THE IMPACT OF POPULATION AND SOCIO-ECONOMIC FACTORS ON THE PHYSICAL STRUCTURE OF URBAN SETTLEMENTS IN WESTERN KENYA

AARON AGBATEKWE

A thesis submitted for the degree of Master of Arts (Planning) in the University of Nairobi

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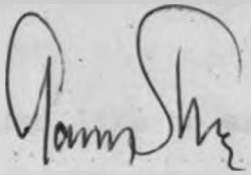
DECLARATIONS

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



Aaron Agbatekwe

Candidate

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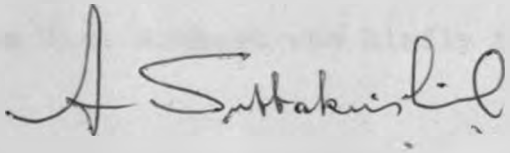

Professor A. Subbakrishniah.

Dr. P.A. Memon.

A C K N O W L E D G E M E N T

In the course of the preparation of this work, I received invaluable assistance and co-operation from several persons and organizations for which I am very grateful. I must, however, apologise that all these cannot be individually recorded here.

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A.A.

A B S T R A C T

This study set out to examine urbanization in the Western Provinces of Kenya by examining the impact of demographic and socio-economic factors on the urban settlements in the region. The main area of the study was defined as the examination of the physical structures of the settlements in terms of the amount and pattern of land use as well as the structure of land values in the settlements. The basic hypothesis is that the physical structure of the city and its changing pattern are functions of the socio-economic factors affecting it. It is further postulated that policy actions in the form of planning and other controls play a crucial role in determining the degree of relationship between the socio-economic circumstances of settlements and their emerging physical structures. The aim of the study, therefore, is to attempt to reveal areas where fresh policy actions might be required or where changes in current policy directions might be necessary.

In chapter 2 some of the major related theoretical orientations and case studies are reviewed. First the theories are examined in the context of Western cities and then on the basis of selected case studies of non-Western cities with particular emphasis on African cities. Finally the chapter briefly reviews the origin and development

of urbanization in Kenya.

Chapter 3 sets out the analytical framework of the study. First, the basis for selecting the study settlements is described and ten selected settlements are identified on the basis set out. Then, the parameters for measurement and analysis are also described. The chapter finally sets out the scope and limitations of the study and as well points out the relationship between the analytical framework described and threshold analysis which is gaining growing acceptance in planning circles.

Chapter 4 presents an overview of the physical, social and economic bases of Western Kenya as a prelude to the specific examination of the selected centres in the following chapters.

In chapter 5 the socio-economic influences which have affected the selected are examined. The origins and function of the individual settlements are examined and their demographic compositions and employment structures are also analysed on the basis of the framework described in chapter 3. The analysis makes it possible to compare the trends among the settlements and also to compare the results obtained with the regional and national figures. A strong correlation was identified between the economic and demographic trends in the settlements.

In chapter 6 the physical structures of the settlements are examined in general on the basis of

the spatial distribution of land uses, the evolution of the spatial structures, space allocation among the various land use categories and the structure of land values. On the basis of statistical evidence the chapter concludes that the various aspects of the physical structures of the settlements are reflections of the socio-economic forces that generate them. It is also observed that some of the conventional theories about urban growth are not applicable to the settlements due to the fact that the socio-economic assumptions that underlie these theories do not obtain in these settlements.

The concluding chapter reiterated the major findings with some recommendations. Regarding the urban areas it is noted that the conventional urban growth models are applicable only within limits due to the socio-economic conditions within which they developed. It is further noted that the present planning policies do not appear to be sufficiently cognizant of the current needs in these settlements. It is, therefore, recommended that a review and realignment of planning policies is necessary in order to deal with the immediate needs in the settlements as well as their peri-urban areas. In respect of the region the chapter notes the lack of integration between the economic and physical planning policies. In view of the fact that the economic base of the region cannot at the moment support massive

urban development in the region it suggests that a policy of regional concentration of urban development should be adopted at this initial stage. It concludes by recommending the development of Kisumu as a Regional Primate City.

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P R E F A C E

By the end of the last century, Western Kenya was still very little known and only used as a corridor in the Coast to Lake traffic between Uganda and Mombasa. The arrival of the railway at the beginning of this century ushered in a new era of growth and development. Other events like the discovery of gold in the Kakamega area helped to encourage a rapid rate of growth at the early period, but this was shortlived.

The past two decades and a half have seen minimal growth and at times stagnation and decline. But even this could not erase the significance of the area partly because of its strong earlier foundations and partly due to the fact that it has the highest population concentration as well as the largest proportion of high quality agricultural land in the country.

Kisumu which is the major town in the region is also the third largest town in the country after Nairobi and Mombasa.

Attention is now beginning to focus once more on this part of the country. There are moves towards more industrialization and better land utilization. It is difficult to predict what effect these new developments will have on the future pattern and structure of settlements in the area.

This indeed is the central theme of this study -

to examine some crucial aspects of urbanization in the region with a view to understanding the overall dynamics and tendencies. It is hoped that the insight gained through such a study will greatly assist in the formulation of future urban growth strategies for the area.

CHAPTER 1

INTRODUCTION

1.1. Objectives of the Study

Urbanization is a field of study that attracts a variety of interests. The study of urbanization can therefore often be biased in terms of the varying degrees of emphasis placed on the different aspects depending on the objective of the study and the background of the researcher.

The following brief examination of some of the approaches to the study of urbanization by different disciplines is meant to highlight the point that urbanization can be viewed and defined from various standpoints. For this reason it is impossible to restrict the term to express any one particular quality.

The economist may view the city mainly in terms of the economic activities of the community, that is, the occupation of the members of the community. The rate and degree of urbanization may therefore be seen by the extent to which the economy of the community is transformed from primary economic activities like agriculture to industrial and commercial activities[1].

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1. W. Lean and B. Goodall, Aspects of Land Economics, London, Estate Gazette Ltd; 1970, p.113.

   See also for example, J. Beajeu-Garnier and G. Chabot, Urban Geography, London, Longmans, Green and Colt, 1961, p.107.

This view of the city as an economic mechanism is understandable as the history of urbanization has always been marked by some degree of economic transformation and this tendency has been accentuated by the emergence of the modern industrial city. Economic growth may result in some form of industrialization and industrialization often leads to some degree of urbanization[2]. Furthermore economics has become one of the favoured basis of studying urbanization as it is a criterion which lends itself easily to empirical investigation.

The geographer views urbanization mainly as a process of change in land use from predominantly rural use to urban use. This is usually seen in terms of greater intensity of population concentration in two aspects, namely, the increase in the sizes of individual concentrations and the multiplication of points of concentration[3]. The question however, still remains as to what size and degree of concentration can truely be termed urban; and does the mere concentration of population constitute urbanization?

The United Nations Population Commission did not attempt to establish a definitive distinction between what is urban and what is rural. It instead

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2. Nel Anderson, Our Industrial Urban Civilization, London, Asia Publishing House, 1961, p.7.

3. J. Beajeu - Garnier and G. Chabot, op.cit; pp.24-31.

recommended the classification of population clusters in different size groups to facilitate international comparability[4].

The sociologist studies urbanization mainly in terms of population change and composition, the behavioral patterns, their ways of life and their values. The urban environment is viewed as a distinctive social environment different from the rural environment, and because of the extent of human incursion on them urban areas are regarded as among the foremost expressions of culture. The degree of urbanization is therefore often expressed by the sociologist in terms of the total numbers of the urban population or by the percentage of population residing in urban units or units of specified sizes and the total number of these units[5].

Here again, demographic statistics and data on behavioral patterns, although useful indicators, are not self sufficient measures for studying urbanization. Moreover, due to the modern methods of transportation and the consequent growth of suburbia it is now possible for non-urban residents

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4. United Nations Population Studies No.8, New York, United Nations, 1950.

5. J.P. Gibbs, On Demographic Attributes of Urbanization in J.P. Gibbs ed; Urban Research Methods, London, D. Van Nostrand Coy; 1961, pp.401-3.

to participate in urban ways of life and be part of the urban culture without actually having to reside or work in urban areas.

To the architect, and indeed to most laymen, the urban environment simply consists of the built physical environment and is therefore simply seen as a physical plant and a container of human activities[6]. The inadequacy of such a view is so obvious that it needs not detain us here.

Towns and cities are not homogeneous entities but have different origins, perform different functions and exhibit a range of different attributes in varying degrees. It is because of this diversity in characteristics that any attempt to define urbanization from any one particular standpoint must fail to capture its essence in full. Even where there is a predominance of any particular attribute, it is not usually to the entire exclusion of others. The growth of inter-disciplinary research and the development of urban planning as a separate discipline have helped to integrate the study of urbanization.

The objective of this study is to study urbanization in the Western Provinces of Kenya by examining the impact of economic and demographic factors on the urban settlements in the region.

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6. P.M. Hauser, Urbanization: An Overview in P.M. Hauser ed: The Study of Urbanization, New York, John Wiley and Son, 1966, pp.12-15.

This will be done by examining the physical development of the settlements in terms of the amount and rate of physical growth of different types of land uses as well as the evolution of the pattern and internal structures of the settlements. In addition the study will seek to examine the effect of these changes on the overall level as well as the spatial structure of land values in these settlements.

Urban change in any particular urban setting has been described as the process by which the allocation and distribution of land to the competing uses is attained either through the market process or planning process or both[7]. As a result more land is eventually brought into the category of urban use as is found necessary.

The basic hypothesis here is that the physical structure of the city and its changing pattern in terms of land use and land values is a function of economic and demographic changes taking place in the city. It is further postulated that the degree of relationship that exists between these factors would be influenced by the nature and amount and type of policy action and control that occur in the growth and development of the city.

In this study selected settlements in the region will be examined to determine what

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7. R.U. Ratcliff, Urban Land Economics, New York, Mc Graw-Hill, 1949, pp.280-1.

relationship and the degree of relationship, if any, that exists between the above mentioned factors. Against this background the study will then attempt to evaluate current planning and land use policies for these settlements. For example, the development plans and planning standards[8] for the settlements will be examined with a view to seeing how adequate they are for or consistent with the actual situations and current trends in these settlements.

It is, therefore, expected that the study might help to reveal stituations where fresh policy actions might be required if there are none at the moment or where changes in policy directions might be necessary in line with current situations.

The rationale for conducting this exercise at a regional level is that towns, as it were, are products of the wider geographical regions. Their growth and morphology can, therefore, be more meaningfully examined in the context of the general fabric of the region. There is also a reciprocal relationship between towns in a regional context such that changes taking place in one may affect or may be affected by the situtation in others. Thus a regionally oriented approach is useful because of this interlinkage between changes in the various settlements. It would therefore help to determine

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8. For example the Planning Standards as outlined in The Planning Handbook, Physical Planning Department, Ministry of Lands and Settlement, Nairobi.

whether or not there is a discernible regional trend consistent among the urban centres in the region. It will also naturally lead to an evaluation of any current physical development strategies for the region.

Several studies have been carried out on various aspects of urbanization in the country in the past at various levels - urban, district, regional and even national. The Western Region of Kenya has also been the subject of such various exercises ranging from the study of individual settlements to the region as a whole[9]. There are physical development plans for several settlements in the region as well as for the region as a whole. However, there has hitherto been no specific attempt to study the impact of socio-economic changes on the physical structure of the settlements in terms of the spatial structure of land use and land values at a regional level. It is hoped that this attempt will contribute towards a better understanding of urban growth and change which will help in the formulation of urban development policies both at local and regional levels.

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9. For a comprehensive list of existing studies see Biliography of Urbanization in Kenya, compiled by A. Wachtel, K. Janmohamed, A. Memon, and E. Wachtel, Institute of Development Studies, Nairobi, 1974.

