

KENYA:
RESEARCH PRIORITIES
FOR PLANNING

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// KENYA:

RESEARCH PRIORITIES

FOR

PLANNING

BY

ZACHARIAH MALECHE

A dissertation presented for the Degree of Master
of Arts of the University of Nottingham, in the
Institute of Planning Studies.

May 1972

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Acknowledgement

The research upon which this dissertation is based was undertaken during the period starting from July 1971 to 1972. Assistance given generously from many quarters during the course of research is gratefully acknowledged; in particular the advice and interest of professor Gerald B. Dix and Dr. R. McKie both of the institute of Planning Studies, University of Nottingham. I wish also to thank both the former Town Planning Adviser to the Kenya Government Mr S.C.Look and the present Town Planning Adviser Mr. Andrew N. Ligale for providing me with useful information concerning the latest policies on planning and research.

My special thanks are due the generosity of both the Kenya Government and the Government of Great Britain for sponsoring me to the M.A. Course in Planning at the University of Nottingham.

Nevertheless, the study is my responsibility and I must take the blame for any shortcomings. That they exist I am very well aware. But I hope that the study will be accepted as a worthwhile exercise and form a useful reference for future study of the same subject.

Zachariah Maleche

Institute of Planning Studies
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May 1972.

Synopsis

This study has been prompted by the general lack of planning data and inadequacy of knowledge and understanding of the physical, social and economic factors influencing urban and regional development in Kenya. This information is considered essential for the satisfactory planning of the rapid growth of Kenya's economy. The dissertation set out to examine the problems caused by this lack of information and understanding of the environment on the planning system in Kenya and define research priorities for improving the situation. The dissertation has proceeded by examining the problems associated with urban and regional development. This has shown that there is a regional imbalance superimposed largely by climatic and historical causes. There is a further imbalance arising from a concentration of investment and employment opportunities in a few rural areas with the consequential problem of growth running ahead of the provision of urban services. Further examination is made of the planning process. The planning process is still very immature and considerably limited not only in its information base but also its implementation machinery. A general synthesis of research priorities for the total planning system is then given and needs for the co-ordination and administration of research defined.

It has been shown that not only are general statistical surveys required but also extensive research. To meet these requirements Kenya, with shortage of finance and research skills, should give priority to applied and development research which relate to their immediate development needs. The training of research personnel and an efficient administrative machinery for research are considered essential prerequisites for the successful operation of research and the dissemination of research results. The possibilities for co-ordinating research work within the East African community should be explored to exchange experience and avoid unnecessary duplication.

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INTRODUCTION

One of the major problems of the regional development planners in developing countries is the lack of basic information on the geographical standing of the various regions, which influences their development. This hampers their efforts in formulating development programs that are tailored to the specific needs of each region. The purpose of this study is to provide basic geographical facts and data for the various regions of Kenya.

The Ministry of Regional Development in Kenya has for some time been after the needs of the various regions. They have realized, for instance, that it is necessary to make a geographical study of the various regions on the basis of geographical facts, characteristics and the role of each region in the national economy. The information available on the various regions has not been studied in detail. It is, therefore, the purpose of this study to provide the Government with the necessary information to decide the various development policies and programs. The geographical facts and characteristics of the various regions are presented in this study. The study is divided into four parts: (i) a general introduction to the geographical facts and characteristics of Kenya; (ii) a description of the geographical facts and characteristics of the various regions; (iii) a description of the role of each region in the national economy; and (iv) a summary of the findings of the study.

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INTRODUCTION

One common problem that urban and regional physical planners in developing countries often experience is lack of basic information and inadequacy of knowledge and understanding of the various physical, economic and social factors which influence urban and regional development. This hampers their efforts to reach useful planning solutions to development problems they try to tackle. Many planners with experience of working in these conditions agree that a major solution to this problem could be found through increased surveys and detailed research investigations into these factors.

Urban and regional planners in Kenya have come to the same conclusion after the lessons of the last six years. They have realized, for instance, that it is impossible to make a meaningful regional plan for a single province until the scale of population growth, distribution and migration, the rate of growth of urban and regional incomes (that is economic development), land pressures and urbanisation, and the inter-relationships between these processes have been studied in detail first at national and then regional levels. The Government Town Planning Department has consequently decided that there must first be formulated a national physical planning strategy which should outline planning priorities.² And essentially such a policy should include the definition of research priorities for planning. What such priorities should include and how they should be applied in planning and policy making is still to be determined.

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Nevertheless one point is clearly recognized, that research is an essential part of the planning process, as well as any other decision - making or policy making process, and therefore a major tool in the development process.

In view of the above observations the writer wishes to focus attention on the research priorities needed for planning in Kenya with a view to contributing to the current thoughts on this general planning problem. The aim is to draw attention to the need for research in the problems of urban and regional development in Kenya as indicated above. It is intended further, to demonstrate that not only is research needed in these physical, economic and social factors influencing development but also in the planning process cities and regions as new techniques and methods might need to be developed and current ones improved and adapted to meet the requirements of local conditions. It is not enough merely to draw research priorities for if results of research have to be put to useful purpose, and indeed, if the right answers should be expected to be produced by research, there must be an adequate machinery for financing, organizing and co-ordinating it. Due consideration is therefore given to the suitable organization of research for better use.

(11) It may be noted here that throughout this study research is conceived as seeking new knowledge and new perspectives, or what is more important, a means of improving techniques of data collection, and understanding and explaining phenomena, processes and patterns previously only partially understood. On the other hand, planning is conceived as a process influencing the function of other systems in order to achieve the goals determined by the planner as representative of the community interest. Research for planning is therefore assumed to consist of research into the physical, economic and social factors influencing urban and regional development, their inter-relationships, problems arising from and any other aspects of such development that concerns the work of the planner. This includes also research into techniques of analysing such factors, and the processes and patterns they evolve and the procedures and techniques

required to control (planning process) these and the problems associated with the application of such procedures and techniques. It is noted that delimitation of the type of research that would be directly relevant to physical urban and regional planning is virtually impossible as all social, economic and physical research would be relevant.

The study, however, falls into five main sections including the conclusions.

(i) This is based on a study of published work of different authors concerning different aspects of urban and regional development problems in Kenya, and selected government planning reports. The section explores the problems of urban and regional development problems in Kenya with a view to determining research needs in the patterns and processes of urban and regional development. The general approach in this section has been to outline some general perspectives, followed by an examination of different processes and patterns of development and finally an examination is made of the problems of analysing the above mentioned processes and patterns and determining research needs.

(ii) Work on the second section is based mainly on a study of official government publications on planning policy and other general publications. This section attempts to examine the planning process so far developed, its problems, future needs and research priorities. The approach employed here consists of first, a general outline of the planning process and its development, then the procedure in plan formulation, and implementation, and finally a look at the planning problems and consideration of future requirements and research priorities.

(iii) Data for this section was obtained from the Government Town Planning Department's latest thoughts concerning national physical planning and research priorities (communicated by letter). This was, however, supported by

studies of professional publications on the subject of research priorities. This section forms a general synthesis of the research priorities for the whole planning process in Kenya as determined in the previous sections. Thus the observations of the first two sections are brought together here and an attempt is made to determine priorities for research into the various aspects of the planning process on the basis of their necessity, and the availability of both financial and manpower resources. The section starts by first, explaining the application of research in planning, then explaining the needs for research priorities, and finally determining research priorities in terms of those which are general to the planning system and those for the short - term period.

(iv) The fourth section examines the organization required to administer, finance and co-ordinate research. This is examined in terms of the personnel, the finance and the general organization required. Data for this section was collected from official publications of the Kenya government concerning the subject and supported by examples from other countries.

(v) Finally the conclusions are drawn in the form of a general summary, recommendations and conclusions and consideration is also given to future requirements for research on this subject.

It is regretted, however, that no original field inquiry was made into the problems dealt with or the work of existing research organizations was used throughout the dissertation. This was practically not possible. Nevertheless, throughout the dissertation, deliberate effort is made to relate the study as closely as possible to current Kenya government policy concerning both planning and research as outlined in the National Development Plan 1970 - 74. Many other government reports and documents have also been consulted.

This is considered essential as the subject under study has practical policy implications and might form a useful reference for future research and planning programmes.

Finally the writer wishes to make it clear that, with limitations of time and information, it has been impossible to examine exhaustively the implied scope of the present subject. Nevertheless, emphasis has been laid on those aspects considered most important and not only as dictated by the scale of the information available. The main difficulty experienced was in collection of information, especially as it was difficult to get to sources in Kenya. For instance a survey of the various institutions engaged in research in related fields would have very much enhanced the writers understanding of the scope of present research work and practical problems involved. This would have directly helped in drawing more meaningful conclusions and recommendations. Interviews with representatives and officials of both national planning agencies and regional and local government authorities would also have helped in determining both priorities and organizational requirements. It proved difficult to get access to publications of the relevant institutions in Kenya that would have aided further understanding of the problems and requirements.

In these circumstances, the writer has had to rely on such general library references as were available. Original information was drawn from government plans and reports on planning that were in the writer's personal possession. Considerable use was made of plans and studies prepared and published by the Government Town Planning Department. Otherwise, most of the observations and ideas expressed are drawn from the writers' personal experience in working in Kenya.

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CHAPTER I

URBAN AND REGIONAL DEVELOPMENT PROBLEMS

This chapter attempts to outline the processes and patterns of urban and regional development in Kenya as a necessary background to discussion of research needs and priorities in urban and regional planning. Attention is focused, however, on the problems associated with the analysis and understanding of these processes and their inter-relationships. Thus we first try to answer the question: what are the basic questions that the planner in Kenya is required to answer in relation to the urban and regional planning process? Then we turn to consider to what extent are these problems understood.

Physical Background

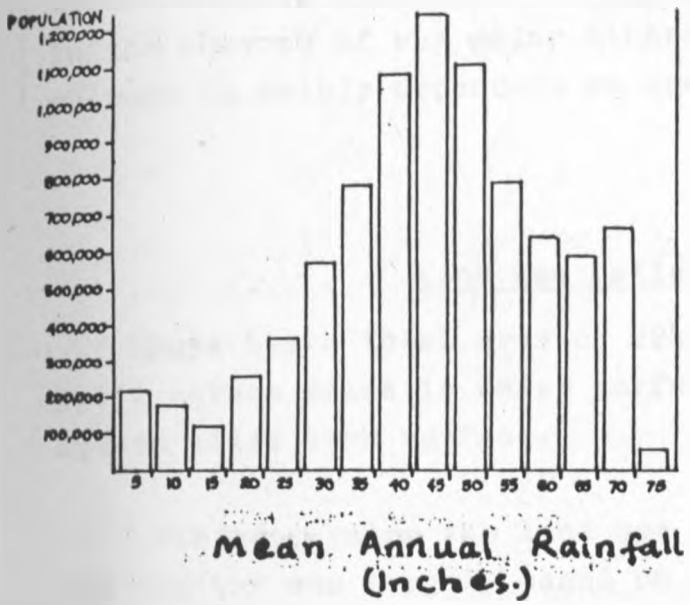
Any attempt to understand Kenya's urban and regional development process and their patterns should start with a full appreciation of the physical factors influencing these developments. In this connection a full appraisal of the physiography in terms of relief, topography, geology and soil characteristics, their distribution, structure and development potential is required. The next physical factor of importance is the climatic conditions of rainfall and temperature considering mainly their spatial distribution and their annual and seasonal changes. Then the types and distribution of vegetation cover as a resultant of the combined effects of the physiographic and climatic factors mentioned above. These are considered significant because an understanding of their combined effect would help to determine ecological zones which have been known by

agriculturists to relate to definable agriculture potentials. For example, one of the most productive ecological zones in Kenya is known to be associated with areas of Kikuyu grass commonly found growing at altitudes above 1,800 metres above sea level. This zone is normally relatively cool with a high rainfall and maize, the principal subsistence crop, does not grow very well. The zone is, however, suited to the growing of pyrethrum, potatoes, vegetables, fruit, tea and dairying. This zone is thus particularly well suited to intensive cash crop farming if transport and marketing problems could be overcome. Ranging below the Kikuyu grass zone are several others with varying production potentialities.⁴

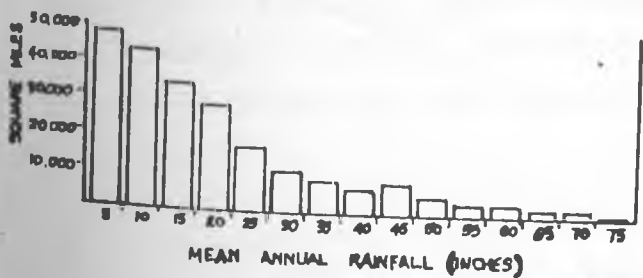
Another important factor of the physical environment is the spread of Tsetse fly. This is a fly whose various species cause the diseases of Trypanosomiasis among livestock and sleeping sickness among human beings. For this reason extensive areas of the country, especially in the riverine parts of the lowlands, are rendered uninhabitable (either by man or livestock) and therefore virtually unproductive as a result of their infestation with Tsetse fly species causing either of the two diseases. Its effect on development cannot be seen in isolation as its distribution is directly influenced by the other physical factors mentioned above. Tsetse flies of this type are commonly found in wooded grassland riverine low lying regions especially around the Lake Victoria shores.

The main point to be noted in connection with this, however, is that all these factors together determine the final distribution of human population, livestock and agricultural development and therefore all human activities in this region. The understanding of these factors both singly and in combination with each other must be crucial in explaining the patterns of human settlements as well as all human activities and infra-structural development in the country.

In the light of these factors, Kenya may be described as a predominantly dry country in which nearly three-quarters



1: Population By Precipitation Category.



2: Area By Precipitation.

Source: W.T.W. Morgan and N.M. Shaffer;
 Population of Kenya Density And Distribution,
 1966, PA. 6.

of the land does not regularly receive sufficient rainfall to support non-irrigated agriculture. Only in the south-west quadrant, composed of the highlands and the Lake Victoria basin, along the narrow coastal plain and in a few isolated highland enclaves, is there the combination of reliable rainfall and fertile soils to sustain a dense agricultural population. It is important to note too that in the absence of any major mineral deposits, Kenya's economy is mainly dependent on agriculture.

Percent
21.03
1.32
0.67
2.97
0.33
0.20
4.71

Land use Patterns

Kenya has a total area of 224,960 square miles of which 5,172 square miles is water surface and the remaining 219,788 square miles land surface.

