2/69  | Mathira Pyrethrum Growers<br>Co-op. Society<br>Heavy Commercial Industiral   |                     |               |                 |
| 11. | 2/5/74   | Plot   |                     |               |                 |
| 12. | 29/4/74  | Manufacture of Wood-wool<br>Cement Slabs - Financier<br>- I.C.D.C.   |                     |               | 900,000         |
| 13. |          | Bakery Factory   |                     | 4             | 300,000         |
| 14. | 16/4/74  | Small Textile Industry   |                     |               |                 |
| 15. | 17/4/74  | Industrial Plot  |                     |               |                 |
| 16. | 2/9/74   | Metal Works Manufactures   |                     |               |                 |

APPLICATION FOR INDUSTRIAL PLOTS (CONT.)

| NO  | DATE     | DESCRIPTION   | EMPLOYMENT CAPACITY    | AREA COVERAGE | COST OF VENTURE |
|-----|----------|---|------------------------|---------------|-----------------|
|     |          |   |                        | Acres         | Kshs.           |
| 17. | 2/4/74   | Timber Mills Factory  |                        |               |                 |
| 18. | 24/3/74  | Timber Mills Factory  |                        |               |                 |
| 19. | 24/3/74  | Leather Works Factory   |                        |               |                 |
| 20. | 4/3/74   | Blankets & Edible Oils Industry                                       |                        |               |                 |
| 21. | 24/3/74  | Corrugated Iron Sheets Industry Financier-ICDC                        |                        |               | 2.5m.           |
| 22. | 26/3/74  | Humble Industry manufacturing Educational Toys                        |                        | 400X200       |                 |
| 23. | 27/3/74  | Agikuyu Utamaduni Production Industry                                 |                        | 400X200       |                 |
| 24. | 27/3/74  | Cattle Rood Packing & Griding<br>Cinema site                          |                        |               |                 |
| 25. | 18/9/78  | Commercial Plot Film Theatre  |                        |               |                 |
| 26. | 4/3/74   | Tyre Retreading: Financier - Firestone                                |                        | 3 Plot        |                 |
| 27. |          | Tourist Hotel - 50 beds preferably near River side for better scenery |                        |               |                 |
| 28. | 26/11/74 | Nyeri African Body Builders - Garage                                  |                        |               |                 |
| 29. |          | Starch Industry   | 300 excl. senior staff |               | £1 m.           |
| 30. | 28/12/73 | Motor Garage - Nyakiuma Motor Works                                   |                        |               | 37,000          |
| 31. | 23/12/73 | Carpentry Workshops   |                        |               |                 |

Source: Table compiled from "Industrial Applications File" -  
Karatina Town Council

REMARKS:

The above list of applications for Industry plots mostly represents a response for an advertisement for a few Industrial plots by the Karatina Town Council. Only a few applications were successful due to shortage of Land. The lists emphasises the urgency of need for extension of the town boundaries. All the land within the boundary has been zoned subdivided and allocated.

Of the above applicants the following were successful and hence were allocated plots:

1. 1 Cinema site - not started
2. Tyre Retreading Factory - already completed and due to start operating this year.
3. Mbichi Salt Factory - not started

NB.

Kenya Seed Company urgently needs land within the town boundary but there is no land. It has been forced to start negotiations with freehold owners outside the town boundaries. Most of the applicants sought sites for industries verbally and do not write or apply in written form.



## APPENDIX 2

SOURCE OF REVENUE

| SOURCES                | RECEIPTS (K£ 's) |               |               |               |
|------------------------|------------------|---------------|---------------|---------------|
|                        | 1975             | 1976          | 1977          | 1978          |
| Market fees            | 9,506            | 11,520        | 16,514        | 18,000        |
| Slaughter House fees   | 2,851            | 1,503         | 4,331         | 4,750         |
| Sewerage Charges       | -                | 167           | 2,251         | 4,662         |
| General Trade Licences | -                | 3,001         | 4,498         | 5,000         |
| Bus Stop fees          | 685              | 911           | 917           | 1,800         |
| House Rents            | 250              | 300           | 370           | 370           |
| Hawkers Licences       | -                | 420           | 719           | 1,150         |
| Plot Rates             | 5,308            | 6,738         | 8,263         | 6,250         |
| Plot Rents             | 6,729            | 5,447         | 5,749         | 6,500         |
| Stand Premia           | 5,788            | 1,252         | 736           | 4,250         |
| Poll Rates             | -                | 210           | 4,220         | 6,205         |
| <b>SUB TOTAL</b>       | <b>32,117</b>    | <b>31,469</b> | <b>48,468</b> | <b>58,957</b> |
| Others                 | 8,202            | 14,259        | 7,581         | 18,305        |
| <b>TOTAL</b>           | <b>40,319</b>    | <b>45,728</b> | <b>56,049</b> | <b>77,262</b> |

EXPENDITURE PATTERN

| CATEGORY                                     | PAYMENTS (K£ 's) |               |               |               |
|--|------------------|---------------|---------------|---------------|
|  | 1975             | 1976          | 1977          | 1978          |
| Salaries & Wages (excluding House Allowance) | 14,570           | 19,118        | 20,017        | 26,920        |
| Printing & Stationery                        | 1,390            | 2,945         | 2,939         | 3,550         |
| Loan Charges                                 | 1,764            | 12,160        | 14,622        | 22,824        |
| Water & Electricity                          | 427              | 1,197         | 2,125         | 2,450         |
| Vehicle Maintenance                          | 16               | 388           | 1,003         | 1,600         |
| Petrol                                       | 353              | 796           | 839           | 1,800         |
| <b>SUB TOTAL</b>                             | <b>18,520</b>    | <b>36,604</b> | <b>41,545</b> | <b>59,144</b> |
| Others                                       | 14,679           | 18,348        | 9,439         | 30,674        |
| <b>TOTAL</b>                                 | <b>33,199</b>    | <b>54,952</b> | <b>50,984</b> | <b>89,818</b> |