C H A P T E R 2

REVIEW OF EXISTING LITERATURE

2.1. Introduction

In this chapter we shall review some of the theories and models that have been developed for describing and analysing the urban physical form. We shall also review some related case studies that have been carried out on urban settlements. Finally we shall briefly review the historical evolution of urbanization in Kenya.

2.2. Theoretical Orientations and Previous Case Studies.

2.2.1. General Theories and Western-Based Studies

The pioneering work of Burgess has for quite a long time dominated the methods of studying the physical structure of land use in cities. Burgess[1] developed a model based on an empirical case study of Chicago to explain the ecological process in the city and the resulting land use forms. He conceived the city as a series of five concentric zones (Figure 1).

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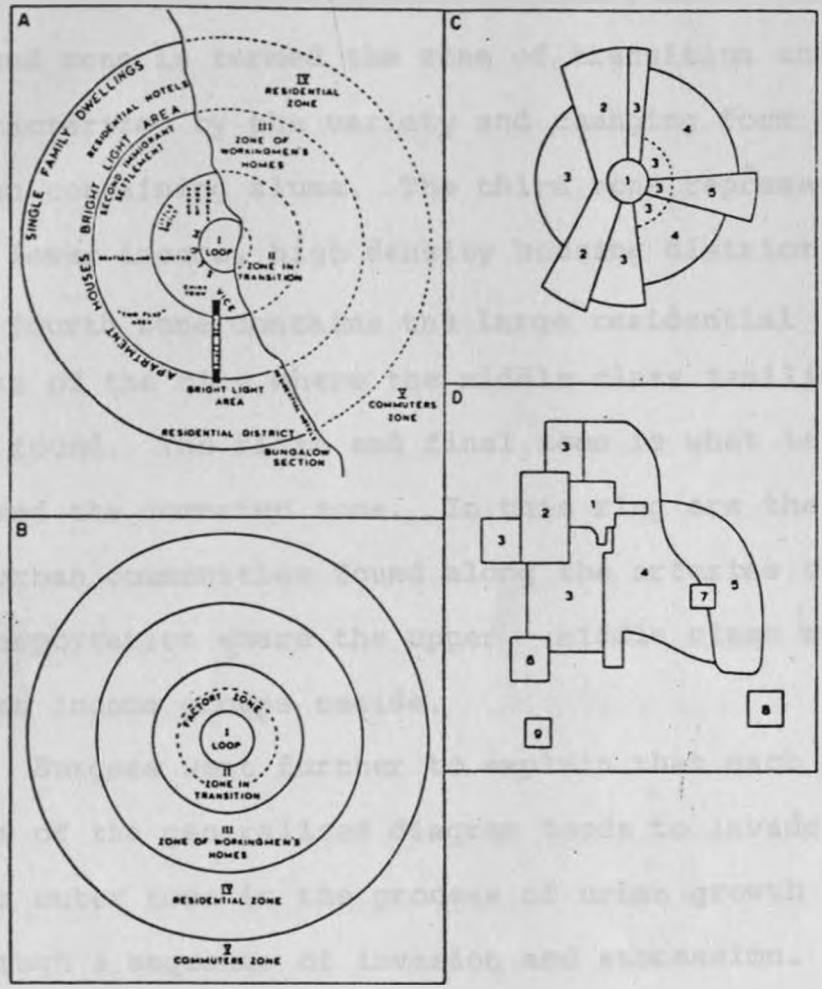
1. E.W. Burgress, The Growth of the City: an introduction to a research project, Chicago, University Press Chicago, 1925.

Fig. I



The concentric zone scheme of urban land-use. *After E. W. Burgess* (*1925*). **A** indicates Burgess's detailed interpretation of Chicago while **B** is his generalization for all rapidly growing industrial cities.
C: The sector scheme of *H. Hoyt* (*1939*) : **1**: CBD; **2**: wholesaling and light manufacture; **3**: low-class residential; **4**: middle-class residential; **5**: high-class residential.
D: The multiple nuclei scheme of *C. O. Harris and E. L. Ullman* (*1945*). The areas numbered are as in **C** with the addition of: **6**: heavy manufacturing; **7**: outlying business district; **8**: residential suburb; **9**: industrial suburbs.

The first zone at the core contains the central business district as well as other central area activities like entertainment, hotels, etc. The second zone is termed the zone of transition and is characterized by the variety and changing form of use often containing slums. The third zone represents the lower income, high density housing district. The fourth zone contains the large residential areas of the city where the middle class families are found. The fifth and final zone is what is termed the commuter zone. In this ring are the suburban communities found along the arteries of transportation where the upper - middle class and upper income groups reside.

Burgess went further to explain that each inner zone of the generalized diagram tends to invade the next outer zone in the process of urban growth through a sequence of invasion and succession. He, however, explains that the rate of progression of this tendency depends on the population growth and economic expansion of the city. In contrast, therefore, when urban areas are decreasing in population the outer zones tend to remain stationary but the inner fringe of the transitional zone tends to recede into the commercial district.

As a theoretical explanation of the structural pattern of the functional areas of land use in an urban area and their evolutionary process, the simplicity of Burgess' model has a lot of appeal.

It has, however, been criticized as an over simplification and that it lacks universality.

In his study of the city prior to industralization Sjoberg[2] demonstrates that pre-industrial city displays a structural pattern which negates the concentric zone scheme in many ways. He particularly points out that the low incidence of functional differentiation of land use patterns was due to the fact there was not that essential division of place of work and place of residence on which the concentric zone scheme is based. This, of course, he explains was a consequence of a technolgy unable to provide the necessary rapid transport to make this feasible.

Later works relating to the sector and multiple nuclei approaches seek to explain land use patterns in manners that take into account the irregularities that tend to develop in use patterns.

Homer Hoyt's[3] study of residential areas provided some new insight into the patterning of land uses. He explained the pattern of residential land uses in terms of wedge edged sectors starting from the city centre along the major transportation lines. Viewed in the context of change, the theory

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2. G. Sjoberg, The Pre-industrial City, New York, 1965.

3. Homer Hoyt, The Structure and Growth of Residential Neighborhoods in American Cities Washington, Federal Housing Administration, 1939.

holds that similar types of uses originating near the centre of the city tend to migrate within the same sector away from the centre. The sector theory then provides a different explanation of residential patterns of land use from that set forth in the concentric zone formulation both in its explanation of the structural pattern and its process of growth.

The multiple nuclei concept of urban growth first suggested by McKenzie[4] is built around the hypothesis that there are often a series of nuclei in the patterning of urban land uses rather than the single centre uses in the two previous theories. Harris and Ullman[5] in expanding this concept observed that these various nuclei were distinct centres in the origins of metropolitan areas which persist as nuclei as growth fills in the areas between them. The number and functions of the nuclei vary from one metropolitan area to another. These may be in the form of suburban centres, specialized centres for certain urban functions like wholesaling, industries, etc. They however still recognise that the central business district always remains as the dominant nucleus.

In discussing the multiple nuclei hypothesis, Harris and Ullman identify certain factors that tend to account for the emergence of separate nuclei in

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4. R.D. McKenzie, The Metropolitan Community, New York, McGraw-Hill Coy, 1933, pp.197-8.

5. D. Harris and L. Ullman, The Nature of the City Reconsidered, Papers and Proceedings of the Regional Science Association, Philadelphia, 1962.

urban land use patterns. These are broadly, the tendency for certain activities which are interdependent to cluster in the same locality; the segregation of uses that are inimical to other uses by virtue of the inconvenience they cause others in terms of noise etc. and thirdly the effect of high land values in attracting or repelling uses in the process of nucleation.

In elaborating on the relationship between urban land use patterns and economic forces Chapin[6] explains that the economic forces which contribute to shape urban land use patterns extend far beyond the immediate environs of any particular urban area. It involves considerations and functioning of the urban economy as it fits into the larger economy of the region and the nation. Implicit in this way of approaching the economic basis of land use is a rationale that both regional and localized forces interact to shape the urban land use pattern. External forces, that is the economic forces emanating from beyond the immediate boundaries of an urban area, work through the urban land market. By influencing the factors which determine the use of the individual parcels they also help to determine the aggregate configuration of land uses in an urban area.

He explains that the state of the urban economy conditions the amount of land development

6. F. Stuart Chapin Jr., Urban Land Use Planning, Illinois, University of Illinois Press, 1965, p.11.

, in an expanding economy the
that occurs. For c new business and industries
implication it h means more land going into use
and population e on the patterning of urban land uses.
and exerts i herefore the economic explanation for land
Broad oots in the structure and functioning of the
use has omy. The vitality of the local economy provides
urban ons of the rate at which land goes into development.
indic y supply and demand forces of the urban land market
Fir ivated by these primary considerations operate to
determine the location of various functional uses and the siting of specific land uses in the urban area.

Ratcliff[7] asserts that each parcel of land occupies a unique physical relationship with every other parcel of land. Because in every community there exists a variety of land uses, each parcel is the subject of a set of space relationships with the social and economic activities that are centred on all other parcels. Thus certain locations are more highly valued for certain uses than others because of these combinations of relationships.

In analysing urban land use patterns emphasis has been placed on those factors which explain an actual or existing pattern of land use. It has been recognised that the principle of highest and best use

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7. R.U. Ratcliff, Urban Land Economics New York, McGraw-Hill Coy, 1949, pp.283-4.

had to operate within a limiting framework and even in those circumstances it may be likely that certain land uses would not reflect the application of this principle. The highest and best use of any urban site depends upon the relationship of that site with all other sites. These relationships are examined in terms of accessibility and complementarity. Urban land uses place different importance on accessibility and complementarity and through the process of competitive bidding each site would on the long run go to that user which maximizes its total utility in that position. Thus the principle determining the internal pattern of urban land uses are established within this framework.

Alonzo[8] in his work on location and land use introduced two further variables, first the quantity of land which each user will wish to acquire and second the amount of disposable revenue which will be devoted to land and travel costs and other expenditure. The equilibrium of the individual land user in the urban situation is then seen as a consequence of the relation of all other alternatives in expenditure open to the individual. These alternatives are then weighed by the interrelation of the three variables the amount of land, the amounts of revenue generated, and transport costs in terms of time/ distance.

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8. W. Alonzo, Location and Land Use, Washington, 1964.

Location theory therefore seeks to explain the question of the most rational location on pattern of land use. It however recognises that the actual location or pattern of land use must be distinguished from the theoretical optimal pattern, and the two need not in fact coincide.

While the spatial variations in land values have always been recognised, Hoyt's study of Chicago[9] provided the first systematic empirical demonstration that these variations and the topography of the entire pattern bear a close relationship to the land use configuration of the city. He, however points out that while this interrelationships seem apparent there may be other factors bound up in the socio-cultural and economic history of a community the effect of which defy clear cut differentiations.

In his study of Topek City[10], Knos tested the relationship between land values and several commonly assumed characteristics of land use. He postulated that land values would vary increasing with the distance from the centre of the city. He found that they varied inversely with the reciprocal of distance; similarly he found that land values also varied inversely with distance from the main thoroughfares converging on the centre.

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9. H. Hoyt, One Hundred Years of Land Values in Chicago, Chicago, University Press, 1950.

10. Daune S. Knos, Distribution of Land Values in Topek, Kansas, University of Kansas Press, 1962.

Knos' study provides empirical evidence of another relationship, namely, that land values influence the intensity of land use and vice versa. His study suggested too that the intensity of land use will change with time and pattern of land values change with time and there is a complex feed-back relations between use patterns, intensity of use and value patterns.

On the question of social determinants of land use, Chapin[11] further explains that the economic factors are constantly interacting with the social determinants which he referred to as the "socially rooted determinants" of urban land use. He classifies two aspects of these socially rooted factors of land use, namely, the ecological and the organizational. He however identifies the ecological process as the aspect that describes the evolution and development of urban communities in space through the process of aggregation. His analysis is largely based on the work of Erikson[12] on the behavior of the urban population and its effect on urban land use patterns (see Figure II).