0.36
0.60
4.13

For many years the land use classification known in the country was largely based on the form of tenure. This legalistic classification provides a useful framework for appreciation of development problems that have arisen largely as a result of different policies of land use pursued in the various parts. On the basis of this classification, in the period before independence, some 191,214 square miles of Kenya's land was designated as non-scheduled areas. These areas included all unalienated land and crown land earmarked for African usage. The scheduled areas which included the former "White Highlands" covered a total of 12,173 square miles. The land classification based on the above method may be seen in the table below:

53.67
7.88
2.30
10.00

could be
 zones

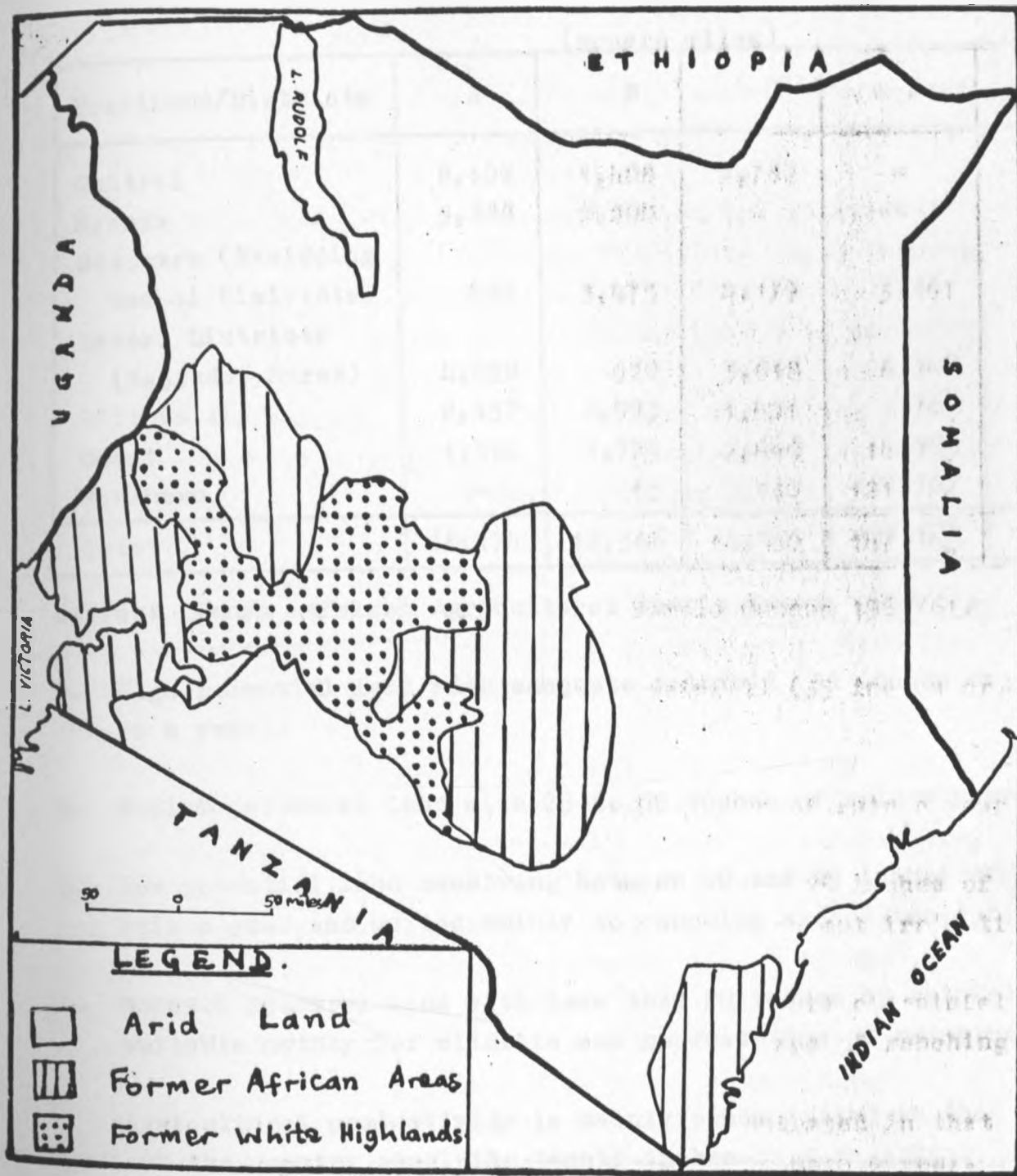
Table I : Land Classification
(at December 1964)

Type of Land	Area (square miles)	Percent
Trust Land	47,307	21.03
Trust Land Game Reserves	2,744	1.32
Private Land (Freehold Land formerly Trust Land)	1,514	0.67
Central Forests	6,529	2.90
Urban Areas	745	0.33
Government Reserves (Agricultural)	454	0.20
Alienated Land (Lessehold)	10,585	4.71
Private Land (Freehold Land not formerly Trust Land)	813	0.36
Freehold small holder scheme	1,352	0.60
National Parks and Reserves	9,284	4.13
Unalienated Land in the Northern Province	120,745	53.67
Other Unalienated Land	17,716	7.88
Water	5,172	2.30
Total	224,960	100.00%

Source: Kenya Statistical Abstract, 1964.

However, these classifications do not provide a satisfactory framework for assessment of the land potential.

Recently increasing emphasis has been on the use of a classification that follows ecological zones. According to this method the former non-scheduled lands which accounted for 85% of the total area of Kenya could be subdivided by provinces on the basis of ecological zones as follows:



KENYA: Land Units.

Table II :

A SUMMARY OF LAND USE CATEGORIES BY PROVINCE

(Non-Scheduled: 1960/61)

(square miles)

Provinces/Districts	A	B	C	D	Total
Central	2,122	1,408	2,782	-	6,312
Nyanza	5,888	2,200	-	-	8,088
Southern (Excluding Masai Districts)	435	3,475	4,179	3,861	11,950
Masai Districts (Kajiado, Narok)	4,030	520	3,618	6,548	14,716
Rift Valley	2,137	2,993	1,491	754	7,375
Coast	1,562	1,705	2,640	14,995	20,902
Northern	-	15	130	121,727	121,872
Total	16,174	12,316	14,840	147,884	191,214

Source: Kenya African Agricultural Sample Census 1960/61.

- A. High potential land with adequate rainfall (35 inches or more in a year).
- B. Medium potential land with 25 to 35 inches of rain a year.
- C. Low potential land receiving between 20 and 25 inches of rain a year and suited mainly to ranching except irrigation.
- D. Nomadic pastoral land with less than 20 inches of rainfall suitable mainly for wildlife and poorest type of ranching.

Agricultural productivity is mainly concentrated in that part of the country receiving twenty inches or more a year. Within this generous definition, however, there are large tracts of land in which agriculture is risky and of a most rudimentary character. The arid lands of Kenya receiving less than 20 inches of rainfall constitute approximately 70 percent of the total land area. Therefore the only land

of agricultural potential is concentrated in about one third ($\frac{1}{3}$) of the country.

The ecological classification of land use was first worked out for different provinces in Kenya by L.H. Brown a former Director of Agriculture in the country, and applied to the assessment of population pressures and the minimum populations that certain districts could hold. His method is described by Etherington in a paper in 1966 as follows:

"Not so surprisingly they started with the individual family farm. Assuming a farm was to support eight persons, or six adult equivalents, they made estimates of the full subsistence needs, and the excess income needed to purchase the other necessities, for such a family. Then on the basis of contemporary technical knowledge and taking into account the ecology of an area, adequate farming systems were planned to achieve the desired income levels. In order to obtain the total population that could be supported in an area, each ecological zone was divided by the average size of the planned farm and the answer multiplied by eight, allowance being made for the use of a small proportion for public purposes (roads, villages, etc.)."

It will be noted that Kenya's agricultural land (categories A and B) is limited to about 17 percent, of her land area owing to the limitation by rainfall, temperature, soils, slope and tsetse fly, as indicated earlier. The area available for agriculture can be expanded only marginally by the elimination of tsetse fly or by the development of irrigation schemes.

The use of Brown's 1963 estimates of population capacities and the application of them to the land use categories in table II assumes the complete use of under-utilized or unutilized land and a completely national land policy within each province allowing for a normal distribution of land. Etherington explains further that these calculations are unrealistic to the extent that this is not possible.

because of rigid tribal or clan land rights within a province. Etherington alternatively considers "maximum populations" within a range using Brown's estimates as the upper limits. He uses a provincial basis on the assumption that present provincial boundaries tend to incorporate similar tribal groups. He further assumes that the redistribution of land rights may occur on a non-tribal, trans-provincial, basis in future.

Finally on the basis of population densities of 1,000 to 1,328 persons per square mile, on 'A' land, and appropriate figures for the other grades of land the following estimates are made for each province:-

<u>Table III</u>		<u>Population Capacities</u>			
Coast	Between	1,534	and	2,045	Thousand.
Central	Between	1,847	and	2,463	Thousand.
Eastern	Between	3,217	and	4,289	Thousand.
Rift	Between	10,336	and	13,782	Thousand.
Nyanza	Between	1,752	and	2,336	Thousand.
Western	Between	2,171	and	2,894	Thousand.

Source: Etherington, D.M., Projected changes in urban and rural population in Kenya and the implications for development policy. Education, Employment and Rural Development, P. 54 - 74, University College, Nairobi. 1966.

In his paper, Etherington noted that these could only be regarded as guidelines indicating the possible extent of population pressures. "The problem is in need of analysis on a much more local level than is possible here". He further concluded that; "It must therefore be to the main areas of present peasant farming land that major efforts are directed. The rural areas will have to absorb these large increases in population, the peasant farmer will have to produce at least the same amount from less land". The point to be noted in connection with the land use classifications discussed above is the continued effort and demonstration of the need for a more useful classification on which projections of future population and production can

be based for use in planning. And the classification based on ecological zonation seems to prove more useful in this way.

In 1963 L.H. Brown had also estimated the total potential productive capacity of Kenya's agriculture in the report "A National Cash Crops Policy for Kenya", which showed that out of £250 millions, £230 millions would come from land with more than 30 inches of rainfall. Recently the Town Planning Department has refined Brown's figures using eight different types of soil and climate and estimated the productive capacity of each district of Kenya when fully farmed under modern farming techniques with a representative mix of cash crops appropriate to each zone. They have arrived at a much higher production capacity of £500 millions. But the point to be noted is that the limiting values which can be assigned to the variable factors are difficult to assess. It would appear therefore that more research into such aspects could very much facilitate the work of the planner by providing him with a more meaningful assessment of what the limiting values ought to be.⁸

It is important to note, however, that these attempts to develop a useful method of land classification have been very limited. They have mainly been confined to the work of one ministry and no efforts have been made to re-examine Brown's ecological zones in the field yet. It would be expected that since it is becoming more useful it should be re-examined with the support of field surveys that would establish the short-comings in its application in planning or improve its theoretical basis. In general an overall land use survey would be required to form a basis for a land use policy. However, we may turn to consider briefly the pattern of population distribution in the country.

✓ Population of Kenya

Kenya's total population was 10,942,705 according to the 1969 census.⁹ This indicates a growth rate of 3.3 percent

per year. This is accounted for by the existence of a high crude birth rate of 50 per thousand as against a falling death rate of 20 per thousand. At this rate it is estimated that by the year 2,000, Kenya's population could reach about 30 millions. The ministry of Finance and Economic Planning, statistics division has estimated that the total population by the turn of the century could be 24 millions, 26 millions, 28 millions or 34 millions depending upon different assumptions regarding the possible decrease in current birth rates.¹⁰

The vast majority of Kenya's people live in the southern half of the country. Here the population occurs in three main clusters separated by broad corridors of lightly populated country. The first two clusters are in the western half of the country and generally between 2 degrees north and south of the equator. These two may be described as the Lake Victoria and the East Rift Highland clusters. The third cluster is located in a belt along the coast extending from about 2 degrees south of the equator across to the Tanzania border.

Between the coast and the volcanic highlands to the east of the rift is a vast country very sparsely populated except in the isolated residuals referred to earlier.

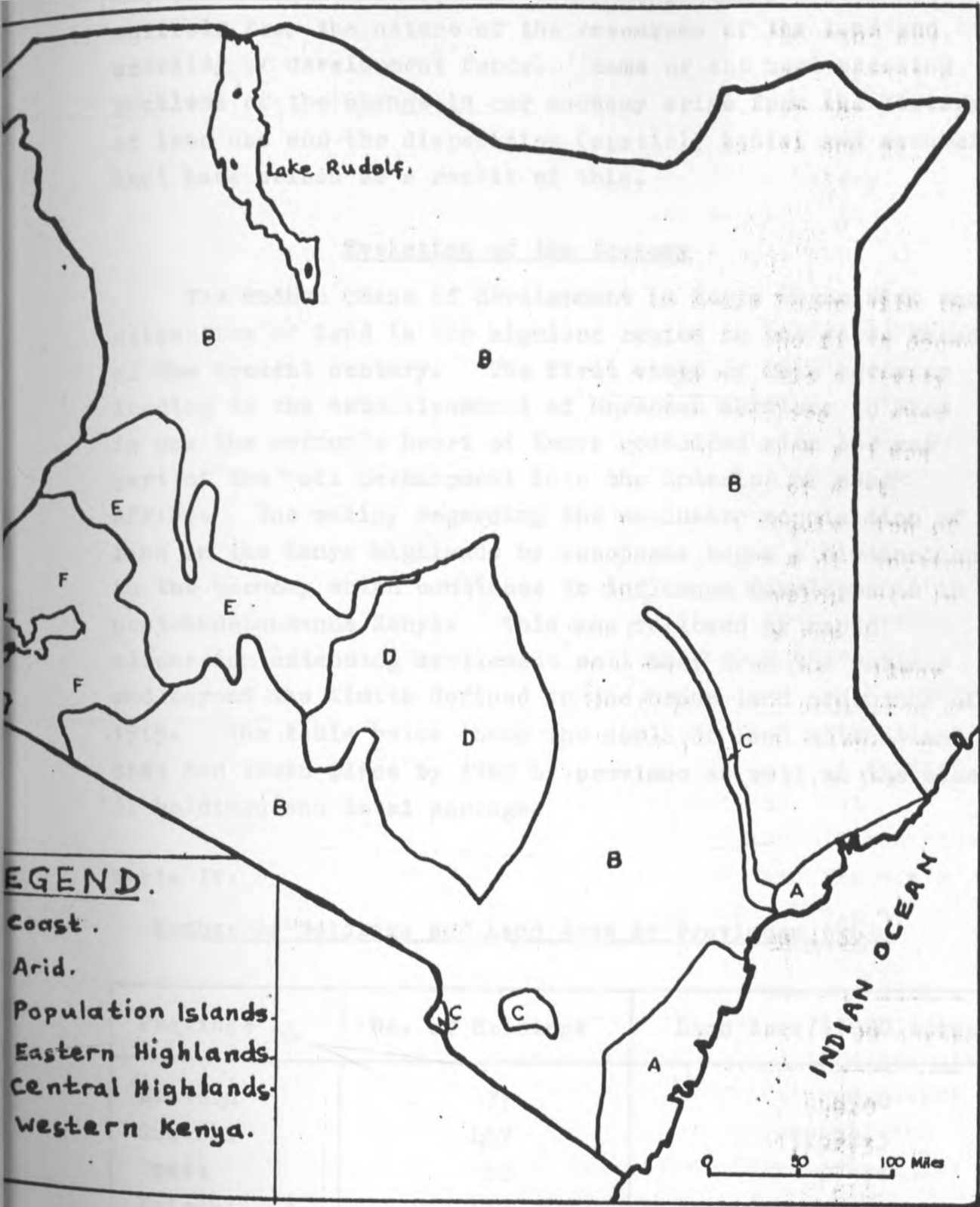
With about three quarters of the population concentrated in only one third of the land area of the country, it is to be noted that whereas overall densities are low, regional densities tend to be relatively high, especially in the most populous regions. The highest densities of population exist in the eastern Rift Highland cluster zone and the Lake Victoria lowlands. At the provincial level it may be noted that the highest population density occurs in Nyanza Province (with 168 persons per square Km.), then western province (with 161 persons per square Km.) both found in the Lake Victoria zone. The third highest occurs in central province (with 127 persons per square Km.) found in the Eastern

Rift Highlands. The picture is clearer at the district level where much higher densities are attained. The highest district average density is found in Kisii district in Nyanza province (i.e. 304 persons per square Km.). This is followed by Kakamega district in western province (i.e. 220 persons per square Km.). The rest of the districts have varying densities below 200 persons per square Km. Nevertheless, with the exception of one district in central province all other districts in the three most populous provinces have densities well above 100 persons per square Km. ¹¹

Thus the correlation of the main population concentration with regions of adequate rainfall is immediately apparent. But whereas the physical geography is clearly a factor in the distribution, the facts of history of settlement including alienation of land must be taken into consideration. The pattern of population distribution reflects a complex combination of variables including the physical character of the land, the adjustments to pre-colonial migrations, and the subsequent administration's allocation of land between conflicting interests.