Even Richard Ratcliff whose major theoretical orientation in urban land use is mainly based on the interplay of market forces also recognises that economic activities in each community directly

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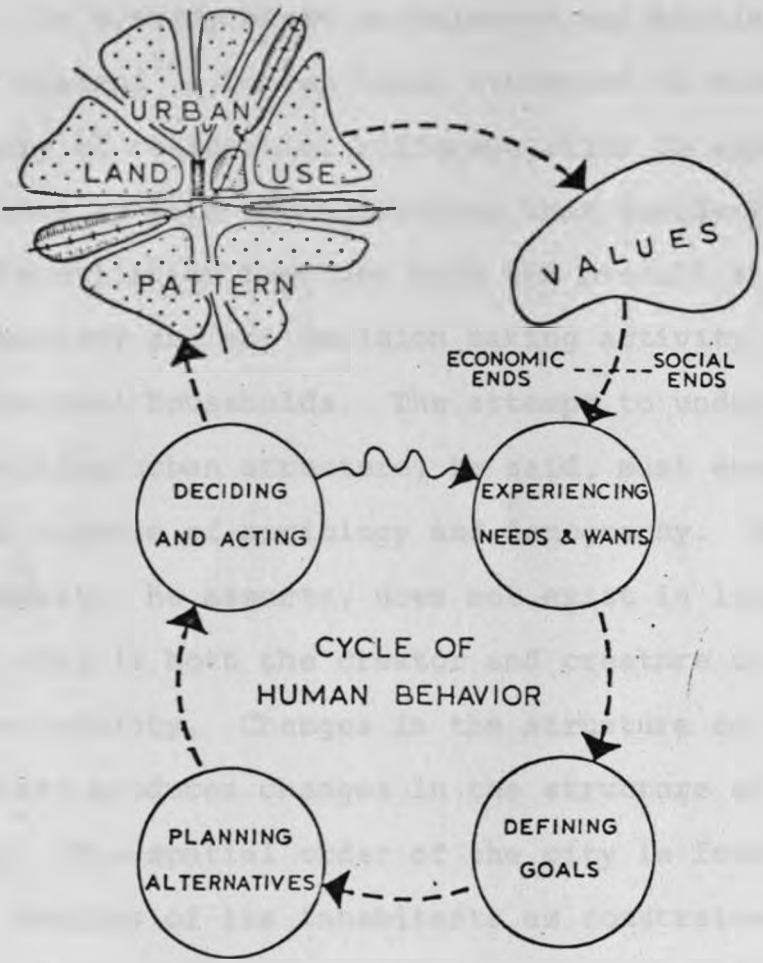
11. F. Stuart Chapin, Op.Cit, p.21.

12. E. Gordon Erikson, Urban Behavior, New York, The Macmillan Company, 1954, p.155.

Fig. II



The sequence of action and the influence of value in bringing about a change in the urban land-use pattern. *After F. S. Chapin, Jr.* (*1965*).

serve its population and are profoundly influenced by the nature of that population; and that population trends will therefore influence future land use in urban areas in various ways and degrees[13].

In a study based on Brisbane and Auckland in New Zealand[14], Duncan Timms attempted to develop a theory of residential differentiation in urban areas. He came up with the conclusion that residential differentiation involves both the overall structure of society and the decision making activity of individual households. The attempt to understand the resulting urban structure, he said, must encompass both aspects of sociology and demography. The urban community, he asserts, does not exist in isolation; the city is both the creator and creature of the urban society. Changes in the structure of that society produces changes in the structure of the city. The spatial order of the city is founded on the desires of its inhabitants as constrained and directed by their economic resources. He further asserts that the city not only shapes human behaviors but is, itself, a result of human behaviors. The urban mosaic he concludes is the matrix of the urban society.

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13. R.U. Ratcliff, Op. Cit, p.86

14. Duncan Timms, The Urban Mosaic, Cambridge, The University Press, 1971, pp.250-3.

On the question of evolution and change of urban land use patterns certain ecological processes have been identified as a basis for understanding the evolutionary process. Erikson[15] has identified the most important processes of aggregation as follows:

i) Concentration and dispersion which constitute the initial processes of massing and spreading population in urban areas in a region. This process explains the raison d'etre of the various urban centres and is to be distinguished from those processes which actually determine the internal organization of the centres.

ii) Centralization and decentralization on the other hand refer to the congregation of people and urban functions in particular points and the reciprocal movement of people and activities to the fringe areas or new satelite centres. A common result of the concentration process is the tendency for higher densities of population and intensities of use to occur in the inner parts of an urban area and the progressive decline towards the periphery.

iii) The processes of segregation and specialization involve the tendency of like units to concentrate within specific areas and a

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15. E.G. Erikson, Urban, Behavior, New York, The Macmillan Coy; 1954, p.155.

resistance to the introduction of any disharmonious types of units of activities or population into the segregated or specialised areas. Segregation refers to the sorting out of population into distinctive areas and specialization is a similar process but refers to the sorting out of uses, functions and activities rather than population. The degree of segregation or specialization achieved in an urban area depends among other things on how long the process has been at work in the area and the degree of controls that are imposed to achieve these ends.

iv) Invasion and succession are both associated with the foregoing sets of processes. Invasion refers to the penetration on encroachment of one population group or land use by another. Succession occurs when the new population group or use type finally displaces the former. The principal consequences of invasion is a break-up of the existing population and land use make up of an area. Succession is the culmination of the break-up process with the new achieving a complete displacement of the old. Thus urban growth and change involves not only the outward expansion of settlements but also internal reorganizations to acknowledge and accommodate the constant changes which occur in the socio-economic circumstances of the settlements.

2.2.2. African - Based Studies

We shall now focus our attention on some of the

studies in this field relating to developing countries with particular attention to Africa. We shall compare the findings of these studies with those carried out in the more advanced countries with a view to determining how far the western-based theories conform with or are relevant to the situations in African cities.

In a rather generalized study of urbanization in developing countries Gerald Breeze[16] identified two major land use problems in these countries. These are the problems of providing space for the new immigrant and swelling population in the city; and secondly the failure of these countries to establish effective land use and land value control measures, such as zoning His conclusions were however mainly based on the study of Indian cities but are equally relevant and applicable to African cities where urbanization and planning experience are even less well established.

Breeze observed that although the various urban growth theories previously discussed were created from observations of Western-type urbanization they may nonetheless be applicable in non-Western cities. He, however, noted that no one of these theories is sufficiently applicable to

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16. Gerald Breeze, Urbanization in Newly Developing Countries, Englewood, Princeton University, 1966.

serve by itself. He further pointed out that certain background considerations must be kept in mind with reference to urban areas in developing countries. One of the most important of these considerations is the duality in their origins and growth. For example, some segments usually reserved for settlement by foreign population were laid out more systematically and were subject to considerable land use controls.

The major growth patterns he observed were concentric growth in cases where there is an old established core. This is generally replaced by radial growth developing along major access routes.

In his overview of urbanization in Africa William Hance[17] carried out surveys of selected African cities. He included in his survey a cross section of cities of various categories, some which were essentially traditional in their origins like Ibadan, Adis Ababa, etc ; a number which were colonial creations like Khartoum, Abidjan, Nairobi, Kampala and others which date to pre-colonial periods but where development was influenced by colonial authorities and interests such as Lagos and Accra.

His survey illustrated the considerable variety and individuality that exists in these various cities as well as the prevalence of certain problems which

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17. William A. Hance, Population, Migration and Urbanization in Africa, New York, Columbia University Press, 1970, p.298.

reoccur in almost all of them in spite of the differences in their origins and cultures. Central to the trends and problems in these various cities in his study was the unabated pressure of population from the rural areas and the dynamic structural changes and rapid growth taking place in them, as well as the inadequacy of the economic base of these cities to cope with the ever increasing demands on them.

Professor Mobagunje[18] in his study of urbanization in Nigeria included surveys of the internal structures of two of the major cities in Nigeria, namely, the indigenous city of Ibadan and the colonial capital of Lagos . In the survey of both cities he noted that the demographic composition of both cities in terms of ethnic and social groups was very much visible in the physical structure of the cities.

A very important and recurring aspect of urban land use patterns in African cities is the considerable growth of unauthorized squatter settlements. This is generally as a result of the ever increasing rate of rural-urban migration where the new immigrant unable to afford the relatively expensive accommodation within the urban areas drifts to the outer fringe of the city. This peculiar pattern of development in these cities, therefore, contradicts the western-based theories

18. A.L. Mobagunje, Urbanization in Nigeria, London, London University Press, 1967.

where the suburbs of cities are generally assumed to be areas for high class and low density developments.

In a survey of squatter settlements in Dar-es-Salaam carried out by R. Benjamin[19] he observed that squatters have very little choice in terms of the unit type and general location in which they find themselves. He noted that many of the squatter areas are former suburban villages that have simply been swallowed up by the expanding city. These village units though visually integrated with the city tend to retain much of their physical and social structure. The squatters in settling the fringes of old villages have often maintained and extended the existing structure. Hence these expanded villages have been endowed with character and sense of order and place as well as feeling of community which is irreplaceable in the new planned communities. He went on to argue that in view of the inability for the authorities to cater adequately for the new immigrants that there is a role for an institutionalized form of squatter development as an acceptable alternative within the realms of short term possibilities. This suggestion is interesting in view of the possible consequences it could have on the structural pattern of land use

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19. R. Benjamin, Squatter Housing in Dar-es-Salaam, Ministry of Lands, Housing and Urban Development, Tanzania, 1972.

in the city. It may however be feasible in Tanzania in view of its land ownership policy.

S.S. Yahya[20] in his study of patterns of land use and land values in suburban Nairobi noted that the Nairobi fringe area exhibits peculiar characteristics, among them:

- Land use contrasts in the form of intermixture of agricultural, industrial, recreation and commercial uses.
- Sectoral differentiation in the city structure with racial composition of the residential areas showing a strong relationship with population densities, population growth and household characteristics.
- Generally land values get lower with increasing distance from the city centre[21].

He also sought to examine to what extent these characteristics are a reflection of the economic and socio-cultural forces which are at work within and without the city. He concluded that the rapid rise in land values around the city is attributable among other things to the population growth in the metropolitan region, the emergence of a new middle class elite possessing aspirations towards western style suburban living, the increasing

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20. S.S. Yahya, The Changing Pattern of Land Use and Land Values in Suburban Nairobi, Nairobi, University of Nairobi Monograph, 1969.

21. Some of these characteristics are, however, not peculiar to Nairobi.

size and number of financial instituttions which have large amounts of money available for investment is real property etc.

His findings in fact boil down to the fact that socio-economic forces have been instrumental to the changing pattern of land use and land values in the outer fringes of the city.

In a related study on the structure of land values in Nairobi, S.M. Kimani[22] arrived at the conclusion through empirical analysis that a very significant relationship exists between land values, and distance from the central business district of the city. His findings on Nairobi conform with Western-based theories about land value structures in cities.

These two studies, however, appear to have failed to recognise the important role played by the planning authorities in determining the pattern of land use and land values in the city. They invariably over emphasized the effect of racial segregation as a contributory factor in determining the pattern of land use and land values in Nairobi, thus ignoring the fact that policy action was primarily instrumental to determing the patterns of land use, albeit on segregated line, and consequently the pattern of land values.

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22. S.M. Kimani, Spatial Structure of Land Values in Nairobi, Nairobi, Department of Gecgraphy University of Nairobi, 1972.

A consistent theme in these various studies has been that socio-economic factors considerably contribute in determining the physical structure of towns either in terms of land use or land values or both.

2.3. Urbanization in Kenya

It is necessary to review briefly the origins and growth of urbanization in Kenya in order to place the study area in a national perspective.

Urban centres or at least the major urban centres in Africa are to an unusual extent the centres of modernization in the continent and dominate the economic, cultural and political scenes of the respective countries to degrees quite disproportionate to their population in relation to the overall population of the countries. The relatively modest degree of urbanization in most of the African countries therefore belies the actual and growing importance of African urban centres[23].

In 1970, tropical Africa had only 11 per cent of its population in urban areas compared with 15 per cent for all the less developed regions of the world and 30 per cent for the world as a whole. The larger urban centres in Africa, however, now display the world's fastest rates of population growth,

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23. Horace Miner, The City and Modernization: An Introduction in The City in Modern Africa, London, Pall Mall Press, 1967, p.1.

amounting to 12 per cent per annum in some cases[24]. (see Chart 1).

It has been argued that apart from the plight of the few major cities, the generally low level of African urbanization presents unique opportunities for development planning in Africa as policy makers can begin with almost clean sheets. But the recognition of these opportunities in academic and professional circles does not necessarily run concurrent with political will and machinery for translating theories into action. This ambivalence in theory and practice will be discussed later in Chapter 6.

The urban experience in tropical Africa is, however, a fairly recent phenomenon originating in a majority of cases with the advent of colonialism. It is only in West Africa and particularly among the Yorubas of Nigeria that there existed any significant degree of indigeneous urbanization before the colonial era; the most remarkable example of this is the city of Ibadan which by the early fifties had a population near the half million mark.

Elsewhere, however, the picture was quite different although there was a number of old established centres which served as the headquarters of the various Kingdoms and Chiefdoms; but these

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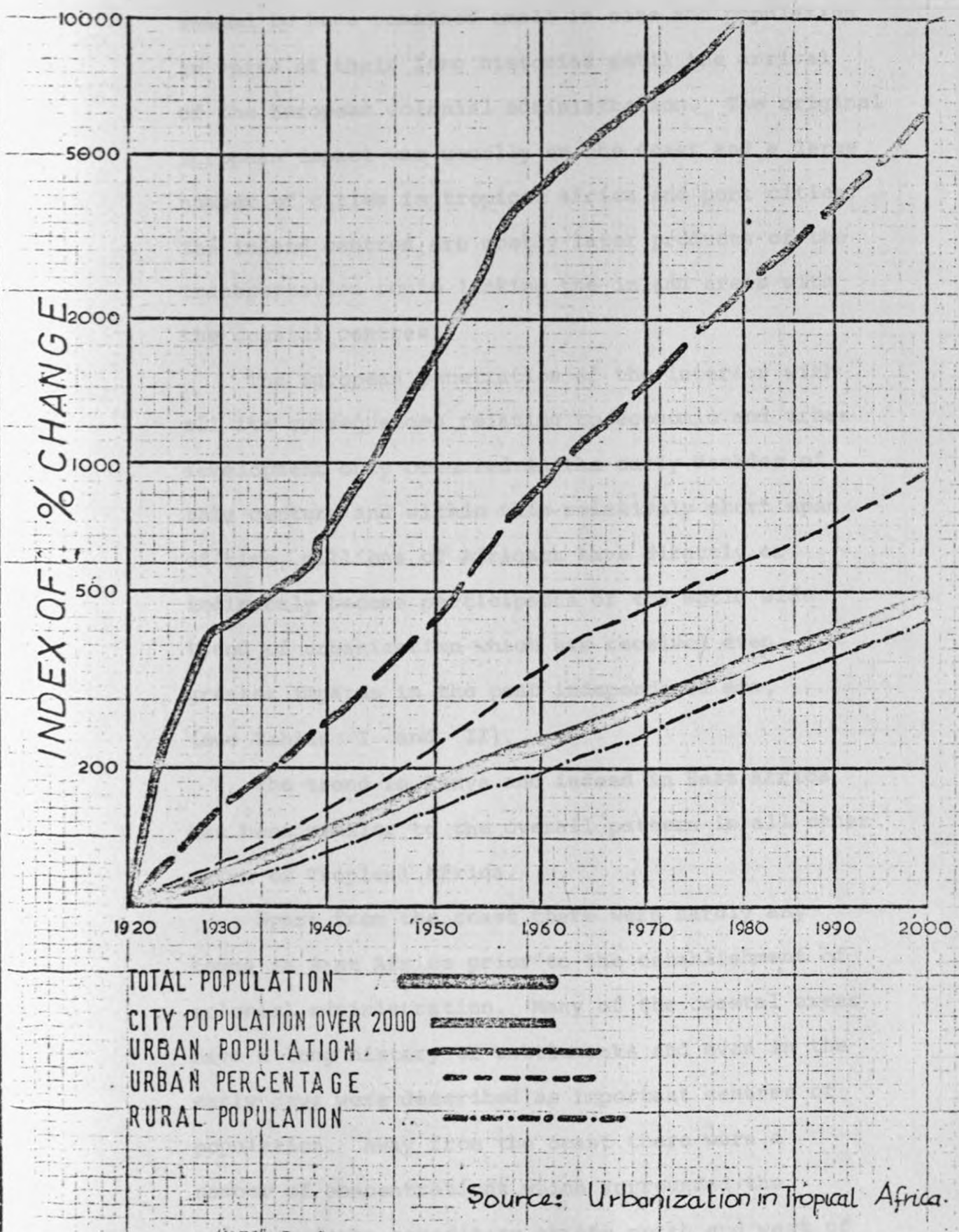
24. Colin Rosser, Urbanization in Tropical Africa: a demographic introduction, International Urbanization Survey, Ford Foundation, New York, 1971.

chart I

TROPICAL AFRICA.
POPULATION GROWTH & PROJECTION 1920-2000



Source: Urbanization in Tropical Africa.

seemed to have remained small in size and population in spite of their long histories until the arrival of the European colonial administration. The original European impact was usually on the Coast and a large number of cities in tropical Africa and port cities. The inland centres are mostly later products of the transportation route linking the inland areas with the coastal centres.

The European penetration of the interior with all its consequences relating to economic and urban development only occurred in the early decades of this century and within this relatively short span of time, millions of Africans have directly or indirectly become participants of the world wide trend of urbanization which has received even greater impetus in the post independence era, (see Tables I and II).

The trend in Kenya and indeed in East Africa has been similar to the overall pattern in all other parts of Tropical Africa.

Apart from the coast there were hardly any towns in East Africa prior to the establishment of colonial administration. Many of the coastal areas have a long history of settlements and even in the early days were described as important centres of population. Away from the coast there were a number of concentrations which surrounded the palaces of the hereditary chiefs north and west of Lake Victoria but with no resemblace of permanent

Table I

POPULATION ESTIMATES, TROPICAL AFRICA 1970

COUNTRY	TOTAL POPULATION (in Millions)	URBAN POPULATION (in Millions)	% URBAN
TOTAL	242.3	26.2	11
West Africa	111.9	15.8	14
Central Africa	35.5	3.9	11
East Africa	94.4	6.5	7
East Africa	94.9	6.5	7
Ethiopia	25	1.2	5
Tanzania	13.2	0.7	5
Kenya	10.8	0.8	7
Uganda	8.5	0.2	2
Madagascar	6.9	0.7	10
Malawi	4.4.	0.2	5
Zambia	4.3	1.0	23
Rwanda	3.5	-	-
Burudi	3.6	0.08	2
Somalia	2.7	0.3	11
Rhodesia	4.5	1.1	24
Mozambique	7.5	0.2	3

Source: Urbanization in Tropical Africa, Op.Cit.

Table II

PROJECTED GROWTH OF THE TOTAL AND URBAN POPULATION 1970-1980 - SELECTED COUNTRIES IN TROPICAL AFRICA.

COUNTRY	TOTAL POPULATION IN MILLIONS			URBAN POPULATION IN MILLIONS		
	1970	1980	% Increase	1970	1980	% Increase
TOTAL	158.1	208.7	30.2	18.8	32.7	73.9
Nigeria	66.1	87.6	32.5	10.1	17.7	75.3
Ghana	9.0	12.5	38.9	1.5	2.8	86.7
Congo	17.4	22.4	28.7	2.2	3.6	63.6
Kenya	10.8	15.1	39.8	0.9	1.7	88.9
Uganda	8.5	11.3	32.9	0.2	0.4	100.0
Tanzania	13.2	17.4	31.8	0.7	1.4	100.0
Ethiopia	25.0	31.5	26.0	1.2	1.9	58.3
Zambia	4.2	5.9	40.5	1.0	1.7	70.0
Senegal	3.9	5.0	28.2	1.0	1.5	50.0

Source: Urbanization in Tropical Africa, Op. Cit.

urban centres as we know them to-day. On the whole, the traditional social organization and economic activities of the inhabitants of East Africa did not lead to the growth of concentrated settlements similar to what occurred in West Africa.

The history of foreign contact with East Africa began with the Portuguese as early as the 15th century but the Arabs were the first foreign elements to establish a permanent foot hold on the coast due to their involvement in trade with native kingdoms in the interior. In the course of this, they had established caravan routes through which slaves and merchandise were transported to the coast[25].

The British footing on the coast of Kenya was secured in the 1870s and 1880s and coincided with the period of German interest in this part of the world. The main area of British interest at this time was in discovering the caravan routes that led to the Northern Kingdom of Uganda.

The British and the Germans had realised from start that the value of the coast depended entirely on the commerce of the distant interior. It was for this reason and to avoid any clash of interests and eventual confrontation that both powers declared that in the case of a power having possession of the

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25. See, for example, Zoe Marsh, East Africa Through Contemporary Records, Cambridge, 1961, Chapters 2 and 3.

coast it should also have exclusive right to influence and control the regions on the interior subtended by its coastline and none should have the liberty to intrude in the rear of another[26]. Although the "hinterland doctrine" as this agreement was called ostensibly defined the limits within which it was legitimate for both powers to operate, as the possession of the coast determined and controlled the right to the interior, it was still not clear how far inland, beyond the immediate territory contiguous to the coast that this agreement was meant to be applicable. This was mainly due to the fact that both the German and the British interests centred on the territory of Uganda. This interest had been aroused by the early explorers and missionaries. Stories had spread about the powerful, peaceful and well governed kingdom at the source of the Nile, then referred to as the "Pearl of Africa", and it was felt that the power holding this kingdom would exercise a paramount influence in the surrounding region. There was eventually a clash of interests and a near abrogation of the early "hinterland agreement". In the end, however, after several disputes and compromises, the territory of Uganda was secured to the British by the Anglo-German

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26. See, for example, M.F. Hill, Permanent Way, E.A. Railways and Habours, Nairobi, 1949, p.6-23.

Agreement of 1890[27].

The district intervening between the coast and the lake region was comparatively useless at the time. Although it had latent resources in the form of natural fertility and climate, it had not been sufficiently explored and was therefore little known. But it was nevertheless important that the hinterland should be secured. It was after Uganda had been secured that the need arose for an effective occupation by the British of their "sphere of influence" which they might otherwise loose to their aggressive rivals the Germans, and the idea of linking British territory at the Coast to Uganda was then conceived.

When the idea of building a railway from Mombasa to the Lake was first proposed, it received a lot of opposition due to cost considerations, but the British Government eventually yielded to the pressures of the British East African Company which was then the administrative authority of the territory. A loan was approved although it was realised that a large portion of the railway would lie in an area described as yet a sterile region.

The starting point of the railway was to be Mombasa, the terminus was to be in Uganda at a suitable point on the Lake, the intervening route was yet to be determined. However, it was not as

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27. Ibid, chapter 2.

though the interior was entirely unknown. Camps had been established at Machakos and Kikuyu areas in earlier expeditions and there were of course the caravan routes[28].

So it was that the rail line followed as near as possible the familiar caravan route from Mombasa to Voi and through Tsavo avoiding the already established camp at Machakos because of the hilly terrain and reached Nairobi in 1899. Before this date, however, an advance survey party had found the descent into the Rift Valley in the Kikuyu region "exceedingly intricate" and decided that finding the best line through it would be a matter of time. However, the region was described as attractive, rich and fertile and as a possible suitable half way base from which work would continue to the lake.