The fact that Kenya's population forms islands of concentration separated by extensive areas of virtually empty country is an important problem in economic development. It means a costly infra-structure, especially in terms of transportation and communication networks. Except for road transport the basic pattern of rail communication has changed little since the 1930's. The interior location of productive lands throws a heavy burden on those economic activities which must depend on the overseas export market. Most of Kenya's leading agricultural exports such as coffee, tea, pyrethrum and cotton are located in the interior and experience the transport problems to overseas markets. On the other hand it emphasises the need to consider the internal market as an alternative to costly external competition. This would apply particularly in the case of such products as dairy and meat products or canned fruits.

Attention may now be directed to the evolution and



LEGEND.

- Coast.
- Arid.
- Population Islands.
- Eastern Highlands.
- Central Highlands.
- Western Kenya.

KENYA : Population Regions.

problems of the economy which supports this population. The problems of development facing Kenya today derive not entirely from the nature of the resources of the land and scarcity of development funds. Some of the most pressing problems of the change in our economy arise from the history of land use and the disparities (spatial, social and economic) that have arisen as a result of this.

Evolution of the Economy

The modern phase of development in Kenya began with the alienation of land in the highland region in the first decade of the present century. The first stage of this activity leading to the establishment of European settlers in what is now the economic heart of Kenya coincided with and was part of the rail development into the interior of east Africa. The policy regarding the exclusive acquisition of land in the Kenya highlands by Europeans began a distinction in the economy which continues to influence developments in post-independence Kenya. This was followed by rapid alienation extending settlement well away from the railway and beyond the limits defined in the crown land ordinance of 1915. The table below shows the scale of land alienation that had taken place by 1962 by province as well as the size of holdings and total acreage.

Table IV:

Number of Holdings and Land Area by Provinces 1962.

Province	No. of Holdings	Land Area ('000 Acres)
Eastern	77	549.0
Central	447	1,592.3
Coast	46	275.1
Nairobi	407	92.4
Rift Valley	2,629	5,192.4
Total	3,606	7,701.4

Source: Kenya Agricultural Census, 1962, Scheduled Areas and Coastal Strip. Economics and Statistics Division Ministry of Finance and Economic Planning. Ominde, S.H., Developing Countries of the World, Kenya; International Geographical Union.

As can be seen from the figures, the Rift Valley province contained most of the alienated lands. It should be clarified, however, that according to the provincial boundaries prior to 1962, approximately two-thirds of these lands were to be found in the Rift Valley, 25 percent of it was divided evenly between central and eastern provinces. Of the remainder less than 10 percent was split among Nyanza, western and Nairobi. In 1960, the exclusive ownership of this unit was extinguished and ownership of land opened up to all races.

Some of the most critical problems of development in Kenya are to be found in the former African areas covering about 123 million acres of land of very varied potential. Of this acreage the African peasant farming districts cover $7\frac{1}{2}$ million acres out of which 6 million acres receive an average annual rainfall in excess of 35 inches. A further 16 million acres consist of partly agricultural, but predominantly grazing land. The remaining 100 million acres in the north and east of the country and in Massai land are mainly devoted to extensive grazing except for isolated patches of cultivation.

There existed a wide gap between the areas of economic development in the former "White Highlands" and the predominantly African areas in which increasing population pressure and deterioration of the land caused growing hardship and political unrest. The disparity in economic opportunities and the incidence of population pressure in the African rural areas has set in motion an internal migration of population largely between the ages of 15 and 44 years.

(i.e. the working ages). This movement is directed to the main urban areas of the highlands region and the coast and to rural large scale commercial farming lands of the Rift Valley province, parts of Nyanza and the coast which were formerly designated scheduled lands. The main source regions of this national movement are characterised by an excess of females over the male population between the age of 15 and 44. This is explained by the fact that in most cases the migrating men would leave their family or other people in their regions of origin to cultivate their holdings. As a result, the destinations show age - sex pyramids distorted by an inflow of males between the above age limits. (Ominde 1968).

In the urban areas, the movement is one of the basic causes of the mounting unemployment and over crowding. This is expressed in the number of uncontrolled settlements found inside and around most of the towns in the country. In the rural areas the exodus of population is one of the main factors leading to absentee holding of land. The Kenya African Agricultural Sample Census 1960/61 revealed that about 37 percent of all the holdings in central province were operated in this manner, while in some districts higher proportions were observed varying up to 44 percent of the holdings (Ominde, 1968).

But massive rural exodus of population as a development problem has been an important element only in the main population regions of the country. In the drier regions receiving less than 25 to 30 inches of rainfall a year and forming approximately 80 percent of Kenya's land surface, new problems have emerged. While sparsely settled in terms of population density these areas are becoming over populated in terms of human pressure on resources. These pressures have resulted in increasing efforts to rely on cultivation of crops or in intense competition for limited grazing areas. The instability of the areas occupied by pastoral nomads in the northern and north-eastern areas of

the country is partly a reflection of the problems arising from the relationship between the increasing population and the harsh environmental conditions. The increases in the human and stock population in these areas have not been marked by social and technological advances.

The trend in development in Kenya since independence has been towards modernisation of the economy. Special emphasis has been laid on the diversification of agriculture and other industries while at the same time new forms of industry are introduced or encouraged to locate in the former African rural areas and attempt made to raise the contribution of ecologically suitable areas through more intensive forms of land use. These plans mainly refer to the defined economic island of the Lake Victoria basin, the highland areas and the coast.

The problems of the dry lands of Kenya are given separate treatment since they constitute a liability because of their undeveloped nature of their resources. Nevertheless these areas hold considerable prospects in respect of potential livestock contribution and irrigated agriculture. Apart from these, planned developments of these areas aim to concentrate on their tourist potentials. Studies are being made to assess the most fruitful method of a fuller utilization of the wild life resources. In all these developments, the basic infra-structure of roads and communications constitute a serious handicap to fuller use of the land resources. The transport and communication network in Kenya was designed for the islands of more favourable rainfall areas. Besides communications and transport, the whole environment of these dry regions is still unknown: little is known of the extent of the developable soils in these areas even where irrigation may be the only hope for future development. The irrigation potentials of the regions need a detailed assessment. More studies of the peoples of these areas still have to be done to establish their real attitudes to development.

It should be emphasised that only a positive approach both in the study of these nomadic communities and in drawing official policies affecting their development may hope to discover the real solutions for the development of these dry zones.

By positive approach here is meant a lot of things - but to mention only a few, it implies a recognition of the harsh physical factors such as lack of water as the principal limitations to development in the regions and seek ways of controlling these factors for the welfare of the peoples. It is often assumed that the people of these regions are naturally against any form of change or modernization without fully appreciating the strong impact that the conditions of the environment have had on their way of life. It has to be recognized that these peoples are interested in change and would very much like to live more modern lives and participate in all national activities as communities elsewhere. But like most human societies, they would like to be convinced that the change being introduced to them will not make their conditions worse than they are already. That is that they are as conservative about change as any other traditional societies in the world. Also this change, it is to be realized, must not be imposed on them, nor should it take the form of merely fencing off large tracts of their land for modern ranching or rice irrigation schemes by people from outside their community. Their full participation and involvement has to be sought to ensure the success of any such development schemes.

Furthermore, it has to be recognized that the social and economic change required in these areas will have to take time and requires careful education programmes that should start off this slow change. Studies of these communities should therefore seek to discover their social values which should be taken account of in making of policies to develop their areas. As has been indicated earlier,

some change is taking place: pressure of human and live-stock numbers on the land resources is already causing more people to start cultivation or a more sedentary life and introduction of education and health services has shown that these are steadily accepted. Research should aim at determining the rate at which change is taking place and studies of the progress of individual or selected projects should form a good basis for discovering the constraints to development and possibilities and needs for new development.

Urbanization

At the time of the 1962 census, there were 34 towns in Kenya with a population exceeding 2,000. Their combined population was 670,945 or 7.8 percent of Kenya population. The 1969 census, ten years later, has recorded 47 towns with a population exceeding 2,000. Their combined population was 1,089,908, nearly double the 1962 urban population and amounting to a little less than 10% of the total population. Of this urban population 756,359 lived in Nairobi and Mombasa forming more than 2/3 of the total urban population. The general distribution of urban population by size of towns may be seen as follows:

Urban Population

Size of Towns	No. of Towns	Total
2,000 - 4,999	25	81,886
5,000 - 9,999	11	71,396
10,000 - 19,999	7	90,685
20,000 - 99,999	2	79,582
100,000 and over	2	756,359
Total	47	1,089,908

Source: Kenya Population Census 1969 Volume II, Statistics Division Ministry of Finance and Economic Planning.

This urban population is estimated to be increasing at the very high rates of between 6.5 to 7.8 percent per year. Higher growth rates have, however, been attained by a few individual towns such as Kisumu (8.2 percent) and Thika with 7.5 percent.¹²

These high urban growth rates are mainly caused by the over-concentration of industry, and other services and amenities in the towns. The outstanding factors may be summarised as follows:¹³

(1) Processing and service industries have gradually developed in the main urban areas, attracting a labour force far beyond the employment opportunities.

(2) People are attracted by higher wages, better educational and health facilities, and by the image of the town depicted by their urban relatives.

(3) The increased purchasing power of the urban population has rapidly increased commercial activities, which in turn have generated more urban employment.

(4) The restrictions on urban settlement for the local population which existed before independence have now been lifted completely.

(5) Apart from these "pull" factors, there has been the "push" from the rural areas, as referred to earlier, where the farm income has been inadequate to support large families.

(6) The health services in urban areas are better equipped, and this has resulted in a high natural increase of the town population.

The distribution of the urban development in the country is also a crucial problem. With the rapid growth of the two largest cities Nairobi and Mombasa, the greatest pull of migration and industrial development is centred on them.

The gap between these two and the next class of towns constituting the next large municipalities of Nakuru, Kisumu, is very wide yet even together the four do not achieve a satisfactory regional distribution. It is only at the next level of towns falling in the 5,000 to 19,999 range that some signs of regional balance begins to emerge. With the predominance of Nairobi and Mombasa as the most favoured centres for industrial and other capital investment in the country (on account of their highly developed infra-structure and market facilities), the government's policy of re-directing development into the depressed and under-developed rural areas and controlling the rural to urban migration flow by the creation of employment opportunities within the source areas has no hope of success. This is the problem that the physical planners in Kenya have to solve. Besides the redistribution of urban growth, the rapid rate of urbanisation requires even more urgent control as this has grown out of proportion to employment opportunities and provision of infra-structure and services for the urban populations.

The resulting effects of this rapid urbanisation on the internal organisation of the towns and the general urban structure require special consideration too. Principal among these are the increased growth of slums within the established town boundaries and worse still the growth of uncontrolled squatter settlements especially in the large towns. Then there is the "shanty" town development, very similar to the squatter settlements in its character but distinguished by its evasion of legal control from municipal authorities by locating immediately outside the municipal boundaries. (These are to be found not only around all the large towns but also most of those with officially fixed boundaries.) The structure of these settlements, the social and economic life and their causes are all subjects for research as very little is known about them although their effects and the economic, health and administrative problems they create are all so well known.) Policies for the development of these areas have been attempted through site and service schemes and extension of boundaries to bring them under legal control of the municipal authorities,

but have met with little success. It is generally felt that the attitudes and approach employed in dealing with these problems are usually negative and thus doomed to fail from the start. But nobody knows yet the best approach or the right solutions. A recent study of the problems of squatter settlements in the Mathare valley in Nairobi¹⁴ has shown that a more understanding attitude towards the existence of these communities, which should also be employed in their study and the policies for their development, may be a significant start in arriving at the right solutions to their problems. One particular point brought in the Mathare valley study is the need for a better recognition of this type of settlements and their problems. And this, the report points out, is hindered by the attitude that if the poor cannot afford to live in the city, then they must "go back to the land". Carried further this attitude results in the demolition of temporary shanties without the provision of satisfactory alternatives. This attitude may also be seen to be based on the wrong assumption that these people live in squalor by choice. Without realizing that they are forced into such a life by the lack of opportunities for improvement within the squatters limited means.

Another common problem resulting from the rapid rate of urbanisation in Kenya is the high demand for urban services especially in terms of housing. This goes for all other service investments required in roads, water supply and social amenities. Taking housing as an example, it is to be noted that housing is an acute problem especially for the lowest income bracket in the large towns of Nairobi, Mombasa, Nakuru, Kisumu and Thika. The squatter settlements and shanty town developments are an extreme manifestation of this problem. Research in housing problems in Mombasa¹⁵ has recently revealed possibilities for solving the problem by emphasising the use of local building materials and adapting local building structures to meet the sanitation standards by providing services and carrying out minimum site planning. It was found from the Mombasa study that 66 percent of the people in the city were

accommodated in Swahili houses (the traditional houses of the coastal people) either planned or unplanned. These are principally private houses. Public housing in the form of flats only accounted for 8 percent of the total city population. Thus it was observed that the Swahili housing was of central importance, and accounted for the general high standard of housing conditions in the city as compared to other towns in Kenya, and therefore, to the future provision of economic housing for the majority of the population. As noted in connection with squatter settlements, this study also noted that an attitude of official disapproval and discouragement of the Swahili type of houses had resulted in widespread unauthorised and unplanned Swahili housing development and disregard for municipal authority. It was therefore recommended that Swahili housing be incorporated into official housing policy which it might be suggested here, should apply to other traditional housing in squatter and other low income classes in other towns. Research should be directed to the discovery of similar traditional houses in inland towns that can be adapted for urban requirements.