Before the railhead reached Nairobi, an Indian Bazaar had been established at Machakos and at Nairobi, and served as points of exchange between

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28. The story of the survey and determination of the route is aptly summed up by Ronald Hardy when he wrote that: "The Railroad story begins with caravans ..... the caravan track followed water ..... then later the railroad followed the caravan track, not without divergence but with approximation. The expedition of survey returned again to the route of the Arab and Swahili traders, charts of compass and theodolite converged in harmony with ancient trails of instinct and tradition".
R. Hardy, The Iron Snake, New York, Putman 1965, p.15.

the natives and the workers engaged in the rail line. In the Uganda Railways Committee's report, it was recorded that most of the traders and petty contractors who had opened up shops and businesses seemed to have settled in the country and their numbers were steadily increasing[29]. These were the pioneers of the present settlements of Nairobi and Machakos which gained increasingly in importance as the railhead approached Nairobi.

The rails reached Nairobi in May 1899 and in July, the same year, the headquarters of the railways were moved from Mombasa to Nairobi and the original nucleus began to take shape rapidly as a town. The decision to transfer the headquarters from Mombasa, which was at the time meant to be a temporary measure was never to be reversed.

By April 1900, the survey of the route was completed and Port Florence (Kisumu) was confirmed as a suitable terminus on the Lake, and the railhead actually reached Kisumu by the end of 1901. The outline for the initial direction in the pattern of the development of settlement from the Kenyan Coast to the Lake had thus been laid.

The initial plan had been that on reaching Kisumu, a steamship should be taken across to Jinja in Uganda and from there to build another

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29. Quoted in Permanent Way, Op. Cit; p.190.

line to the interior of Uganda. It was, however, later discovered that this would be more expensive and inconvenient to operate and a decision was taken to continue the railway on land from Kisumu to Tororo.

The decision from the continuation of the line from Kisumu was shelved in view of the difficult terrain and unsuitable nature of the soil along the proposed route. The alternative was to go back to Nakuru and from there start another line through to Tororo, thus opening up even more parts of the Kenya hinterland.

On getting to Uganda it was eventually realised that the railway could not pay for itself on the proceeds from Uganda alone. In addition to the initial expenditure incurred in constructing the rail line, the home Government continued to expend substantial sums in operating and administering it through loans and grants.

At this juncture, it became imperative that ways of meeting the mounting cost and making the railway pay for itself should be sought and it was not until then that the significance of parts of the Kenya hinterland already opened up by the railway but hitherto ignored was realised.

Having discovered that parts of Kenya were suitable for white settlement, the British authorities embarked on a large scale recruitment drive of white settlers from Britain and South Africa.

The new batch of white immigrants that arrived after the first world war settled in the Rift Valley region around Eldoret and other centres like Thompsons Falls, Nanyuki, Nyeri and then towards the already established centres of Nakuru and Nairobi along the highlands later declared "the White Highlands" in 1923 and reiterated in the Kenya Land Commission Report of 1933[30], (see Figure III).

The pattern of urban growth was then directed by two major factors namely, accessibility and environmental conditions, that is, areas suitable for European settlement which were free from the dangers of tropical diseases and from which the surrounding countryside could be administered. Towns and African market centres were therefore primarily bases for administrative and commercial activities of the white settlers, and centres from which the African subsistence economy could be integrated into the colonial merchantile economy thus deriving increased government revenue[31].

The rail lines were later extended from suitable points to areas of settler concentrations

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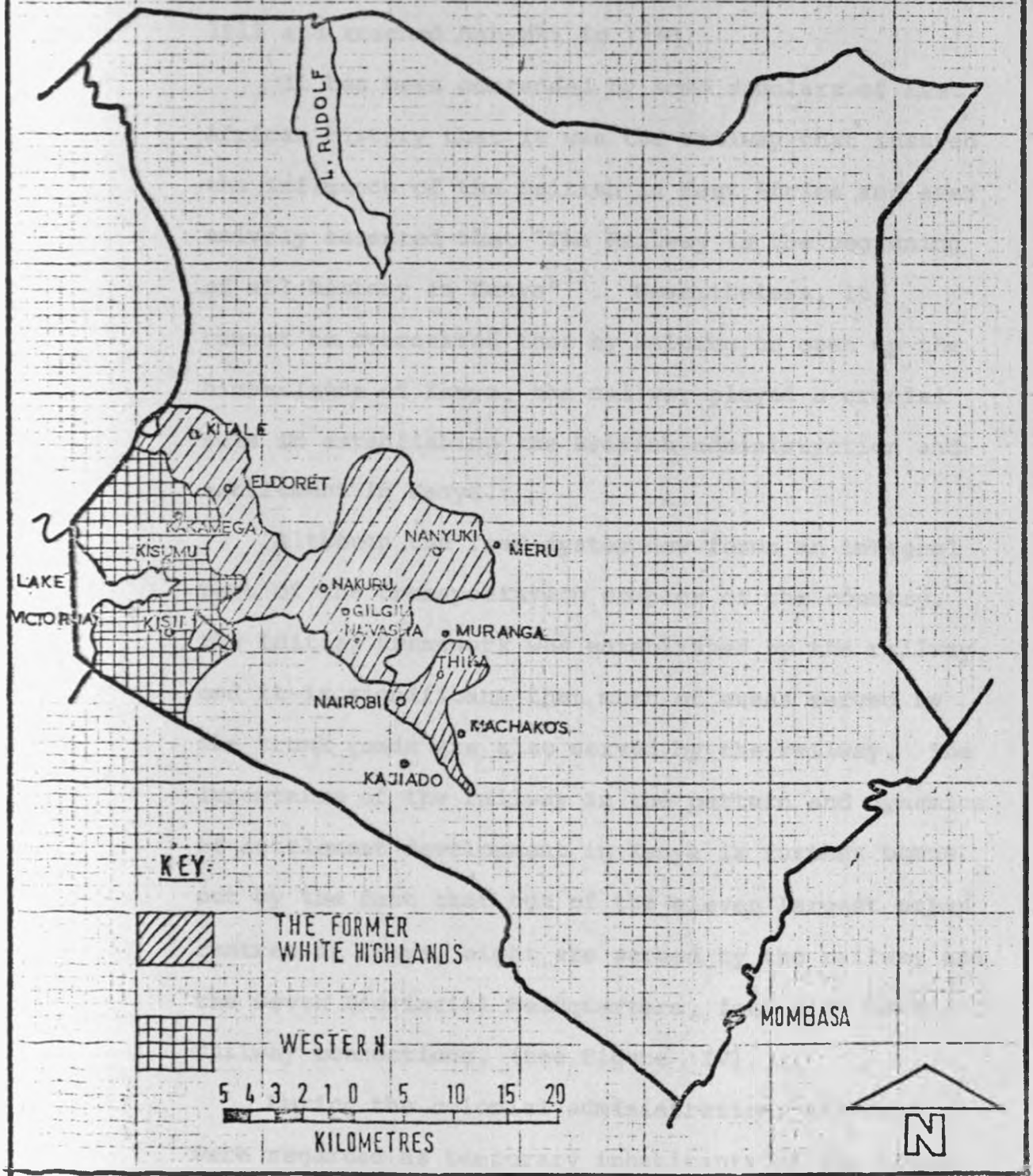
30. See, for example, Elsphet Huxley, White Man's Country, Praeger Publishers, New York, 1969 Vol.2., p.54-6.

31. P.A. Memon, Some Geographic Aspects of the History of Urban Development in Kenya, in B.A. Ogot ed., Economic and Social History of East Africa, Nairobi, E.A. Literature Bureau, 1975, p.131.

Fig. III

WESTERN KENYA - LOCATION.



to facilitate the transportation of their agricultural products to the major centres; the northern extension from Nairobi was commenced in 1913 and reached Nanyuki in 1930.

It has been contended by some scholars of East African history that it was the railway that insured the influence of the British in East Africa and even naively asserted that "The Railway is the beginning of all history in Kenya"[32]. Nevertheless, it cannot be overstated that by helping to open up the hinterlands of Kenya, the railway played a crucial role in establishing the British administration and settlement in Kenya.

Although the road system now forms an integral part of the transportation complex of the country, the initial framework was established by the railway and it is significant that most of areas served by the trunk roads are also served by the railway. The importance of the railway in the pattern and dynamics of settlement development in Kenya is further borne out by the fact that out of the eleven largest urban centres in Kenya, eight are served by the railway and the seven Provincial Headquarters, four also have railway connections, (see Figure IV).

During the colonial administration, Africans were regarded as temporary inhabitants of the towns and even when the authorities found it necessary to accommodate Africans within the towns, it was

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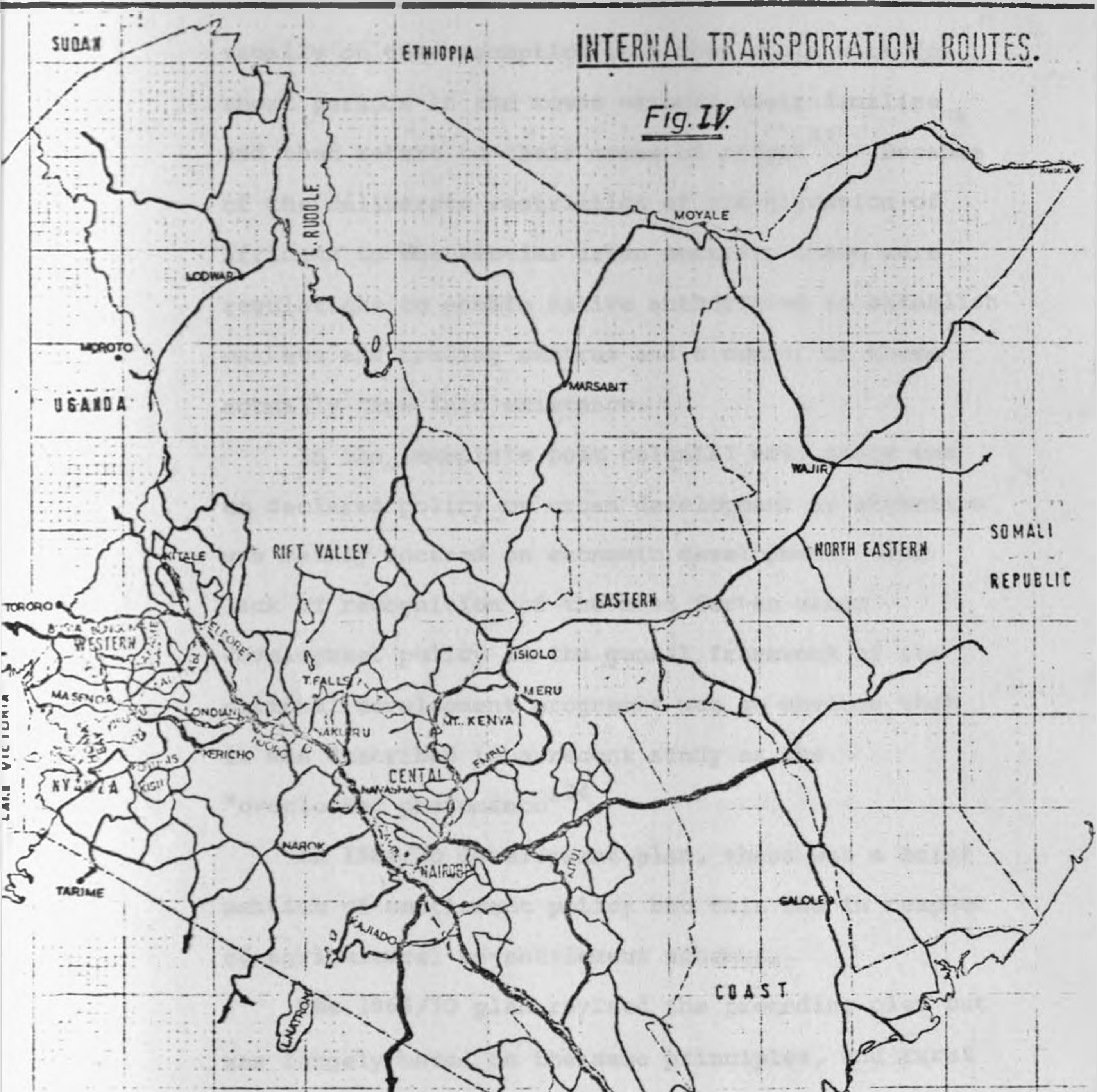
32. Sir Edward Grigg, Quoted in R. Hardy, Op.Cit



INTERNAL TRANSPORTATION ROUTES.
Fig. IV
SUDAN
ETHIOPIA
L. RUDOLF
MOYALE
LODWAR
MOROTO
UGANDA
MARSABIT
WAJIR
SOMALI REPUBLIC
NORTH EASTERN
RIFT VALLEY
KITALE
TORORO
WESTERN
ELDORET
EASTERN
ISIOLO
T. FALLS
MERU
MASENO
LONDIANI
MT. KENYA
NAKURU
KERICHO
KISII
CENTAL
NAIVASHA
NYANZA
NAROK
KITUI
NAIROBI
TARIME
KAJIADO
L. NATRON
COAST
LAKE VICTORIA
REFERENCE
MAIN ROADS
SECONDARY ROADS
RAILWAY
INTER TERITORIAL BOUNDARIES
PROVINCIAL BOUNDARIES
MT. MERU
ARUSHA
WUNDANYI
VOI
MALINDI
INDIAN OCEAN
TANZANIA
MOMBASA
N
KILOMETRES

usually on the assumption that they would work for short periods in the towns without their families and then return to their areas of origin[33]. Because of the deliberate restriction of the migration of Africans to the settler urban centres, there were regulations to enable native authorities to establish markets and trading centres and a number of these actually came into existence.

In the immediate post colonial era, there was no declared policy on urban development as attention was mainly focused on economic development. The lack of recognition of the need for an urban development policy in the genral framework of the national development programme was so obvious that it was described in a recent study as the "overlooked phenomenon"[34].

In 1964/70 development plan, there was a brief mention of settlement policy but this was in respect of agricultural re-settlement schemes.

The 1966/70 plan revised the preceding plan but was largely based on the same principles, and rural re-settlement was again emphasized. A national housing policy was elaborately dealt with. It was recognised that the increasing level of rural-urban migration intensified the already acute housing

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33. See, for example, L.W. Thornton White, Nairobi Master Plan Report, London, H.M.S.O., 1948, p.21.

34. Luigi Laurenti, Urbanization in Kenya, New York, Ford Foundation, 1972.

shortage in the urban areas resulting in a high rate of over crowding especially among the African population. The objective of the policy was to alleviate the housing problem in urban areas by activating the rate of house building through various forms of assistance. But a comprehensive urban development policy was still not mentioned.

In the 1970/74 plan the need to integrate physical planning with economic planning was emphasized for the first time. The plan reviewed the existing pattern and characteristics of urbanization in the country and concluded that the trend was likely to continue into the future and that it was afterall a welcome sign and contribution to economic development. It however, recognised the glaring imbalance in the rate and pattern of urbanization with Nairobi and Mombasa sharing between them the bulk of the total investment capital and infrastructure for urban centres[35], (see Table III).

The plan also appreciated the danger of attempting to decentralise at such an early stage of national development but accepted that it was necessary to redress the imbalance and that it would be better on the whole to spread the economic growth pattern more widely.

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35. 1970/74 National Development Plan, Ministry of Finance and Planning, 1970.

Table III

PROJECTED POPULATION OF MAJOR URBAN CENTRES IN THOUSANDS

TOWNS	1969	1980		
		URBAN	RURAL	TOTAL
Nairobi	509	1098	-	1098
Mombasa	247	447	-	447
Nakuru	47	79	4	83
Kisumu	33	124	66	190
Thika	18	50	-	50
Eldoret	18	42	10	52
Kitale	12	23	2	25
Nyeri	10	26	15	41
Kakamega	6	17	14	31
Embu	4	14	5	19
Meru	5	12	68	80
TOTAL	907	1932	184	2116

Source: The 1974/78 National Development Plan.

Nairobi and Mombasa were to continue to expand as they had not attained their optimum sizes but some medium size urban centres which already possessed certain levels of infrastructure were designated as centres for industrial and commercial growth, namely, Kisumu, Kakamega, Nakuru, Kitale, Nyeri, Thika and Embu. Smaller towns and rural centres were also designated as service centres. Industrial and commercial development were to be channelled into these scheduled areas and physical planning studies were to be undertaken for these areas.

The recently published 1974/1978 plan generally reviewed the progress in the implementation of the 1970/74 strategy. Physical planning studies had been undertaken for all the provinces and over 150 physical plans for various centres had actually been prepared but otherwise, the objectives of the strategy had not been stisfactorily adhered to particularly with regard to the allocation of development projects[36].

A projection of the populations of the major urban centres contained in the plan based on current trends indicated a future massive growth in urban centres and their outlying areas.

The plan paid more attention to the details of

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36. 1974/78 National Development Plan, Ministry of Finance and Planning, Nairobi, 1974.

how to effectively implement the strategy and there was also an apparent shift in emphasis from the development of major urban growth centres to the development of rural service centres in an effort to slow down the rate of migration from rural areas to urban areas.

It is probably too early to judge what the net effect of the urban development policies outlined in the last two plans would be on the pattern of urban development in the country but at least a positive step had been taken to attempt an integration of physical and economic development, and to co-ordinate urban development throughout the country.

The foregoing is meant to be a brief review of the evolution of urbanization trends and policies in Kenya upto date. The Western Region has been chosen for a more detailed study for several reasons: firstly because it is geographically homogeneous region unlike, for example, the Eastern, North Eastern and Rift Valley Provinces which traverse different geographical zones; and secondly because it has not got such a long history of intensive urbanization like the Coast and lastly, because it has a relatively high overall population density. It is therefore expected that because of these characteristics in the country, it would prove a useful area for a more detailed analytical study.

CHAPTER 3

METHODOLOGY

3.1. Analytical Framework

In the study of urbanization and in fact in any analytical study, the question to be investigated and the conceptual framework in which it is to be studied are very crucial issues which must be clearly defined at the beginning of study.

The first important issue that occurs in the study of urbanization in a regional context especially in one such as the combined Nyanza and Western Provinces which is the subject of the present study, is to determine and delineate the specific geographical areas for definitive study.

A broad study of urbanization in the region is considered inappropriate as the whole region is not urbanized or in fact settled; and a study of each individual settlement would not be practicable in an exercise of this nature. Even if it were, the result would be too diffuse to provide a conclusive or meaningful picture.

The approach that will therefore be adopted in this exercise is to study selected settlements in the region on the basis of a representative cross section of the different categories of settlements in the region. The selection of these settlements will be based on the guidelines that will be

explained later in this Chapter.

The idea is eventually to corroborate the results from these individual studies into an integrated whole and to discern the overall regional trend through inferences drawn from the individual and generalised observations.

The next important step is the selection of the parameters to be used in evaluating trends.

Planning theories are still at their formative stages. Although various theories have been developed and many more have been borrowed from inter-related disciplines particularly the social sciences, these have not yet been sufficiently integrated to form a universally tested and accepted body of theories and are therefore still fragmentary and tentative[1].

In a study of this nature, that seeks to measure and evaluate trends where there are no readily available or accepted models for doing so, it is an important pre-requisite that the basis of any technique to be used should at least be logical and consistent.

As has been explained earlier on, urbanization is a field that touches on many disciplines and can therefore be studied from various different aspects. The process of urbanization is a result of the interplay of many varied factors some of which are

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1. F.S. Chapin Jr., Urban Land Use Planning, Urbana, University of Illinois Press, 1965, pp. 75-84.

more relevant and easier to identify and study than others.

An important aspect of this study is therefore identification of those factors which will form the basis of the inventory for the study of urban growth or decline. The choice of the principal factors which will be used as diagnostic indices will be based on the criteria that the factors must be easy to identify and measure.

Another important criterion is that these factors must constitute sensitive variables of a dynamic nature which must be responsive to the evolutionary process of urbanization because urbanization in itself is a dynamic rather than a static phenomenon.

3.2. Selection of Settlements

The selection of a truly representative cross section of settlements in the region for detailed study must take account of the various classes and categories of settlement that exist in the region with their respective characteristics and distinctive features. The choice of settlements is therefore based on three distinctive criteria which will be discussed below.

3.2.1. Administrative Grouping

Although it is often said that administrative boundaries are artificial and do not coincide with

appropriate planning boundaries in many cases, it must at the same time be borne in mind that urban growth is not always a natural and spontaneous phenomenon but is often influenced and directed by policies conceived and executed in the context of existing administrative boundaries. It is therefore important that the study of urbanization should be carried out in the context of administrative boundaries which pertain to the particular area being studied.

The relevant administrative groupings for planning purposes in Kenya are the Provinces and the Districts with each having its official headquarters. Although these headquarters are not in all cases the most significant urban centres in their respective Provinces or Districts, their importance as centres for policy making and the priorities they are obviously bound to receive in the allocation of development expenditure and projects cannot be over emphasized. It is therefore intended that each of the administrative headquarters should be represented in the selection.

3.2.2. Historical Background

The incidence of urbanization occurs over a period of time and urbanization can therefore be basically considered a historical process. Every aspect of urbanization can be studied from a historical perspective as a process of transformation

and change[2]. In some cases, this change is gradual and is accomplished over a wide span of time, and in other cases it may be abrupt; but there is always a time dimension in which context the study of this process of change becomes more meaningful.

In the selection of settlements, the historical dimensions will be taken into consideration by including such settlements which were important centres at the early stages of urbanization in the area even if they may have declined and are no longer of much significance at present. It is hoped that this approach will help to highlight the evolutionary pattern of urbanization in the region and help to explain the various social, economic and political contexts in which urbanization took place.

3.2.3. Size

To be considered as truly representatives the selected cross section of settlements should also include settlements of various size categories. Size in this respect will simply be based on the size of population; but selection will, however, be limited to those settlements which already fall within the category of urban.

At the upper limit, there will be no difficulties

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2. Charks N. Glaab, The Historian and the American City in The Study of Urbanization Op. Cit. pp.53-72.

in making selections as each of the settlements fall within distinctive classes of their own. For example, Kisumu is the only town of its size in the region. In the middle and lower categories however, careful selection from the various alternatives will be necessary although it might be observed later that the apparent problems of choice is also minimised by the fact that settlements which may not qualify for selection on the basis of one criterion may qualify under one of the other criteria.

On the basis of the foregoing guidelines, the following settlements have therefore been selected for study (see Table IV and Figure V).

3.3. Parameters

The parameters that have been selected as indices for studying the process of urban change, namely, demographic and socio-economic factors on the one hand and the physical structure on the other hand will now be examined. The factors as they are now presented are rather broad and therefore require further definition and break down into their various component factors which will be applied in this study. Emphasis will be placed on those components that can be quantified and for which the relevant data are obtainable.

Table IV

TABLE OF SELECTED SETTLEMENTS

PROVINCE	DISTRICT	SETTLEMENT	ESTIMATED POPULATION 1974	REMARKS
NYANZA PROVINCE	Kisumu	Kisumu	45,000	Provincial Hq. (Municipality)
		Maseno	14,000	Trading Centre
	Siaya	Siaya	5,000	District Hq.
	South Nyanza	Homa Bay	4,500	District Hq.
	Kisii	Kisii	9,500	District Hq.
WESTERN PROVINCE	Kakamega	Kakamega	9,500	Provincial Hq. (Municipality)
		Mumias	3,000	
	Bungoma	Bungoma	6,000	District Hq.
		Webuye	4,000	
	Busia	Busia	3,500	District Hq.