The shortage of housing is a well recognized problem and the government acknowledges it in recent policies. Looked at in general government estimates indicate that 10,000 housing units or more a year may be required to prevent deterioration of the present situation. But these shortages are not only in the extreme low income classes. Shortage of housing is experienced for both the middle income and low income classes in the towns. Besides the provision of housing units there is the related problem of rising rents which outstrip the incomes of the majority of the urban population by far. The need therefore is for the provision of enough number of housing units that fall within the means of the people. To clarify this problem of provision of housing in relation to incomes and rental means, reference will be made to Mombasa. Here it was found in 1969 that

53.1 percent of the population earned monthly wages below 400 Kenya shillings (i.e. £20) and lived in houses with rent varying from Ksh20/- (or£1) per month to sh.79/- (or about £4) per month and building costs of K£150 to £699. 36.5 percent of the population earned monthly wages ranging from £15 to £50 and rented houses at £3 to £10 a month, with building costs from £450 to £1,499. This clearly shows that costs of houses and therefore rents are unrelated to income levels of the majority of the people. This perhaps is explained by use of imported material but there is too the problem of insisting on standards that are far beyond the means of most citizens. These problems can only hope to be solved if the real values of the majority of the population are identified through research and new standards of services established on the basis of the purchasing power of the people.

It may be seen from the foregoing outline that the urbanisation process and the pattern of urban distribution has been a direct result of the rate and pattern of economic growth, the overall natural population increase and the factors determining its distribution especially the scarcity of agricultural land in the rural areas.

The problems resulting from the urbanisation and its current distribution have also been outlined and it would appear necessary that the future rate of urbanisation and its future distribution should be controlled. To do this it is the objective, first, to plan a national framework, or strategy for the location of capital investments, in the national and regional context, then in the urban context to plan both, large and small towns in detail, so as to produce co-ordinated economic land use for development projects within a satisfactory environment.¹⁵ Nevertheless, planners can only hope to reach long-term solutions to these problems on the basis of an informal understanding of the growth of the national economy, the natural population increase and the factors determining the distribution and growth of human and capital resources.

Current Policies

From the development processes outlined in the earlier sections there seem to emerge two principal problems for the planners. There is first a superimposed regional imbalance in the level of development caused largely by climatic and historic factors. The resulting effect of this is the existence of very high population densities relative to agricultural resources in many districts. There is a further imbalance arising from a concentration of investment and employment opportunities in a few urban centres, encouraging migration from the poorer rural areas with the consequential problem of city growth running ahead of the provision of urban services. Added to this may be the general problem of high rates of natural population increase. The planners should therefore plan for the reduction of regional disparities in the levels of development, provide solutions for the future rate of urbanisation and make provisions for the future distribution of population and urbanisation and for the employment and infra-structural demands thus implied.

The Town Planning Department of the ministry of Lands and Settlement which is responsible for physical planning in Kenya, has been concerned with the regional implications of population movement, land use and urbanisation since 1966. The department has now completed detailed studies of population pressure relative to agricultural and other resources as well as the existing distribution of physical infra-structure in each district.

Service centres -

As a result of these studies, a policy for the nucleation of new physical development to serve the rural areas based on a hierarchy of growth centres has been established. This policy is designed to create a network of economically viable towns within the rural areas to absorb some of the surplus farm population and to provide better services to the rural

population. A schedule of designated growth centres has accordingly been published in the Kenya Development Plan 1970 - 74.

A second major policy decision with regional and physical planning implications was that of designating a limited number of "major growth centres", including all Provincial Headquarters as well as Eldoret and Thika (both are growing industrial towns) into which important administrative and commercial development as well as large scale industrial development would be channelled in order to build up poles of counter attraction to the dominant and disproportionately fast growing centres of Nairobi and Mombasa.

These two policies are only preliminary attempts to deal with the much wider problem of urbanisation in Kenya. The Town Planning Department is concerned with determining both the amount of urban growth that is likely to occur in Kenya over the short and the long term, and with the distribution of this urban growth between Nairobi, the major regional centres, the rural service centres and possible new towns. The department notes that the amount and distribution of urbanisation will be considerably influenced by economic, demographic and social forces that are difficult for the government to control but suggest that by adopting and implementing specific policies of an economic and social nature, the government could considerably alter the pattern of urbanisation that would result if left uncontrolled. Since the amount, quality and distribution of urbanisation is both a measure and a determinant of the distribution of economic development, social opportunity and the standard of living which can be achieved from region to region in Kenya, the attainment of a satisfactory pattern of urbanisation should be one of the key goals for Kenya's regional strategy. Thus any ministerial policy which may affect the rate of population growth, the use of land, the movement and distribution of population or the economic base of any town or region should be considered, in the light of its possible

impact upon overall national development goals, by an inter-ministerial working party, rather than decided in the limited perspective of the interests of a single ministry.

Furthermore, the Town Planning Department has explored some of the inter-relationships between urbanisation in Kenya and such factors as the national rate of population growth, the anticipated rate of growth of the National Gross Domestic Product by sector and the ratio between urban and rural incomes. It has developed a predictive model to determine the amount of urban in-migration which may be expected in Kenya using variable assumptions for these factors. The department has also worked out a possible distribution of urban growth in Kenya for the year 2,000 for an urban population of $7\frac{1}{2}$ millions assuming effective implementation of the current policies of nucleation of rural service development and the limited decentralisation of administration and industry, and is working out alternative patterns of urban growth based on different assumed regional strategies.

> Problems of Analysis

The analysis of the processes and patterns of urban and regional development in Kenya achieved so far has succeeded in clarifying the structure of cities and regions and attempted some explanation of this structure. Nevertheless, the degree of explanation of the processes and patterns so far defined has been very limited. One possible explanation might be that, with the rapid rate of development and the shortage of planning skills the pressure to plan and the demand for more or less instant planning decisions are so strong that the planner has no chance of exploring and experimenting with all the possible and alternative techniques and solutions in a given situation. Alternatively it could be explained by the lack of planning co-ordination

where a multi-disciplinary approach has not been employed.

that has already been implied in the policy outline above. The lack of co-ordination exists both among different government ministries and among the research disciplines whose fields of study have bearing on planning. The research carried out by the Town Planning Department is mainly limited to the disciplinary background of the staff of the department that conduct the studies and the few other specialist sources to which they may have access. The nature of the problems that require planning solutions is complex and cuts across many disciplinary boundaries and many ministerial interests. To hope to explain the nature of some of the problems and reach realistic solutions for long-term planning, a concerted effort is needed and an inter-disciplinary approach most essential.

The need for a multi-disciplinary approach may be considered on the basis of what Wilson (1968) says: "if we study the different disciplinary approaches to cities and regions we find a number of different foci. The most fundamental disciplines associated with the analysis of cities and regions are perhaps demography, which is concerned mainly with population structure and movement at spatially aggregated levels; sociology, which is concerned mainly with population action activity; political science, which is concerned with governmental activity, and in its broadest sense this includes planning; economics which is concerned with economic activity; and finally, geography, which is more all embracing in subject matter, but is perhaps more concerned with spatial distribution among its central concepts".

The use of multi-disciplinary teams in research on cities and regions is in fact widely accepted particularly in the developed countries. Evidence of its use in special development programmes in Kenya is not difficult to find either. One particular development where a multi-disciplinary and inter-ministerial effort has been employed is in connection with the rural development programme.

This may be seen as having started as a result of the recommendations of the Kericho conference held in 1966 at which political leaders, administrators and research workers both from the government and the University of Nairobi came together with a common concern for the major problems of effective utilization of Kenya's human resources for full employment. The conference concluded among other things that co-ordinated local development to yield higher incomes and more employment opportunities for youth was of the highest priority. As a follow-up to this, multi-disciplinary teams were set up to carry out research in selected rural areas that later formed the basis of pilot rural development projects officially launched in the 1969/70 financial year.

This takes the form of a co-ordinated development programme mounted in a number of representative areas, aimed primarily at increasing the job opportunities and raising the level of incomes. This is perhaps the first and most extensive development programme in the country that has involved such a tremendous co-ordination of efforts cutting across most of the government departments, involving the university, the local authorities and calls for the most active participation of the local people. It is important to note, however, that the Kericho conference which initiated the whole programme was specially sponsored by the University of Nairobi; in its effort to co-operate with the government in its development programmes and to provide a lead in solving national development problems.

Another example that has emphasised the need for co-ordination in research is the study of the Mathare Valley squatter settlement in Nairobi already referred to. In this case although the actual field research was principally conducted by the Housing Research and Development Unit of the University of Nairobi, was initiated by the joint interests of the Ministry of Housing, the Nairobi City Council, Town Planning Department, the Ministry of Economic Planning and Development, the Town Planning Department, Ministry of Lands and Settlement

and the special commissioner for squatters. The field workers were paid by the ministry of co-operatives and social services. And all others participated in different stages of the work from initiation to the displays of plans and maps for public information.

Although these may not be some of the best achievements of the use of multi-disciplinary research or the general inter-ministerial co-ordination, they form a useful example of the approach to research that might be required to be employed by countries like Kenya who have shortage of both research funds and skills. It shows an attempt to use what is available for more effective solutions to pressing development problems. And the point here is not to show that this co-ordination has finally been achieved in Kenya, rather it is the intention to explain that whereas these may be seen as having been responses to special problems requiring special approach, they should in fact be seen as requiring to be employed on an increasing scale. In the two cases it was clear that the government departments which might have been short of qualified staff to carry out such research, had a chance to put their case to the university research units who readily provided their experts to analyse and explain the problems in question.

There is scope for the government's increased use of university research experts to investigate into urgent development problems and facilitate planning and policy decisions. There is also scope for the joint inter-ministerial research work on common problems. A good example is the idea of carrying out land use transportation studies as a joint undertaking of the Government Town Planning Department of the Ministry of Lands and Settlements and the Roads Department of the Ministry of Works. Other studies of housing conditions could be undertaken jointly between the Town Planning Department, The Ministry of Housing and the Building Branch of the Ministry of Works.

Many more examples could be quoted still but these should clarify the point.

The problem of city and regional analysis in Kenya does not appear to be caused by a lack of knowledge of analytical techniques at all. Increasing efforts have in fact been made to use some modern techniques including use of economic models. But the general problem that makes it virtually impossible to use some of these techniques is the lack of detailed data on regional development factors. It is for example very difficult to get satisfactory regional income statistics or inter-regional trade figures. Inter-regional economic comparisons therefore become difficult to make unless rough estimates are made. The improvement of data collection is nevertheless, receiving urgent attention through the work of the statistics division of the Ministry of Finance and Economic Planning. A statistics section is set up in each ministry within the overall control of the Ministry of Finance and Economic Planning. Until the standard of data collection has been improved considerably and probably an efficient data bank developed, it will continue to be difficult still to carry out research in Kenya especially in the attempt to employ the more recent techniques of city and regional analysis.

The main area of difficulty in collection of statistics is the traditional sector otherwise most information on the "Modern Sector" is available. Surveys that have to be undertaken "include household budget surveys to obtain information on income and expenditure patterns (from which demand can be projected), attempts from these surveys and other sources to develop an adequate picture of savings, construction of an input/output table, improvement of balance of payments statistics (including tourist surveys), expansion of knowledge on small-holder agriculture and employment in the rural areas as well as the nature and extent of rural non-agriculture economic activity". More comprehensive and reliable information on incomes, expenditures and prices is also necessary.

Research Needs

It has been established that the need for research in cities and regions in Kenya is wide ranging. There is relatively little research done and a serious shortage of information for planning on most of the important problems. There is need therefore to study the implications of economic growth and urbanisation strategy for major regional and urban physical development and demands on infra-structure including:

(a) The long term national requirements for new housing, urban water supplies, urban sewage facilities, new social infra-structure, road developments (both trunk roads and feeder roads), airport facilities, seaport facilities and railway facilities.

(b) Studies are also needed to translate economic growth and urbanisation strategy into regional employment figures by sector and the implications of this upon the need for new factory, office and commercial construction. The translation of the economic growth and urbanisation strategy into urban land requirements. To improve the shortage of information for planning also it would be required to establish a data bank for land use, physical development and demographic information.

(c) Specific detailed studies of the pattern of migrations to establish their causes, and effects both in source and destination areas should be given high priorities in view of the urgent need to check these movements. Related to this is the problem of the shanty towns and squatter settlements in and around cities, and the general problem of housing especially for the low income people.

(d) The problem of the arid regions requires special study too especially with a view to establish development potentials and the social attitudes to change and modernisation.

(e) Finally, it should be emphasised that policies for service centres and growth poles already determined require constant testing of their implications. But above all more co-ordination of research work of ministries and of government with other research workers should be encouraged

The Government of India has been successful in creating a strong public sector in the manufacturing sector. This has been achieved through a combination of government ownership and government control. The government has also been successful in creating a strong public sector in the service sector. This has been achieved through a combination of government ownership and government control.

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CHAPTER II

THE PLANNING PROCESS

In the previous chapter an examination was made of the development processes which have to be controlled through planning action and need for further research in these aspects noted. This chapter is focussed on the planning process in Kenya, its evolution and problems in its operation.

General Outline

The development of the planning process in Kenya may be divided into two phases. The first phase consisted of the period from 1946 to 1965, when planning was limited in scope to the preparation of master plans for the principal towns of Nairobi and Mombasa and the preparation of development schemes for the smaller municipalities and other gazetted townships. These plans or schemes were normally prepared with little or no consideration of development in the regions around the towns. Nor was the consideration of the implications of the town's growth to the region of significance. The second phase is the period since 1966 when physical planning in its broad sense has been accepted and applied at the national, regional and local levels. This was first endorsed in a parliamentary sessional paper on "African Socialism and its Application to Planning in Kenya" in 1965 when it was noted in relation to the needs for conservation of national resources that "Need for a land use policy and physical planning must be extended from the towns and cities to districts and rural areas". Since this time efforts have been concentrated on the formulation of a suitable physical

planning policy and a planning machinery that should facilitate more effective implementation of the plans. 1966 was the first time that regional studies were ever undertaken by the government Town Planning Department. A case study was made of one region, the Central Province,¹⁸ and the basic problems and needs for regional planning was established. On the basis of the results of this study more specific policies could be formulated relating to regional planning and development. This exercise was carried further to cover all other provinces and districts and regional physical development plans have now been completed for all provinces. And current efforts are concentrated on the formulation of a national planning strategy. We may therefore note from the start that the physical planning process is only in its early stages of evolution in Kenya.

The concern in this dissertation is to examine the planning process as developed to date with the object of assessing its efficiency in dealing with the problems of development noted in the previous chapter.

Physical planning in Kenya has two principal objectives. Firstly in a national or regional context, to plan a national framework or strategy for the location of capital investments. Secondly, in the urban context to plan both, large and small towns in detail, so as to produce co-ordinated economic land use for development projects within a satisfactory environment.¹⁹

The physical planning work at national and regional level has been divided into three phases. The first phase consists of the compilation of an "inventory", including the preparation of a map, of all physical data which may influence investment decisions. These factors include the distribution of population, the location of existing infrastructure and the pattern of settlements, roads, railways and communication, agriculture potential, the location of natural resources, including areas of tourist potential,

and the physical constraints and potentials of the region including topography, climate, water supply, and soil types.

The second phase consists of an analysis and projection of such dynamic factors as population growth and migration, economic development, technical and cultural change and the rate of urbanisation.

The third phase is the preparation of a "strategic plan" or plans, including operational maps and supporting statements. The preparation of this plan is a complex process consisting, primarily, of a synthesis of development resources and of the planning proposals of all the various ministries and agencies concerned with physical development. The purpose is to show in comprehensive form the government's strategy for physical development through the country. In so far as decisions have already been made, the strategic plan will therefore show such fundamental proposals as:-²⁰

- (i) Major cities and towns selected for intensive growth.
- (ii) A network of smaller towns and villages as administrative and social centres and centres of economic development to serve the local needs of the people in rural areas.
- (iii) The development of the road, rail, air and communications network and the extension of the power grid; and -
- (iv) Action areas for agricultural and other resources development.

However, the process as outlined is not meant to be inflexible. It takes the form of several plans and statements and is subject to periodic review. The physical planning process in Kenya is not yet developed to the point at which statements of policy can be made covering all aspects of physical development but a great deal of detailed

preparation work has now been accomplished, in the three planning phases already mentioned, to form a satisfactory basis for many important decisions.

Physical planning is the direct responsibility of the Town Planning Department of the Ministry of Lands and Settlement in consultation with the Ministry of Finance and Economic Planning and other operating ministries. This department is organized according to the work it is supposed to undertake. "In general the duty of the department is to provide a comprehensive physical planning service at National, Regional (Provincial) and Local levels, integrated with the economic and social development of the country. In particular:-

(1) To prepare regional and national physical planning studies to enable government to develop sound strategies for the development of the rural areas and the accommodation of rapid urban growth.

(2) To advise ministries responsible for implementing projects with a physical development element and to assist them in implementation by providing a physical planning service.

(3) To advise government on the most appropriate use of public land and, since government retains the freehold title to most land in Kenya, to advise on the administration of leases in as far as this affects the town planning interest.

(4) To assist by membership of the "Central Authority" in the application of the Land Planning Act 1968 and the Development and use of Land (Planning) Regulations, 1964.

(5) To prepare development plans for all towns in Kenya and through the local authorities and the commissioner of Lands to assist in the implementation of these development plans.

The first part of the report deals with the general conditions of the country and the progress of the work during the year. It is followed by a detailed account of the various expeditions and the results obtained. The second part of the report is devoted to the study of the geology and the mineral resources of the country. It contains a description of the different geological formations and the various minerals found. The third part of the report is a summary of the work done during the year and the conclusions reached. It is followed by a list of the names of the various persons who have taken part in the work.

The first part of the report deals with the general conditions of the country and the progress of the work during the year. It is followed by a detailed account of the various expeditions and the results obtained. The second part of the report is devoted to the study of the geology and the mineral resources of the country. It contains a description of the different geological formations and the various minerals found. The third part of the report is a summary of the work done during the year and the conclusions reached. It is followed by a list of the names of the various persons who have taken part in the work.

proper function and size of towns and smaller urban units within their region are also defined by this work.

To carry out this task, however, the department also relies on continual liaison with the provincial planning officers who are representatives of the ministry of Finance and Economic Planning and the attendance of the provincial and district development committees meetings. It is at these development committees that important development decisions affecting the local areas are made. The Town Planning officers' attendance especially of the Provincial Development Committee is essential as it offers a good chance for giving advice on town planning matters to the committee before decisions are made. The committees also provide a forum for the discussion and resolution of difficult issues affecting the town planning interest. This also ensures that the plans and reports prepared by the area officers can be kept relevant to the local development problems and therefore likely to be representative of the local development committee's views.

The work completed in this aspect to-date includes:

(1) An inventory of infra-structural development throughout the country, a schedule of growth centres in which the development of new infra-structure is to be concentrated, and

(2) physical planning studies for all provinces in which the land problem, the rate of population growth and migration and the growth prospects of the major towns are examined.

(3) A study has also been completed of the possible distribution of urban growth in Kenya as a framework for physical planning. On the basis of this study have been designated a few major growth centres which should serve as the principal growth poles into which industrial development will be concentrated. These centres already have substantial service infra-structure and are strategically placed to

form the major administrative, commercial and industrial centres of the country in the future.

Current work in this section is devoted to the preparation of a national physical development strategy.

It may be noted, however, that this regional planning work forms a very useful basis for the urban planning work that follows. Initially the purpose of undertaking regional planning in Kenya was to provide a more national basis for the urban planning programme than had been possible before and to secure the integration of economic and physical planning. To this end it may be noted that the work of the regional planning section of the department has considerably facilitated and enhanced the co-ordination of economic planning and physical planning in Kenya. The co-ordination between the Town Planning Department and the Ministry of Finance and Economic Planning exists both at the national and regional and district levels.

Urban Planning Procedure

The urban planning section is the oldest part of the department and therefore has the more established procedure. The urban planning procedure has, however, had to adapt to changing administrative and political requirements from pre-independence circumstances. The work of this section consists mainly of the translation of the growth centre proposals made by the regional section into detailed land use plans for each centre. As a starting point therefore consultations must be held with the regional section relating to the given centre being planned.

Most urban plans are drawn up to accommodate short term growth, usually five years. It is considered that detailed land use plans which attempt to cater for demands beyond this period are likely to become obsolete before they are implemented.

In preparing these plans great emphasis is placed on flexibility and opening the way for future expansion.

Where very significant growth can confidently be predicted a long-term structure plan is prepared into which short-term planning is fitted.

The long-term plan becomes an agreed policy statement. The short term plan is generally given final approval by the commissioner of Lands and becomes known as an "Approved Development Plan". "Part Development Plans" are prepared and submitted to the commissioner of Lands for his approval to introduce minor amendments to an "Approved Development Plan" or to cater for an urgent requirement which cannot wait the production of a full "development plan".

The plans prepared by the department form the basis of title survey by the director of surveys in urban areas and in some cases outside the service centres designated. Examples of the latter are the subdivision of government land adjacent to the beaches at the coast for hotels and residences and the division of land for settlement purposes.

The administrative procedure for the preparation and approval of development plans and part development plans may however, be summarised as follows:

- (1) Plan is prepared.
- (2) Plan is circulated for comments.
- (3) Comments received result in amendments.
- (4) Plan is submitted to commissioner of Lands for approval.
- (5) Approved plan is circulated.
- (6) Action for implementation is noted.

Development plans preferably do not show details of business or residential layouts except to indicate a few plots for immediate alienation by the commissioner of Lands. This avoids waste of planning and survey time in the common circumstances where requirements are subject to rapid change. But it must indicate proposed boundary extensions relative to existing boundaries before approval.

Procedure for preparing new plans vary slightly depending on the size of the town but are basically the same. For instance the preparation of a new plan for a small centre (less than 2,000 people) may follow the following procedure:²²

(1) With a good topographical or cadastral base map produced in the office from base material from the Director of Surveys Department, a preliminary safari or field survey is made with the aim of checking the information on the base map and adding land use data to it. At this stage a preliminary appraisal of the condition of buildings may be made.

(2) The local authority and the administration is consulted on the requirements of the plan at this stage, preferably at a site meeting. A check is also made on any planning, the health inspector or the works officer of the local authority may already have carried out or views he may hold which may influence the plan in preparation. Where telephone, water, electricity and sewage lines exist these are recorded on the base map both in the field and in consultation with the relevant authority, information on plans for extension is obtained.

(3) In all cases the officer responsible for regional planning in the area is consulted with a view to ascertaining in a written statement the role and development potential of the centre in question.

(4) The pattern of land ownership is investigated and mapped in consultation with the lands office, the land Adjudication Officer, the chief and the local registrar of titles as appropriate.

(5) A draft plan is then prepared in the office after the detailed analysis of all data collected. After approval by the Town Planning Adviser the draft plan together with a written statement is circulated to all appropriate authorities for their comment. These may include the Ministry of Health, Commissioner of Lands, the Director of Surveys, Police and the Local Authority, and any other major development agency affected by the plan. Comments are usually studied carefully and the necessary amendments made.

(6) The final plan is then submitted to the Commissioner of Lands for his approval and thereafter circulated by the officer to all authorities concerned for implementation. The plan cannot be varied or departed from without a new part development plan being prepared.

The plan then forms the basis for surveys and demarcation of individual plots for specific development and the basis for the day to day advice by the Town Planning Department to all authorities concerned with the development of the centre.

The preparation of new plans for large centres (more than 2,000 people) is more complicated but follows the basic procedure as set out for the small centres. Usually before the plan is prepared on the basis of foreign experience and local research, extensive surveys are conducted to collect physical planning data, analyse and refine it. The main factors considered include:²²

(1) The nature and potential of the region in which the town is placed and the function of the town in its regional setting.

(ii) The origin, the potential in respect of industry, tourism, and natural resources and the function and environment of the town.

(iii) The assessment of the town's long-term growth; and since a town is a dynamic system, not static, there is the necessity for constant review of growth factors.

(iv) The siting of the town in relationship to many factors such as communication, availability of services, topography, geology and soil conditions, climate, health and other physical factors.

(v) The arrangement of the different land uses.

(vi) Economic aspects which include such details as the careful siting designing of individual development projects, the cost of services, employment, wage structure, housing, redevelopment and land values.

(vii) The land ownership, policy and rights of many development agencies of the government and other developers and landlords.

Many other factors may also be considered depending on the nature of the problems of a given centre as each town tends to raise different problems. And together with the above factors, these are analysed and reflected in the design work of the structure plan.

Two sets of plans are prepared for each large centre a long-term structure plan and a short-term plan. The long-term plan is usually based on the long-term growth prospects and advice from the area regional planning officer. This is designed to show the amount of land necessary to accommodate the expected growth and how the transportation system will service it. An emphasis in this plan is on

flexibility and the plan should be able to withstand major changes in growth rates. The impact of the growth on water supply and resources is given particular consideration in consultation with the regional planner and the water development department.

The short-term plan is based on the long-term plan, stipulating a detailed five-year physical planning programme in a manner which does not restrict future development potential or under-utilise investment. Considering the short-term population growth an assessment is made of more immediate land requirements to accommodate the various functions of the town. This is "done by assessing the amount of residential land required and making provision for the other functions in proportion to this figure. An analysis of the various land uses has been carried out for several of the larger towns and forms a useful basis for assessing demands".²⁴

Care is, however, taken to ascertain any special requirements relative to the particular centre being planned which would distort the overall picture.

Having established the land needed in the first five years of the plan in the various, land use classes, the short term plan is prepared to show where this land can be found. The plan demonstrates practical and economic solutions but at the same time does not adversely affect the implementation of the long-term plan.

Further to this studies in particular aspects may be considered necessary. Such studies have generally been related to traffic, housing, water, sewage disposal and shopping. The aim of the special studies is to facilitate implementation, to test the practicality of the plan and to draw attention to the need for specific action by the government. This provides the needed feedback information

on the basis of which further review of the plan may be made. Both the long-term plan and the short-term plan are circulated to appropriate authorities for their comment. Comments received may result in amendments to the short-term plan in particular which, after amendment, is sent to the commissioner of lands for his approval. After approval the short-term plan is circulated by the town planning adviser for the use of appropriate authorities. The long-term plan remains a policy document and does not receive formal approval.

Every plan is accompanied by a written statement or report setting out the details of the survey, analysis, and proposals. For large towns more detailed reports are prepared showing (i) the details of the long-term land requirements relative to population growth, (ii) the future transportation network, (iii) future land use pattern and (iv) the implications for implementation especially regarding boundary extension and land acquisition. The report would also give detailed proposals for the short-term plan such as: (i) Land requirement relative to population growth; (ii) the existing provisions (iii) deficiencies in the existing provisions, and (iv) proposals. Finally the appendices to the plan would include (i) details of the interpretation of the short-term plan, (ii) the permitted use classification table and (iii) indicate aspects for special students.

For small centres, a more simple statement is prepared mainly giving details of the survey of existing land use pattern and deficiencies identified, and details of the proposals and action necessary for implementation.

All written planning reports are set out in detail to facilitate future revisions to the plans and also for the easy understanding and interpretation of the authorities responsible for implementation.

Implementation

The Town Planning Department has no executive role in government. Ministries and other development agencies have the responsibility of implementing agreed policies and proposals. This does not mean, however, that no interest is taken in what happens after action is agreed or a plan approved. Co-ordination and follow-up is a recognized duty of the department. This takes the form of initiating meetings to discuss constraints and problems in the field of land and services and to achieve co-ordination where a number of development agencies are involved.

Reference may be made here to the Town Planning Legislation in Kenya which defines both the powers to plan and for development control. As stated in the Town Planning Department Handbook (1971), these are to be found in the Town Planning Ordinance 1931; the development and Use of Land (Planning) Regulations 1961 as enacted by the Land Planning Act, 1968; and from Local Government By-Laws.

The Town Planning Ordinance, 1931, though not repealed has been largely supplanted by the Land Planning Act 1968. Sections 23 and 24 of the Ordinance are, however, still the basis on which much of the control of development and preparation of township plans by the government Town Planning Department is undertaken. Section 23 concerns the preparation of town planning schemes (development plans) outside Municipalities and Townships. Section 24 permits the commissioner of lands to control the subdivision of plots in Municipalities and Townships. Town plans are prepared under these sections by the Town Planning Adviser and approved by the Commissioner of Lands. Although not specifically concerned with the development of plots, section 24 has been interpreted in practice to include the control of development as well as subdivision. It is apparent, however, that development control under this section has a tenuous legal basis.

The land Planning Act 1968 is mainly concerned with the preparation of development plans, the appointment of planning authorities and the control of development. Part II of the Act allows the Local Authority to assume control over areas for which planning schemes have been prepared and gazetted. Schemes would be prepared by a preparatory authority, in practice the Town Planning Adviser, who would have no power over such areas once the scheme has been gazetted. This part of the Act has been brought into action largely because of the lack of skills at the Local Authority level, and the desire of the government to maintain a centrally based planning process.

Until such time as control powers pass to a Local Authority, Control of development is exercised by the Central Authority of which body the Commissioner of Lands is the chairman.

In part IV of this Act the Central Authority may exercise control over all areas but in practice these areas are restricted, mainly because the authority could not cope with applications covering the whole country. Areas currently under control are:²⁵

(i) areas within five miles (8 kilometres) of the boundaries of municipalities, Townships and former Townships;

(ii) land within 400ft. of the centre line of trunk roads except within municipality and Township boundaries; and

(iii) all land in Kilifi and Kwale districts with certain exceptions.

In making their decision, however, the central authority must have regard to any development plan available.

There are provisions also for appeals against such a decision to be made to the minister.