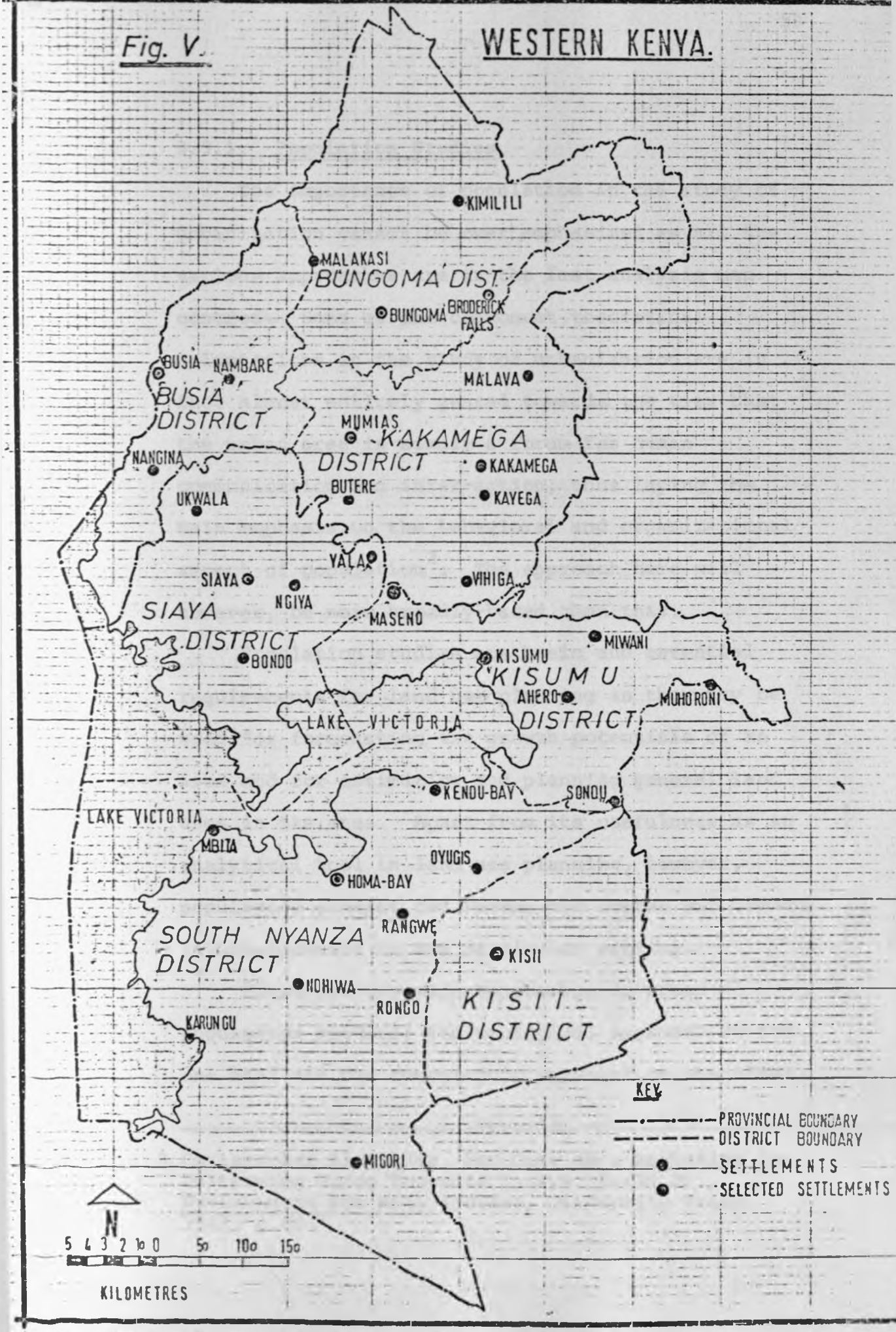
Fig. V.
WESTERN KENYA.
KIMILILI
MALAKASI
BUNGOMA DIST.
BUNGOMA
BRODERICK FALLS
BUSIA
NAMBARE
BUSIA DISTRICT
MALAVA
MUMIAS
KAKAMEGA DISTRICT
KAKAMEGA
NANGINA
BUTERE
KAVEGA
UKWALA
YALA
SIAYA
NGIYA
VIHIGA
SIAYA DISTRICT
MASENO
MIWANI
BONDO
KISUMU
KISUMU DISTRICT
AHERO
MUHORONI
LAKE VICTORIA
KENDU-BAY
SONDU
LAKE VICTORIA
MBITA
OYUGIS
HOMA-BAY
RANGWE
SOUTH NYANZA DISTRICT
KISII
NOHIWA
RONGO
KISII DISTRICT
KARUNGU
KEY
PROVINCIAL BOUNDARY
DISTRICT BOUNDARY
SETTLEMENTS
SELECTED SETTLEMENTS
MIGORI
N
5 4 3 2 1 0 0 50 100 150
KILOMETRES

3.3.1. Population Studies

The importance of population in the study of urbanization cannot be over emphasized as all the various approaches are in the last analysis man centred. Some of the commonest theoretical orientations in the study of urbanization are in fact almost entirely geared towards the view that the urban area is simply a forum for human communication and inter-action, thus laying the main emphasis on the behavioral and organizational aspect of population[3]. The approach here will however, be more broadly-based than this.

Population studies are basic and essential requirements for land use planning as they may be used for forecasting the growth potentials of an area and for estimating and planning general land uses in the area. Apart from its usefulness as an analytical tool in land use planning, however, population studies can reveal the degree and trends in urbanization in any particular setting.

There are two main approaches in urban population studies: the ecological approach on the one hand and the demographic approach on the other.

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3. Christopher Alexander, The City as a Mechanism for Sustaining Human Contacts in W.R. Enald Jr., Environment for Man, Indiana, University Press, 1967, p.60.

The ecological approach deals with the effect of the environment, technology, cross-cultural attitudes, etc., on the behavioral patterns of the urban population. This aspect of population study is difficult to measure and quantify and therefore not very often applied in urban planning studies except for special social research exercises.

The demographic approach deals with such characteristics as size, density, hetrogeneity, and the various stratifications and groups of the population. The demographic approach has the advantage of simplicity, definitiveness and is suitable for empirical research. This study will therefore lean rather heavily towards the demographic approach in the population analysis.

The demographic concept of population is not as constricting as it might have appeared at first sight for its scope allows enquiry into many facets of social change while its root in numbers preserves its vital advantage of simplicity and manageability.

A basic factor in the demographic approach to population is the size in terms of absolute overall numbers. It is however, well recognised that mere size of population does not constitue urbanization and other components of this major factor will therefore also be considered.

The demographic characteristics of population can be examined under numerous headings but for the purposes of this study, four main characteristics

that are considered significant in terms of urbanization have been identified, namely, age-sex composition, places of origin and level of literacy.

It should again be emphasized that it might be misleading to make generalization regarding demographic compositions as what obtains in one particular setting may not necessarily hold good in another. The framework and basis of the assumption for examining the population composition in the study area will now be explained.

3.3.1.1. Age-Sex Composition

This is a vital aspect of urban population analysis for any purpose. The idea is to examine the relative proportion of the respective age-sex categories in any locality over time, or as compared with the composition in other localities or a wider area. Such analysis is often used in predicting the potential level of fertility or mortality and therefore the probable rate of growth or decline of the population.

The break down of age-sex composition is usually in three main categories for each sex, namely; children upto the age of fifteen, representing the pre-working population, ages 16-65 representing the working population and over 65 representing the retirement age. Further sub-groups could be carved out of these major groups, for example, below

the age of five for the pre-school population, and ages 21 to 39 representing young working adults.

The general assumption about age-sex composition of the urban population particularly in developing countries are as follows:

- That it is the young adult male who generally tends to migrate to the urban centres from the rural areas in search of employment opportunities.

- That he is likely to be unmarried and even if married, will tend to leave his family at home in the first instance until he is well secured. This tendency may have originated from the colonial days when migrant workers were in fact restricted from bringing their families with them.

- That most older people in urban areas would tend to return to their places of origin for retirement.

These assumptions would therefore suggest a higher proportion of males of working age in the urban centres than the overall national of regional average, and probably still a higher percentage of this would consist of young adults. It may therefore be assumed that as the rate of urbanization increases in any area, the proportion of young adult males in the total population would also tend to increase.

3.3.1.2. Places of Origin

As has been pointed out, one of the basic characteristics of urbanization is the heterogeneity of the urban population[4]. Most settlements in their origins are simply composed of one ethnic group but as they begin to grow and diversify, they also begin to attract other groups first, from the neighbouring areas and then from much further a field.

3.3.1.3. Literacy

Another factor that can be applied in analysing the urban population composition is the general level of education among the population. This in fact could be regarded as a collorary of the migratory tendencies.

The basic assumption here would be that those who have attained a certain level of education would be more likely to want to migrate to the urban areas in search of employment opportunities and the life style which their newly acquired educational status promises them. The population would, therefore, tend to have a higher literacy rate than the population in rural areas.

The population data used in this study will primarily be based on figures obtained from the population census published by the Statistical

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4. Nel Anderson, Op. Cit. pp.21-25.

Bureau of the Ministry of Finance and Planning. The various population estimates and projections that they make from time to time will also be utilized.

3.3.2. Socio Economic Factors

The concept of the urban economic base has been the cornerstone of the planner's economic understanding of the city. Urban economy refers to the whole complex of activities embracing production, distribution and consumption within an urban area and also the linkages and inter-relationships of these activities with the hinterlands in terms of importation, exportation and general interdependence. The urban economy, therefore possesses the characteristics of the national economy at a small scale.

It is assumed that in the long run population tends to move from areas of relatively low living standards to areas of relatively high living standards and greater economic opportunities. Thus, a basic stimulus to urban growth is the power of drawing people to cities to take advantage of the opportunity to earn higher incomes. As long as incomes and economic opportunities are lower in the non-urban areas, then there will also be a force pushing people off the land into the urban areas.

The state of the economy of an urban area may also constitute an important determinant of the

amount of land which will go into urban use and the rate at which more land will be required for urban development.

An understanding of the dynamics of the economy of urban areas is, therefore, essential to the study of urban growth and development as the economy does not only affect the people but may also determine their demand for urban land uses. Furthermore, whether a town's revenues are increasing or decreasing may affect the solution to its internal problems.

The main index that will be applied in measuring the level or tempo of economic activities will be the level of employment. This will be examined first in terms of the overall numbers employed as recorded by the Ministry of Finance and Planning.

A further breakdown of the overall employment figures that will be applied in this study is to distinguish between primary industries on the one hand and secondary and tertiary industries on the other hand.

The term primary refers to agriculture and extractive industries which are largely rural based and whose level of prominence is generally assumed to recede in proportion to other categories of industry with the growth urbanization.

Secondary industries generally refer to manufacturing and processing, while tertiary refer

to the service sector - distribution, professional services, finance etc. Both secondary and tertiary for the purposes of this study will simply be classified as "non-primary".

Urban areas provide a distinctive economic environment in which manufacturing and service activities emerge and tend to dominate the economic scene as opposed to the primary activities. The secondary and tertiary sectors - that is the "non-primary" sector is mainly urban-based and tends to grow in importance with the growth in urbanization. It should be noted that this approach does not in fact try to distinguish between the revenue earning capacities of the various economic activities but simply distinguishes between their classifications as predominantly urban-based or predominantly rural-based.