The control under By-Laws is based on the Local Government Regulations, 1963 which empowered local authorities to make By-Laws "to prohibit and control the development and use of land and buildings in the interest of the proper and orderly development of its area".²⁶

It may thus be seen that although under a number of different statutes, powers exist to prepare Town Planning Development Plans for all Municipalities and Townships and to control development generally. The latter power is limited by the inability of the central authority to exercise this power over the whole country. Nevertheless it should be apparent that the powers defined under the Acts referred to does not form an effective basis for the implementation of development plans or control of development. Much remains to be done to facilitate plan implementation and development control. This need has been recognized by the Town Planning Department and new legislation has been prepared but has not yet been adopted. The principal limitation in the operation of current legislation has been lack of qualified practitioners to implement its provisions. It should be noted too that the National Development Plan 1970 - 74 fully supports the operation of physical planning proposals and controls and proposes a review of current legislation. This is contained in paragraph 3.61 of the plan and may be stated as follows: "It is proposed to review physical planning legislation to ensure that adequate powers exist to implement the plans. In order to make certain that development is sited in properly planned and co-ordinated manner and that adequate land for projects is available without delay, the government will now require that ministries, local authorities and other development agencies

to consult the Town Planning Department at the initial stage in the consideration of their schemes."

It is also intended that the Town Planning Department will decentralise its staff to form Provincial Town Planning offices as soon as the main central planning work has reached a satisfactory stage, and increased staff and other resources made available. This will enable the department to play a more positive role in planning implementation including detailed advice at the local level with a view to securing the necessary control of development and an improvement in the standard and proper siting of local projects.

As indicated earlier, the Town Planning Department has membership to and liaises with a number of standing committees involved in the development planning of Nairobi, Mombasa and Thika as well as other Ministerial, Provincial and District development committees which direct and co-ordinate development at both the national, regional and local levels. The department also provides an advisory service to county councils and municipal authorities through frequent visits for discussions and liaison. It may thus be concluded that the effectuation of the plans of the department very heavily depends on the co-operation of the various authorities of the central or local government or the private developers. This leaves the planning department the difficult task of constantly having to make itself and its proposals known and to exercise strict control to ensure that developments are carried out in accordance with the plan.

Some Planning Problems

The first problem to be noted about the planning process that has been developed in Kenya to date is that

it is still too early for it to be complete and smooth in operation. This may be taken as one of the principal explanations for most of the weaknesses noted in the outline of the process above. The problems experienced in this respect have not been peculiar to Kenya but have been found in the early stages of the adoption of planning in many countries. For instance the acceptance of comprehensive planning in Kenya in 1965 was not accompanied by a full understanding of the powers and the role of the planner and the sacrifice in terms of individual and group interests that were needed to make planning an effective tool for development. There arose therefore direct conflicts between the decision-making institutions in the country with the politicians on the one hand and the planners on the other. But in such a situation it was always easier for the politician to have his way as he could claim to be in a better position to understand the public's problems and needs. The challenge to the planners at this stage included having to define their role and to prove that this role was a positive one in the interests of the society as a whole rather than mere negative intervention. This requires persuasion and practical results and is a long process: indeed the first six years of planning in Kenya have consisted largely of the planners trying to make themselves and their role understood and therefore acceptable. It is only by this means that there can be any hope of extending planning powers.

It was not only political and private interests and public lack of understanding of planning that was a problem. Physical planning, having been practiced in the colonial period in its limited scope of "town planning," had occupied a very insignificant and negative role in development. This made it more difficult for planning to gain acceptance as being capable of playing a wider and more positive role in the economy. There was also professional conflict involving the physical planners and the economic planners. Economic planning had already acquired a high

status especially at national and regional levels and it was difficult to accommodate the notion of the physical planner being translated from his established low status to the height of participation in national and regional development planning. Other ministries such as Agriculture, Commerce and Industry, to name only a few, were hostile to the physical planner too because their established role in national and regional development planning was threatened. Co-ordination was thus extremely difficult to achieve. Although considerable understanding has now been reached in all these cases and the Physical Planning Agency enjoys considerable co-operation most of these sectors, the progress has been very slow and there is still a lot more to be accomplished if full or near full co-ordination is to be achieved in the planning process.

The achievements in co-ordination have been made first with the economic planners followed by the ministries whose work directly relates to physical planning such as the Ministries of Housing, Local Government, Commerce and Industry, Agriculture, Works, Education and Health. One example may be given of the close co-ordination of the work of the Town Planning Department and the Ministry of Works Buildings Branch as stated in the Town Planning Department's Handbook (sheet No. F6; 1971). The Town Planning Department's interest is concerned mainly with provision of sites for all projects. In doing so the departments aims to ensure siting is, in appropriate cases, in recommended growth centres and not fragmented elsewhere, and also to assist in any siting problems a Ministry may have in any town or locality. And in the case of sites for minor projects (those executed by the Provincial Engineer) such as minor office buildings and small institutional housing schemes, the provincial engineer invites the Town Planning Officer responsible to participate in any site discussions and/or visits with representatives of the client ministry and the District Commissioner. It is now accepted that all ministries will have to discuss

their development programmes with both the Ministry of Finance and Economic Planning and the Town Planning Department of the Ministry of Lands and Settlement. In the light of these comments it may rightly be observed that the planning process in Kenya is still evolving. This evolution seems to be taking place relatively fast which is encouraging since the problems it has to deal with are changing rapidly as well.

Contradiction
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view

The lack of professional expertise in Kenya appears as a major source of weakness in the planning system. According to the latest work schedule of the Town Planning Department, drawn in January 1972, there are only five Kenya citizens on the staff of the department, having some training or qualification in physical planning. The country has therefore to rely heavily on foreign experts. But foreign experts are not always easily available and when they do come, they are never in sufficient numbers to meet the requirements. It is perhaps futile to Organize the expansion of the planning service in the hope that enough foreign experts will be made available to fill the positions created. The training of local staff in Kenya has not progressed sufficiently rapidly. All the five are a product of the training efforts of the last six years. Under the circumstances even the centralised system of planning becomes seriously strained in carrying out its functions. Although it has been recognised that the effective operation of the system outlined earlier would very much depend on the decentralisation of the planning office so that some technical service is made available to the Provinces and Districts where most development and problems occur, this is virtually impossible with a total staff of sixteen professional officers. This policy of decentralising the service has therefore been very slow in operation. To date only three provincial offices are available besides the central office in Nairobi. The rest of the four provinces rely on the Nairobi office. The department is therefore unable either to gain a full understanding of the local problems in provinces and districts in sufficient detail or to maintain a close

implementation of plans and other development proposals.

The experience has often been that plans are drawn in the central office in Nairobi with some consultation with the local authorities (county councils and municipal councils) which are the planning authorities at the local level. The district administration is also consulted. After approval plans are usually circulated to those authorities for implementation but the authorities have no technical staff capable of interpreting the plans. Most county councils are also financially so poor that they are hardly in a position to implement some of the plans or even administer their implementation effectively. Most of the municipal authorities would have either a municipal engineer or architect. In such a case the problem of plan interpretation falls on these officers. But often the architect or engineer may have no planning training which renders his ability to interpret the planner's intentions suspect. Nevertheless, it is possible to monitor local implementation by occasional visits from the central office and this arrangement is better than a complete absence of local technical assistance.

This staff problem could be viewed also in its wider implications as a constraint on the total output of the planning system. To carry out the extensive research and surveys required to provide the information for the first stage and goal formulation stage of the planning process requires adequate numbers of qualified research and planning personnel. The continuation of special research projects to provide the basis for evaluation of different courses of action, the review and general feedback information requires adequate numbers of qualified personnel to be continually involved in these research activities. The problem must thus be seen in relation to the research requirements that were indicated in the first chapter. Response to this problem by the Kenya Government has been quite positive.

This may be seen in the decision to establish a local planning school in the university of Nairobi in 1971. It may be difficult to assess the production rate of the new department but it is to be hoped that it will help to lessen the problem of staffing and therefore enhance the development of a more operational planning process.

Data Problems

Closely related to the problems discussed above is the shortage of planning data. The previous chapter dealt mainly with information needs for planning in the national and regional context. But here attention is focussed on the special problems that lack of data poses in the formulation of urban plans.

The type of information lacking usually includes detailed information on housing, transport, employment and wage distribution, statistics and general survey material including suitable base maps and topographic information. Except in the larger municipalities, detailed statistics on housing are always absent and the planner often has to carry out fresh surveys. Employment figures and wage distribution are only available for large municipalities. In planning a small centre therefore the planner is left to carry out a fresh survey which takes much of the planning time. The most difficult problem is, however, found in transport statistics. Even in the larger municipalities which have the bigger traffic problems resulting from a rapidly increasing rate of car ownership, it is rare to find that transport surveys have been done. Yet no planner would overlook the significance of such information to the future functioning of the town he envisages. Officers often have to spend long periods conducting transport studies before preparing their plans. Reference may be made in this connection to the Eldoret Plan (1970) which involved first

a lengthy traffic survey with the preparation of a detailed transportation study report before the plan was prepared.

The explanation for much of the lack of data of this kind lies partly in the undeveloped nature of the planning system and the lack of professional skills but also in the lack of efficient co-ordination of the work of ministries concerned. On the one hand ministries and departments responsible for the various services do not collect their statistical information in a manner suitable for use by the planner. On the other hand it is due to lack of co-ordination that would enable the different authorities to know exactly what information the planner needs and how it would need to be recorded. This might be solved with increased liaison between the Town Planning Department and the other ministries.

But the problem calls for more than just the collection of data and its storage. Most of these problems require detailed investigation that would both facilitate the understanding of their dimension, their influence on the development of the towns and their trends and also the development of better techniques in collecting information. The problem of transportation requires such investigation. More traffic surveys are required to assist even in the setting of basic design standards for roads in the various types of towns. Studies relating land use to transport network and traffic origin and destination are especially required. These would need to be conducted jointly by the Town Planning Department and the Roads Branch of the Ministry of Works. It has already been explained in chapter one that studies in housing problems were also urgently needed.

On the whole lack of planning data leads to considerable expenditure of planning skills on the preliminary stages of site surveys and consequently a great delay in the production of plans. The problem is made worse by the long distances

that have to be covered by an officer from the central office to the site in question.

Planning Standards

As explained by Thornley Dyer, a former planner in Kenya, planning standards used in European countries do not often meet the requirements of local conditions in Kenya²⁷. One of the problems that planners encounter in the establishment of standards relates to the multi-racial composition of Kenya's urban population consisting of Africans, Asians and Europeans. It is difficult to cater for the varying needs of these communities. This mainly applies to residential standards. It is particularly difficult to establish social values of the Africans and Asians in the lower incomes. The middle and higher income groups tend to accept readily the European standards and thus make the problem lighter. The possibility of adaptation cannot be completely ruled out as it is in fact happening. But it is not known what the rate of change is. As Thornley Dyer observed in 1957, the Asian people of the lower income maintain their tradition of living in large groups consisting of multiple households of three or two generations and comprising three or four families. They will therefore number from ten to twenty persons in a double house under one roof. The Africans on the other hand come from isolated rural homesteads in agricultural communities accustomed to free space and free association, into the crowded urban conditions. How the planner in such circumstances determines suitable residential standards to satisfy the social values of such mixed communities is really difficult. It is impossible to talk of ideal standards in such circumstances. The greatest challenge is that of establishing satisfactory standards for housing the transitional communities in towns who currently live in the squatter, slum and shanty town areas of the towns. The requirement here is one of providing accommodation that

will be within the means of the poor residents and to establish conditions that enable the squatter or slum residents to feel secure in the total city community. As stated earlier in chapter one more studies of these communities, ^{and} their problems are needed, to help planners understand their needs.

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As already implied the plan implementation system in Kenya is still very weak. The previous sections have explained some of the causes of this weakness. One aspect to be considered here is the deficiency in the planning organisation machinery. This weakness is found particularly at the lower levels of the administrative structure involving the powers of the county councils as planning authorities and the function of the district and Provincial Development Committees.

As already explained in references to planning legislation, the county councils neither have the powers nor are they equipped with adequate funds and technical personnel to function properly as planning authorities responsible for the implementation of plans and control of development.

The use of the Provincial and District Development Committees while playing a significant role needs to be re-examined. There is a clear division between the role of the political representatives and the professional civil servant in planning decisions which appears to be unnecessary. The existence of provincial and district development committees on the one hand with separate Provincial and District Advisory Committees seems to be an unnecessary duplication of committees. This implies that there has not yet been achieved sufficient integration of political opinions and the professional civil service opinions in planning decisions.

As the development committees consist of mainly provincial heads of departments and the advisory committees consists of all members of the Development Committees at either level and political representatives, it would appear in practise that this set up, however, much functional it may be, tends to perpetuate the traditional conflict between the professional civil servants and the public with their political representatives. Little co-operation can hope to be achieved in decision-making between the two sides. A merger of the two at either level would probably be better as the present set up normally leads to a general lack of commitment to the plans prepared.

The role of the county council, below the district development committee, although their areas of administration usually coincide, is another cause of weakness in the system. The county council consists of elected representatives and may be relied on as better representing the local views. But the district development Committee consists of central government officers who can hardly be representative of local interests. The traditional relationship between the two as regards development policy has been one of conflict. In essence the county council looks upon the District Development Committee as playing the negative role of slowing down the rate of development as they usually have the final say on what projects should get central government financial support and what priorities they should be given. Probably delegation of wider powers to the county council would enhance the implementation process. It would appear that they should be brought more into the decision-making structure and might be more ready to co-operate with decisions from a more representative committee comprising both representatives of the public and government officers than with the present committee structure.

The development of most industrial (both manufacturing and service industry) and commercial enterprise in Kenya is undertaken by private developers. This sector of the public is least represented in the planning system and yet they are supposed to co-operate in implementing development proposals and to honour the provisions of development plans. It might be suggested that the industrial and commercial sector should be involved more in planning. This is well recognized by the Kenya Government but how they should be involved is still to be resolved. This is directly related to the problem of public participation. Although recognized as necessary, experience in countries such as Britain have shown that the public in general remains apathetic towards participation in planning until physical development starts, by which time it is too late. It is therefore a problem that requires careful study to determine in what form the public can participate in planning and at what stage.

Requirements for the Future

Looking at the whole system of planning in Kenya and the problems in its operation it may be considered that a more integrated approach both in the plan formulation and the implementation stages will ensure more effective results. First it has to be appreciated that planning is essentially an instrument of government and for this reason planning machinery has to be fully integrated within the structure of government. Alternatively the planner like the politician is the servant of the public in a democratic society. It is therefore necessary that where ever possible the public should be drawn into the planning system so that planning does not appear as a back-room expert activity carried out in isolation.

It would appear that failures of translating plans into practical and effective development achievements arise from the gap between plan preparation and plan implementation. From the discussions above, there seems to be room for a thorough re-examination of the organization of planning

and its implementation so as to evolve administrative and planning machineries at varying levels, which are based on the understanding of plan preparation and implementation as one continuous process.

In conclusion it should be noted that there have been indicated throughout this chapter a number of research requirements. These may be seen in the general lack of data concerning most of the problems that have to be dealt with. There is the need for follow-up studies of the various development projects to test the practicability of the planning solutions adopted. There is also need for socio-political and socio-economic studies of the total society and its various communities. These studies should be designed to establish society values and needs and their pattern of change. Such knowledge would facilitate the formulation of goals, objectives and the desired planning standards, to satisfy the needs and values of the society. Detailed studies are required to discover the most feasible types of houses for the low income urban residents.

Case studies of the special implementation problems of various projects and plans should be carried out to provide a basis for more effective implementation policies. The problem of restructuring the planning machinery to ensure that there is the required co-operation and participation in the plan formulation and the plan implementation require urgent study. Particular attention should be paid to the discovery of better ways to involve more sectors of the community in both stages of the planning process.

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CHAPTER III

Research Priorities

The previous chapters have presented a broad analysis of the planning problems in Kenya associated with urban and regional development as well as the planning process itself. Particular attention was paid to the identification of areas requiring research. This chapter attempts to bring together the findings of the two chapters and define some priorities for research required to improve the planning system in the country.

The Application of Research to Planning

The meaning of research and planning as conceived in this dissertation has already been given elsewhere. We may note at this point that the necessity for research comes from our limited knowledge in relation to the problems we have to tackle. The object then is to find answers to an increasing number of problems and to develop analytical techniques capable of dealing with the even more complex questions likely to arise in the future. The main connection between research and planning therefore is the information needs of planners.

If planning can be regarded as both the control and imposition of change in a system, the system being composed of these human activities and communications which have a locational or spatial element, our information must be a description of the system we seek to control. But as the system is ever changing, we need to know how its parts and connections change and therefore how the system changes as a whole. We must also try to identify what has caused

these changes since this will be vital to our hopes of effective control.

Need for Research Priorities

It has been demonstrated in the previous chapters that the information and knowledge required for planning in Kenya is either inadequate or non-existent. It has been shown however, that the task for the planners in Kenya as anywhere else is complex. It embraces the whole land surface of the country and all human activity. It compels a concentration on the inter-relationship of activities, which is more difficult, than their study in isolation. It involves a planning process of challenging technical content and requires a deep professional knowledge and ability to work harmoniously with a range of other and diverse skills. It also requires intelligent working for and with the community and with its decision makers, both elected, appointed and self-constituted.

Against this there are tremendous pressures for the need to make important urban and regional development decisions and a serious shortage of man-power available both in planning practice and research. Yet both the planning process and research are relatively immature. There is therefore a need to select priorities in research. To do this we have to view the problems of urban and regional development in Kenya and the planning process as one whole system and select research priorities in accordance with the stages in the planning process to which they relate.

In defining priorities at this stage it is not intended to indicate which discipline (Planning, Geography, Economics or etc.) should be responsible for undertaking what aspects of research. This is considered not practicable or necessary. Furthermore, there is considered to be urgent need for interdisciplinary research on many of the problems. It is also not intended to carry forward the suggestions made in previous chapters as stated but an attempt is made to give

a broader classification of the problem areas identified. It is intended however to clarify the general problem of what types of research should be pursued in countries at the same level of development as Kenya.

Research Priorities

Owing to the urgent need for rapid but planned development and the limitation of resources it cannot be expected that research for its own sake would be accorded high priority. The research required in Kenya, as defined in the current national development plan 1970 - 74 is that which relates to the advancement of knowledge in order to enable development programmes to be drawn up using improved techniques; and that which relates to the investigation of specific problems which impede rapid economic development. We may carry this further to clarify whether it implies pure or applied research as choice between the two has become a matter of common debate in Kenya. Some clarification is therefore essential. It may be noted, however, that sub-divisions of research types are only based on the nature of the questions on problems under study, but not the subject matter of inquiry. For a better basis of determining which types may be relevant to the Kenya situation use is made here of the classification used by the Zuorkerman committee noting that "there is and can be no clear-cut line of demarcation between one form of research and another; basic research and development are, so to speak, bands at opposite ends of a continuous spectrum"²⁹ Their classification consists of five subdivisions as follows:

(a) Basic Research is divided into pure (or fundamental), whose sole aim is to increase knowledge; objective, which lies between the pure and applied research, and denotes work of fundamental character that is carried out not as an end in itself but with relevance to some definable technological objective.

(b) Applied Research: the distinguishing feature here is the object of attaining a practical goal that can be fairly precisely defined, which is the motivation for the research itself. This is further subdivided into operational research which is aimed at improving some existing process, including, improvement beyond recognition; and project research which is aimed at the innovation of some new process. Included in the former might be a study aimed at optimising the use of resources in the planning process itself and in the latter could be cost benefit analysis applied to specific projects.

(c) Development: this is the process that bridges the gap between the research and actual production, and is aimed at translating the research into practise. Under this could be included pilot projects to demonstrate methods of carrying out rehabilitation of outworn residential areas. Falling in this category too may be the pilot projects demonstrating different approaches to rural development in Kenya.

From the above outline, it may be considered that most of Kenya's development problems call for more applied and development research than basic research types. This is not to say, however, that no basic research is needed. Basic research will continue to be pursued in our research institutions especially in the university. But when determining priorities for research that should assist in the achievement of economic development with only limited resources available they have to be allocated sparingly on research that gives a greater hope of achieving development goals. Robert Gardiner (1968) explained this point most satisfactorily when he said "Africa is not denied the knowledge of new technology but she is lacking in the technical know-how of what technologies to impart and how to apply them to local conditions". Priority therefore should be given to applied and adaptive or development research. This is important not only because of their neglect but also because

they are important aspects of research activities which have a direct bearing on the solution of development problems.

General Priorities

As has been implied in the first chapter concerning the subject matter of planning in Kenya, we need to know as much as possible about existing patterns of land use and human activities; how they have arisen; how they are changing, and their future trends. This should include (i) The study of population growth, its migration and distribution. (ii) The urbanisation process and its rate of growth and distribution, and (iii) factors influencing these and their effects. We need to look at the whole economic structure of the country, its patterns and their implications in terms of future social needs. In this respect we require studies of the implications of economic growth and urbanisation strategy for major regional and urban physical infra-structure including housing, urban water supplies, urban sewage facilities, new social services, trunk road development feeder road development, additional airport facilities, additional port facilities and additional railway facilities. The translation of economic growth and the implications of this upon the need for new factory, office, and commercial construction. We need studies in the translation of economic growth and urbanisation strategy into urban land use requirements. This should also include studies of the impact of new trunk roads on rural areas, and the impact of industrial projects located in depressed districts. We also need studies of the nature of linkages between land use and transport.

Within the planning process techniques to speed up the work of survey and analysis are urgently needed. We require knowledge of how to establish a national data bank for land use, physical development and demographic information. This might involve first carrying out land use surveys

and a classification of land use for use in planning.

Urgent surveys are needed to obtain information on income and expenditure patterns of households. Such information should help to develop an adequate picture of savings, the construction of input/output tables. It should also help to expand knowledge on small-holder agriculture and employment in the rural areas as well as the nature and extent of rural non-agricultural economic activity. These would facilitate the building of various mathematical models for explaining current relationships and forecasting the impact of change. They would also facilitate the use of economic models explaining flows of income, product and activities between regions.

Concerning the plan and its form, although we may rely very much on the work done in the developed countries, the challenge to the planner in Kenya is to search for the plan that satisfies the requirements of local conditions. In this connection it should be noted that the development plan is not immutable and so possible alternative forms should be explored. In formulating plans, urgent need for studies on ways to improve the machinery for decision-making. Cost benefit analysis and other techniques such as threshold analysis which enable us to select between alternatives and identify constraints in the different courses of action. should be applied to selected projects to test how much they would improve the quality of planning decisions.

On implementation, the need is to test the whole set of administrative, legal and financial institutions upon which we rely for carrying out our plans. Perhaps this could be done through case studies of the implementation of plans in practice in order to compare the experience with the intention. The research lessons would be greater if we carry out development work by designing and implementing prototype projects relating, for example, to relocation of those displaced through redevelopment, and the building of a new shopping centre at the expense of the old. The current

work in the squatter settlement in Mathare valley in Nairobi is an adequate example as already a recent study of this has considerably enhanced the understanding of the problems involved. More studies could be based on the rural development schemes currently pursued in different districts in Kenya. There is also ample opportunity to carry out studies on the relocation of shopping centres, a common feature of development in most of the towns in the country. A good example is to be found in Kakamega the provincial capital of western province which recently had its market resited and enlarged.

Professional planning activities also require studies relating to communications in the planning process. As was noted in the second chapter, conflicts among professionals and other workers involved in the planning process are among the problems experienced in Kenya. Reference may be made here to conflicts that have occurred in the past between physical planners and economic planners and agriculturists. It may also be noted that much of the inter-departmental and interministerial co-ordination urgently needed in the planning process in Kenya is across professional lines. Consequently studies should aim at improving mutual understanding and co-ordination of the many participants in the process, and the levels of professional decision-making. In particular some attention must be given to the use and application of critical path and network analysis for different kinds of large scale jobs, such as regional plans, new towns, town expansions and town plans; and to the intergration of the different skills involved, whether they are in the same office or in separate offices.

The community itself needs extensive study in its social values. This relates to planning standards. Human needs, as has been noted, are ever changing and planning standards which are supposed to satisfy these needs must be kept under -

constant review. All currently used standards, should be overhauled to ensure that they satisfy the present society values. Studies in the establishment of planning standards should aim at defining criteria for design standards. Full appreciation should be made of the costs involved in varying standards, not that the highest is not necessarily the optimum, but we should be able to compare the different levels in these terms. The standards could be related to rising incomes that are assumed to grow or change over the planning period.

The relationship between the planner and the politician in the society is one that is most vaguely defined. And as we have seen, there is always possibility for conflict as they are both involved in the decision-making process. Harmony and understanding between the two groups is important however, because it would very much enhance the planning process. To establish such an understanding it would appear essential that studies should be made of the political organizational structure with special reference to the way decisions are made in the Parliament, the cabinet or county council. But since in a sense the planner is the servant of the politician in government concern might be focussed more on the less formal aspects of political organization, such as pressure groups.

Finally the client public is perhaps the least involved in the planning process and as has been indicated earlier this is part of the cause of lack of commitment to plans and consequently problems of implementation of plans. This is a problem which continues to exist principally because of ignorance on the part of the decision-makers of the fact that, the public are more concerned about the development proposals and the way they are decided upon than the planners and decision-makers themselves. The public or the community are the ones most directly affected by development plans. Positive studies in this field are urgently needed

to consider the effects of displacement by development projects, to be followed by research into techniques, methods and procedures for relocation. We need to consider also processes for bringing the public effectively into planning participation.

This general classification of research priorities, based on how the problems fit into the planning process, succeeds in giving a comprehensive approach to problems of lack of information throughout the planning process in Kenya. It is expected that this should form the general approach to be followed in collecting information for planning at all levels of planning - national, regional and local or urban. More detailed comments have been made in the previous chapters specifying particular research needs and these should be referred to in conjunction with the comprehensive pattern developed here. It should be noted also that the research priorities listed above under each stage of the planning process are not meant to be exhaustive. Rather it is a broad definition of the nature of the subjects that might be considered in connection with that particular stage. It is hoped that this broad definition of areas of research priorities covers most of what would be required in the long-term to achieve a full development of the planning process in Kenya. But there are some outstanding problems needing very urgent research.

Short Term Priorities

These relate to problems that are considered to be overdue for attention and cannot be left waiting for long-term research results. Some issues need to be examined straight away to facilitate immediate policy decisions. Unless solutions are reached in the near future some problems could grow out of control and become more costly to remedy. These include: (a) The need to study the rural to urban migration patterns, especially noting their causes and attractions,

and their effects both in the areas of origin and the receiving areas. The object of such studies should be to arrive at a suitable policy of either checking the migration by creating conditions in the areas of origin that are conducive to keeping the population locally occupied, or suggesting a suitable policy for the rehabilitation of the migrants in the towns with both opportunities for work and accommodation. Squatter settlements, shanty town developments and slum developments and their associated problems could be looked at in the light of the above mentioned study. It should be recognized that the migrants cannot easily be ordered by legal and security means to go back to the land. Rather these are communities that have got their stake in the rest of the urban life and all that it offers. The approach therefore should be one of acceptance with positive efforts to find solutions to their problems that will give them happiness and security and a chance to contribute to the urban society. Squatters are to be found in Kenya both in the towns and in some rural areas and the problem should be studied both in the nation, regional and urban context. Policies are needed in connection with these settlements that will lead to less expensive but more acceptable rehabilitation schemes based on a clear appreciation of their values and financial means. (b) Another related problem is housing. The housing standards, costs of housing and housing conditions are all areas that should be studied. Housing studies should be concentrated especially on the provision of low cost housing. The questions to be tackled here include what type of house should the transitional urban inhabitants be provided with? Of what material should such houses be built? and, what cost of material or house should be used in housing people of these classes? Then what rent should such people be expected to pay? The object of such study should be to recommend a rent policy that allows for all the non-conformities that are associated

with such communities undergoing transition from a purely rural to an urban environment. (c) Studies of ways of creating employment opportunities on a national, regional and even urban level is another very urgent need. It has close relation to the studies suggested above and if successfully solved could most likely provide answers to the other problems. This requires the study of resource distribution and determining the potential at different levels for industrial development. At the regional level, this could assist in solving migration problems by determining farming areas with capacity to absorb surplus population from the depressed districts. In the urban context it implies determining employment opportunities for the unskilled or semi-skilled migrants living in shanty towns, squatter and slum settlements. (d) Studies of rural development techniques and the applications of new techniques such as those similar to intermediate technology and their use for rural production. This requires monitoring the progress and problems of current pilot rural development projects. (e) The problem of water supply is crucial both in towns and in rural areas especially the arid and semi-arid regions. But little is known of their exact needs and possibilities for making water available in these areas. Studies to assess the need and alternative solutions are urgently needed. (f) The implementation of all plans and government proposals rests on the county councils. But as we have seen they have very little power to execute plans. Nevertheless changes cannot be proposed without sound investigations of what the nature and extent of the power they require. How should their organization continue to be tied to the central government administrative powers? It is suggested that we might need more autonomous county council authorities.

This has to be studied, to reveal solutions urgently as, otherwise the whole planning process could be rendered useless when no plan implementation is achieved.

Finally it should be noted that all these proposals depend very much for their successful execution on the availability of research skills. Efforts to train local research personnel should therefore be given the highest priority. An atmosphere suitable for research should also be created to encourage more local scholars to take to research. Research has to be given a priority even in designing employment terms. This should ensure that people with suitable research aptitudes do not go to industry for better terms of payment although these must be within the limits of resources available.

CHAPTER IV

Research Organisation

In this chapter an attempt is made to examine the present organisation of research on the basis of the requirements to accomplish the research needs identified in previous chapters. The prime intention is to identify problem areas in the organisation that would need improvement.

Present Set Up

At present the main research institution in Kenya is the University of Nairobi. Apart from this most research undertaken in the country is related to agriculture and veterinary services, and to a lesser extent, forestry and health. This research is carried out at stations which are run either by individual ministries of the government or by the East African community. The East African community is the regional economic organization of the three East African states of Kenya, Tanzania and Uganda. Research in the East African community is administered by the East African research organization among government ministries, agriculture is the most important in this field. For research undertaken by government ministries, priorities have in the past been determined by individual ministries and resources for undertaking research obtained through the budget. Technical assistance has also been important, particularly in the supply of scientific personnel and equipment. Although machinery to control and direct research in the East African community does exist, this has not worked very satisfactorily. As concerns the

University, besides the work of individual faculties and departments, there are special research units such as the Institute for development studies, the housing research and development unit to name only a few.

It has been noted in the Kenya National Development Plan 1970 - 74 that scientific research in the country has not been as closely integrated into national development priorities as it ought to be. In order to overcome this and to maximise the contribution of research to national development, it is proposed to establish, during the plan period a National Research and Scientific council whose broad objectives will be as follows:

(a) To encourage the application of science and Technology to national economic and social objectives:

(b) To advise the government on, and to assist in, the establishment of priorities for scientific research related to the development of industry, agriculture and medicine:

(c) To co-ordinate research in all its aspects; and

(d) To secure wide dissemination of research-results.

The proposed council will be representative of government and non-government interests and will have a permanent secretariat with a full time officer in charge of it. Sub-committees of the council to deal with specific fields will be set up. The council will recommend a co-ordinated research budget to the government annually and will also have evaluation machinery to assess the benefits of research. The council will operate under the responsibility of the Ministry of Finance and Economic Planning.

It is explained that while the council will concern itself primarily with scientific research, social research will be undertaken by the Institute for Development Studies at the University of Nairobi. The Institute has worked in close co-operation with the government and orientated its research efforts deliberately towards investigations relevant to economic and social development. It is therefore expected that the overall research programme of the Institute will continue to reflect priorities suggested by development needs. It will henceforth be required to undertake research clearance for all new research proposals.

From the above outline it may be seen that although the existing organisation of research is not satisfactory official proposals for correcting the situation are underway. The setting up of a National Research and Scientific Council with powers to co-ordinate all research is considered useful for the execution of the research needs defined in this study. And the use of the Institute for Development Studies to co-ordinate research of social and economic aspects helps to complete the scope of research for urban and regional physical planning.

Some Problems

The first problem to be noted concerns the implied subdivision of research work into scientific and socio-economic types. This could lead to a conflict between the professionals concerned, especially as the body responsible for scientific research is given overall co-ordinating powers. This, however, is not a problem peculiar to Kenya as it is to be found even in countries like Britain.

Alternatively use could have been made of a general National Research Council with the wide powers of co-ordinating all research in the country, scientific or non-scientific. This could be composed of sub-committees responsible for specific fields. Under this set up professional research

later would operate separately with probably less conflict. It should be noted however, that a state of complete harmony among professionals engaged in research is difficult to achieve.

Measures should, however, be taken to ensure that such conflicts over priorities does not interrupt the operation of the two bodies proposed. Such measures could include the provision that the institute for development, being the recognized national co-ordinating body for social and economic research should function more as part of the wider National Research Council. This would imply that the two bodies should be conceived and in practice function as one rather than separate. The point to be noted in this respect is that the composition of the National Research and Scientific Council and its relationship with the institute for both a comprehensive representation of interests and a more complementary scope of function.

Co-ordination of research should not be limited to the Kenya government research alone. As has been shown there already exists an East African Research Organization which has more experience. There is no provision in the outlined powers of the council that it would seek to achieve co-ordination of research with the neighbouring states. This would be considered useful as its lessons could very well be learnt through research in these countries. Most problems of development in the region are quite similar and duplication of research should be avoided at all costs. Co-ordination could be achieved by maintaining direct links with both the East African Research Organization and the national research organisations of Uganda and Tanzania.

It is not clear from the national development plan how the problem of personnel will be solved. This as noted in the previous chapter is a problem that should be accorded the highest priority. In considering solutions to the lack

of research personnel, the council will be required to appreciate the multi-disciplinary nature of the problems to which research has to provide solutions. It should therefore promote an inter-disciplinary approach in research and encourage inter-ministerial and inter-departmental research. This also implies that the council should endeavour to train and attract personnel into research from a wide range of disciplines. Experience of many foreign experts working in developing countries has tended to show that certain problems are more easily understood by research personnel of local origin. Furthermore it has been shown that foreign experts available for research in such countries are relatively few and do not suffice the requirements. It may therefore be suggested that the training of research personnel of Kenya origin should be accelerated. This, however, should not imply that foreign experts should be dispensed with; the expertise of foreigners has already helped to achieve much useful research results and their use should be encouraged. As part of the training requirements local research personnel would gain a lot by working side by side with foreign experts.

In relation with training of personnel, it might be required too that the National Research and Scientific Council will examine such methods as provision of grants to university students to do research courses. As a condition in such a case it might be required that the student, undergraduate or graduate, should carry out research that relates to the defined nation's problems.

The problem of personnel and financing of research are very closely related. And it may be required that in attempt to promote both the co-ordination of research in government and university, and the training of research personnel, a system of commissioning university

facilities to carry out research in specified fields could be examined. This method has been used with good results in Britain and other countries.

The council could also explore the possibilities of setting up research units in government ministries into which the money budgeted could be channelled. Local authorities such as the city council of Nairobi and the Municipal councils of the large towns or any county, council that is capable of employing research experts should be encouraged too.

In the dissemination of research results it might be useful for the council to run a special library or help to set up ministerial libraries to facilitate research. It should also maintain a record of all research completed, priorities of research to be done and a comprehensive bibliography.

Implications For The Town Planning Department

The Town Planning Department's research work should be drawn to fit into the national priorities that the National Research and Scientific Council in conjunction with the Institute for Development Studies will have drawn. It may be expected, however, that since there will be budgetary provisions for research, there is a good scope for setting up a research section within the department. This will be necessary as the department will require to provide guidance and direction in defining research needs and their priorities for physical planning at national regional and local levels. Such research section should not be allowed to overwhelm the functions of the department. That is it should not turn the department into a research institute. Rather it should be small, only catering for the department's information requirements for monitoring plans. But also it could be organised to provide the core of the physical planning studies specialising on the aspects not adequately covered by the other departments and research bodies.

This would require, however, that the staffing structure of the department should change slightly to accommodate a few non-planning specialists whose main duty will be to carry out research and advice on matters of their speciality. This, however, should not be carried to the extent where it duplicates work elsewhere. More reliance should be made of research in other departments such as housing. Joint research with other departments and university research units should be made use of too.

CHAPTER V

Conclusions

Kenya, like most countries in Africa, is determined to achieve rapid economic development through planned action. The problems she has to overcome in order to achieve this development goal have to be understood before planning can hope to produce effective results. Such problems are many and include poor resources for industrial development. This is exemplified in the general lack of any extensive mineral resources. Nor has Kenya got adequate land resources with good agricultural production potential. Approximately 70 percent of her total land area is dry and only used by nomadic peoples whose main livelihood is based on the keeping of livestock. Only about one quarter of the total land area of the country enjoys humid conditions suitable for agricultural production. Productive land in Kenya is scarce.

The total population is approximately 11 million according to the 1969 population census. Only about 17 percent of this population is settled in the 70 percent of the country that is generally dry and relatively unproductive. Over 80 percent is settled in the remaining humid part of the country. Historical factors consisting of different waves of cultural influences and physical factors of environment have combined to produce considerable disparities in the distribution of the population over the scarce resources of land in this humid region. These disparities in the distribution of population over the land resources available became more pronounced during the colonial period when the

policy of separate development for European and African areas was pursued. This further led to the creation of disparity in the distribution of infra-structural development in the form of urban development, development of communications and transport facilities, social services and industrial activity between these two areas. With the rapid rate of population increase (now at 3.3 percent per annum), streams of migration have been set in motion flowing from the former African areas to the highland zone and attracted both to the towns and large scale farming areas for employment. This has also led to rapid urban population growth. The national urban population growth rate is about 7.2 percent per annum. At this rapid rate the total population of the country is expected to grow to well over 25 million people by the turn of the century. The urban population at that time is expected to be approximately 7.5 millions.

The problem is that the growth of the economy does not keep pace with that of the population. And employment opportunity for both the rural and urban people is inadequate. While efforts are to be made to control the population increase and urbanisation rate, solutions must be found through planning to meet the needs of the people. Development has to be redistributed to ensure a more equitable distribution for all regions in the future. The policies for developing the limited resource potentials while at the same time keeping such processes as migration under control must be provided by the planners. But it has been observed that information concerning these processes is not available. Their full implications and dimensions are not fully known. It is therefore virtually impossible to reach realistic planning solutions. To do this, all these problems have to be studied in detail.

To plan, however, requires an efficient planning process. The information obtained from research would

not be of use unless it fits into an efficiently functioning planning process. Such a process in Kenya has only recently been created. Only the basic structure of an efficient operational planning process has been established and efforts are being made to improve its applications. Problems are, still experienced in the formulation of plans principally due to the lack of information and in inadequate understanding of the problems of the environment that is to be planned. Other problems are experienced owing to the lack of understanding the society and its values and organization. More problems are experienced in the implementation of plans as a result of the rapid rate at which development is taking place. The administrative machinery has got to be adjusted and strengthened to facilitate the effective implementation of plans. The need for research into the problems of plan formulation, especially the formulation of goals and standards, and the study of problems of plan implementation has been noted. There is a general need for research to be carried out on the specified areas to enable the planning process in Kenya to fulfill its purpose effectively. But Kenya is a poor country with limited financial resources. She has not got the necessary professional and research personnel to carry out extensive research work. She relies on foreign aid for the supply of finance and the necessary skills. Such resources should only be allocated for the most urgent needs. It is therefore essential that a set of priorities should be defined to guide government in deciding which problems should be tackled first.

In view of the limitation of resources, it has been regarded that priority should be given to applied and adaptive or development research rather than basic research. Applied and development research is shown to be more relevant to immediate development needs.

Recognizing urban and regional development and planning as a continuous system, research priorities have been drawn according to the stages of planning.

A specification of special short-term research requirements

has been set out. These have been abstracted from the general synthesis because they represent defects which if not studied and tackled in the short-term are likely to become too costly to remedy and could render the whole of the planning process virtually purposeless. These include problems of migration of population, problems of uncontrolled squatter and shanty town settlements and slum development; problems of housing and the need for housing rent policies that cater for the poor income communities in towns; the problem of deficient employment opportunity; studies of rural development needs in relation to the application of intermediate technology; problems of water supply in urban and rural areas; and the need for local government reform - especially the need for autonomous local authorities. All these must be studied in their national, regional and, where appropriate urban context.

Further, to implement a policy for research priorities it is important that the education of the required personnel and the creation of the right conditions in the country for research workers should be given high priority. All this requires an administrative organization to ensure that research is carried out by the right people, and to draw priorities, co-ordinate research and ensure the wider dissemination of research results for use in the planning and policy making.

The present organisation of research undertaken by the East African community ^{is inadequate}. The Kenya government has therefore proposed to set up a National Research and Scientific Council which will co-ordinate all research in the country. The principal objectives of the council will be: to encourage the application of science and technology to national, economic and social objectives; to help in the establishment of research priorities related to the development of industry, agriculture and medicine; to co-ordinate research in all its aspects; and to secure wide dissemination of the research results. The council is planned to be representative of government and non-government interests. And

And subcommittees will be set up within the council to deal with specific fields. To finance research the council will be responsible for the recommendation of a co-ordinated research budget to the Government annually and will have evaluation machinery to assess the benefits of research. The council function under the Ministry of Finance and Economic Planning.

For the needs of social and economic research the Government proposes to extend the powers of the Institute for Development Studies of the University of Nairobi to include the co-ordination and clearance of all social and economic research.

It is considered that the government's plans do cover the requirements for research organization adequately.

Any chance for rivalry between the two research bodies on grounds of professional priorities should, nevertheless, be avoided as far as possible. As regards needs for research personnel it is suggested that due consideration should be taken of the multi-disciplinary nature of the subjects to be studied. The Research and Scientific Council should therefore promote the use of inter-disciplinary and inter-ministerial research teams. The council should attach high priority to the training of local research personnel by giving research scholarships or grants for study at the University of Nairobi. Use should also be made of research skills available at the university through ad hoc or permanent government commissions for university faculties or departments to carry out research in special fields. Through these ways it would be ensured that university research courses are well related to the national development problem. It is considered necessary, however, that use of foreign research experts should not be discouraged. The National Research and Scientific Council should, in fact, be free to get into direct contact with foreign aid agencies to negotiate for assistance with personnel and finance. Further, the council should endeavour ~~to~~ work in close collaboration with the East African Research Organization as well as the National Research Bodies of the neighbouring countries of Uganda and Tanzania. This would enhance the exchange of experiences and avoid unnecessary duplication of research.

At the departmental level it is expected that the co-ordinated research budget to be recommended by the National Research and Scientific Council should reflect the research needs of all ministries and departments and any other research agencies. It is thus recommended that departments such as the Town Planning Department of the ministry of Lands and Settlement should be encouraged to set up small

research sections. For the Town Planning Department, immediate steps need to be taken to set up such a section within the constraints of available personnel and finance. But future implications would be that a few more non-Planning specialists should be employed to satisfy the special research needs of the department. This will be necessary to enable the department to identify the special research needs for urban and regional physical planning which should be brought to the attention of the National Research and Scientific Council as well as the Institute for Development Studies when drawing their priorities. This would also be useful for the department in that it will provide a more continuous flow of information needed for the review of plans.

On the whole this dissertation has demonstrated the urgent need for information and understanding of the environment in planning in Kenya. To meet these requirements it has been shown that not only are general statistical surveys required but extensive research has also to be undertaken. In attempting to meet this requirement, countries such as Kenya, with poor financial and skilled manpower resources have to identify their research priorities in a comprehensive national context first, then set up the suitable administrative machinery for the organization of all research. High priority should be given to the applied and development research types as these deal more with the problems associated with their development needs than basic research. An important requirement, however, is the provision for training of national research workers and the creation of the necessary working conditions to enhance the interest in research. Finally, there should be an adequate co-ordinating machinery for research.

This dissertation has also demonstrated some of the typical problems experienced in the establishment of planning in a newly independent country characterised by rapid socio-economic

change and a political organisation that is not yet sufficient to administer interventionist policies. Under these circumstances, however useful the planners intentions may be, there are difficult social, economic and political problems to be experienced.

This study has by no means been exhaustive. The attempt has mainly been to explore the problems caused by lack of information and inadequacy of knowledge of the environment in Kenya on the planning system, and define research priorities. The writer is convinced that there is still much more to be done to define research priorities in greater detail. A more detailed study of the scope of work and powers of the different research units in government ministries, university and other private institutions is an essential prerequisite for the formulation of a general research policy. Further specification of research priorities for different ministries and departments would also be required to enhance co-ordination. On the regional scale it is suggested that possible ways of co-ordinating research work between the three East African States should be examined. These could be done through the existing East African Research organization. And the possibility of pooling together research personnel and results should be sought.

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