Having thus identified and classified the various industrial categories, the overall economic performance of the community will then be measured in the first instance on the basis of absolute changes in employment in all the sectors. Then the relative changes on the individual sectors, namely, the primary and the non-primary will also be examined. This is, in effect examining the industrial composition to see by what extent the proportion of the urban-based sector grows as an indicator of the rate of growth in urbanization in the various settlements.

It will also be necessary to compare the trends in the respective urban centres and the overall trends in the various districts and the region as a whole in order to determine any differential rates of growth.

This study will be mainly based on figures obtained from the Statistical Abstracts of the Ministry of Finance and Planning. Activities in the informal sector of the economy will also be taken into account although it is appreciated that such activities are difficult to identify and quantify and their assessment will be based on general observations.

3.3.3. Physical Structure

The objective of the study as has already been stated is to see to what extent changes in the a fore-mentioned factors, namely socio-economic and demographic changes eventually affect the evolution of the physical structure of the settlements. The physical structure in this context means the land use - its amount, pattern of distribution, intensity of utilization and its process of change; and land values - its pattern of distribution and topography and its process of change.

3.3.3.1. Land Use Study

H. Carter[5] points out that the townscape, which

5. H. Carter, The Study of Urban Geography, London, Edward Arnold, 1972, p.133.

he identifies after Kevin Lynch[6], as the "total subjective image of the city - the whole objective visible scene", is the most complete and complex end of the scale in examining the internal physical characteristics of towns. He breaks down the complexity of the townscape into three interrelated components, namely, the street plan or layout, the structure, and the function or land use and asserts that their separate consideration in academic studies leads to a distortion of reality.

This study will try to encompass these various aspects although with a heavy slant on the functional aspect, that is the land use itself, its pattern and structure.

The physical city has also been described as a container of human activities the form, pattern size and structure of which becomes increasingly complex and varied as it grows[7]. The nature and pattern of physical development in the respective centres will be examined to determine the overall trends in terms of the components, their form and overall structure.

The proportion of the various components of physical development will vary from one settlement to another but eventually some diversity is bound to emerge in the process. The assumption here is

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6. Kevin Lynch, Image of the City, Cambridge, Mass., 1960.

7. P.M. Hauser, Op. Cit., p.12.

that the degree of diversity will increase with the growth of the settlement for as Jane Jacobs aptly pointed out "the ability of a city to continue to grow depends on its ability to diversify"[8].

An important aspect of physical development is the pattern of the development in terms of the spartial organization of the settlement. Urban growth not only results in outwards expansion but also in the re-organization of the pattern and intensity of the various land uses within the existing structure through the processes of change and adjustments.

The function of physical development is to accommodate human activities which in itself is always in a continuous state of change. Thus the need for internal re-organization in an area to accommodate the constant changes in the amount and variety of human activities is a necessary concomitant of urban growth and change.

The process of internal re-organization may occur in one of two ways. Parcels or in fact entire areas may be subject to complete redevelopment where the old and outmoded developments are replaced by new ones and at times new uses as well. On the other hand, although the need for redevelopment may exist in an area it may not be expedient at the time for

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8. Jane Jacobs, The Economy of Cities, New York, Random House, 1969, p.49.

some reasons to subject the area to a complete redevelopment. In such circumstances, change may take place through the conversion and modernization of existing properties in the intervening period before complete redevelopment is undertaken. This is often the case in the transitional zones of urban areas.

Outward expansion may results both from the need for more land arising from increase in population and activities and also from the need to accommodate those already existing population and activities displaced in the process of change and internal re-organization.

The type of activities that choose to move to the expanded areas will depend on their locational requirements. The pattern of outwards expansion will also depend on the types of pressures that initially generate the expansion, the physical constraints to development and other factors that regulate growth in the area. The implications of these factors will be examined in the various settlements to determine in what way that might have influenced the emerging pattern and structure of land use.

Various theories of urban growth have been developed to explain the various physical forms of urban development[9].

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9. See theories reviewed in Chapter 2.

In this study the patterns of growth in the various settlements will be examined from the stand-point of the dynamics which generate the various patterns of growth. For example, why the pattern of growth is loose in one settlement and compact in another.

Another important aspect in studying the physical development in settlements is to examine and understand the causation of such development, that is, the circumstances that led to the developments as well as the various agencies that initiated or participated in such developments. This is because the objectives of the various agencies that undertake development in an area differ in many instances and their net effect on the growth and development of the areas are also bound to vary. For instance, private development is generally largely geared towards satisfying existing or imminently anticipated demands. Public developments on the other hand might simply be geared towards meeting specified policy goals which might not necessarily be in line with the immediate needs in the area.

Also as part of the land use study the various planning attempts that have been made by the various authorities to direct and control the patterns of growth in the selected centres will be evaluated. This will be done firstly to assess the adequacy of such plans in view of the prevailing circumstances

in the settlements in question and secondly to see whether and to what extent those plans have been effectively implemented.

3.3.3.2. Land Value Study

The trend in land values is a natural corollary of the other parameters which have already been discussed. In this study, however it will be treated as a separate factor in its own right.

Land values in the last analysis are determined by the demand for land uses. The differential levels of land values in an area are also determined by the differential locational advantages and desirability of the various parcels of land in the area. The aggregate level of land values on the other hand is influenced by a wider range of factors like the general economic situation, population etc. in the area[10].

The various aspects of urban growth have market implications on land values. Urban growth alters the structure and pattern of land use and it is the function of the urban land market to acknowledge these changes and bring about the necessary adjustments in land values through the price mechanism.

The outward expansion of towns, for instance can also be explained in terms of differential levels

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10. See for example, R.U. Ratcliff, Op. Cit., p.61.

of land values. As demand for space within an urban area increases resulting in a rise in land values within the existing boundaries of the built up area, outward expansion begins to occur into the less expensive land in the peripheral areas. Eventually, however, land values in these areas also begin to rise due to the increase in demand and the result must be to raise the aggregate level of land values for the entire area.

The trend in land values can therefore be regarded as a valid indicator of the trend in urban change in an area as it correlates with changes in land use indicating both changes in demand in the various use categories and various sectors of the town. It would also reflect other changes in the form of improvements in infrastructure and facilities in various parts of the area.

The question has often been raised as to whether land values can be used in evaluating the efficiency of physical planning. It has been argued that town planning does not affect the total demand for land use in an urban area and that the overall effect of town planning is in fact merely to shift and redistribute land values, increasing values in some areas and decreasing it in other areas. The implicit assumption in this arguement is, however, questionable. The fact that town planning which also involves the allocation and distribution of facilities can affect the efficiency of land uses

indicates that in the long run, land uses may be attracted to an area where conditions are favourable while others adversely affected may eventually decide to leave the area.

Haig[11] had argued and Ratcliff[12] tends to agree with him that because an improvement in the transportation system would reduce journey times and transportation costs, that the overall effect would be to eventually reduce land values. He concludes the arguement by suggesting that the best planned town is one where transportation is superior and aggregate land values least. This arguement has, however, been disputed on the grounds that land costs do not simply reflect savings in transportation cost but reflect the overall utility to the occupant[13]. Besides savings in transportation costs if it has any bearing on land values should be to increase rather than reduce it. An increase in the efficiency of the transportation system both within and outside the an urban area is likely to increase the utility and profitability of sites and therefore land values. This would contradict the previous assumption and suggest instead that the town plan which leads to the highest aggregate land values is the best economically.

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11. R.M. Haig, Major Economic Factors in Metropolital Growth and Arrangement, New York, Regional Plan, 1927, p.39.
12. R.U. Ratcliff, Op. Cit., pp.371-3.
13. Lean and Goodall, Op. Cit., pp.246-8.

The main validity of land values as a parameter for studying urban growth is that it is directly linked with the other parameters. A rise in the demand for land uses, as has already been pointed out would result in a rise in land values in an area; a general rise in the economic prosperity of an area is alsc likely to be reflected through more demand for land uses and eventually result in a rise in land values; and a rise in population will naturally result in an increase in the demand for land or more intensive utilization of the available land resources which in the end is bound to result in an overall increase in land values.

Land value data will mainly be based on the figures entered in the rating valuation rolls for the respective settlements. It is however appreciated that some of these might be out of date[14] but even so they still have the advantage that they provide a stable basis for studying the pattern and structure of land values in these settlements. Some of the settlements and parts of others, particularly the peri-urban areas may not have been assessed for rating in which case information for these would not be avialable from the rating authorities. In such cases however data will be

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14. Rating Valuation Rolls are prepared every five years at the earliest but the rolls in some municipalities have not been revised for the past 10 years or more.

based on general market observations obtained through discussions with the authorities and individuals familiar with land market conditions and trends in these areas.

The level of activity in the real estate market in the form of the turnover will also be used as an indicator in this respect. Data on the level of activity in the market as a whole is not likely to be available and the number of yearly demands for government allienations will be applied as an index.

3.4. Scope and Limitations

The framework adopted here fundamentally consists of identifying two sets of factors, namely socio-economic on the one hand and physical, that is land use and land value structures on the other hand. The growth and development of the settlements will then be studied in terms of how and to what extent the first set of factors have affected the latter. These factors have been selected in that they are regarded in this study as the principal elements in the process of urban growth and change and are, therefore, fundamental in that they account for a large fraction of the total variation within the universe of factors. They also in fact represent bundles of component or secondary factors.

In the population syndrome, for example, various aspects of urban population growth have been identified, namely, age-sex composition, literacy and

places of origin. The economic base study is broken down into primary/non-primary sectors; and in the land use and land value syndromes the study will consist of examining changes in the various categories of land use as well as in the various locational sectors of the various centres.

Some of the assumptions that form the theoretical basis of this study must, however, remain generalizations as they are by themselves areas for more detailed and comprehensive research which would be beyond the scope of a work of this nature.

One of the serious setbacks in urban research in developing countries is the lack of relevant data. Even where such data are available, they are very often not complete or up to date. Furthermore, statistical information especially where obtained from different sources may not relate to the same study area.

Any attempt, therefore, to rely entirely on statistical approaches or to develop mathematical models of trends based on insufficient and not entirely reliable statistics would in these circumstances appear both unrealistic and pretentious. Statistics will therefore be used rather cautiously only to reinforce or support general observations where possible.

It must also be emphasized at this stage that the primary objective of this study is to show the interrelationship between the chosen parameters.

There is no intention at this stage to attempt simulating the results of the observations. It is however, expected that eventually, the results can actually be used to guide decision making and perhaps to determine the rate and pattern of growth by activating or manipulating the components of the growth model to achieve original policy directions or where necessary to alter or modify them.

More important however, is the present realization that the planning, programming and timing of urban growth involves a whole series of control processes and that urban development is usually guided, directed and stimulated, consciously or unconsciously through a complex stream of decisions at various levels. The planner is the central figure in this process and his role is gradually changing from that of a designer to that of urban management. This new and crucial role requires a thorough understanding of the dynamics of urban growth.

For example, using the parameters chosen for this study, if in a given area the population was growing fast while aggregate employment and income figures remained stagnant or displayed disproportionately slow rates of growth, then it would be an obvious case of unbalanced growth. If there was a massive investment in infrastructure, which is not reflected by a consequent rise in land values, it might be a strong indication of

misallocation of investment and call for a need to reconsider such further investment allocations in the area. It is the major objective of this study to identify and reveal such gaps and inconsistencies (see Chart II for diagramatic illustration).

Threshold analysis is a recent attempt at resolving the problems of dialogue and interdisciplinary understanding at the various planning levels in particular with regard to long term physical development[15].

It is accepted that urban growth takes place under various constraints and that each stage of urban growth involves the overstepping of one or several of the various constraints, either physical, economic, or technological, usually with additional development costs much of which cannot be spread smoothly over the period of development because of their indivisibility, but require immediate lump sum investments. Various elements of investment involved in urban growth have their minimum development units both physically and in terms of cost. This then, is the essence of threshold analysis - to reconcile the differential thresholds of these various elements involved in urban development in the context of a given development strategy. Thus, threshold analysis provides a

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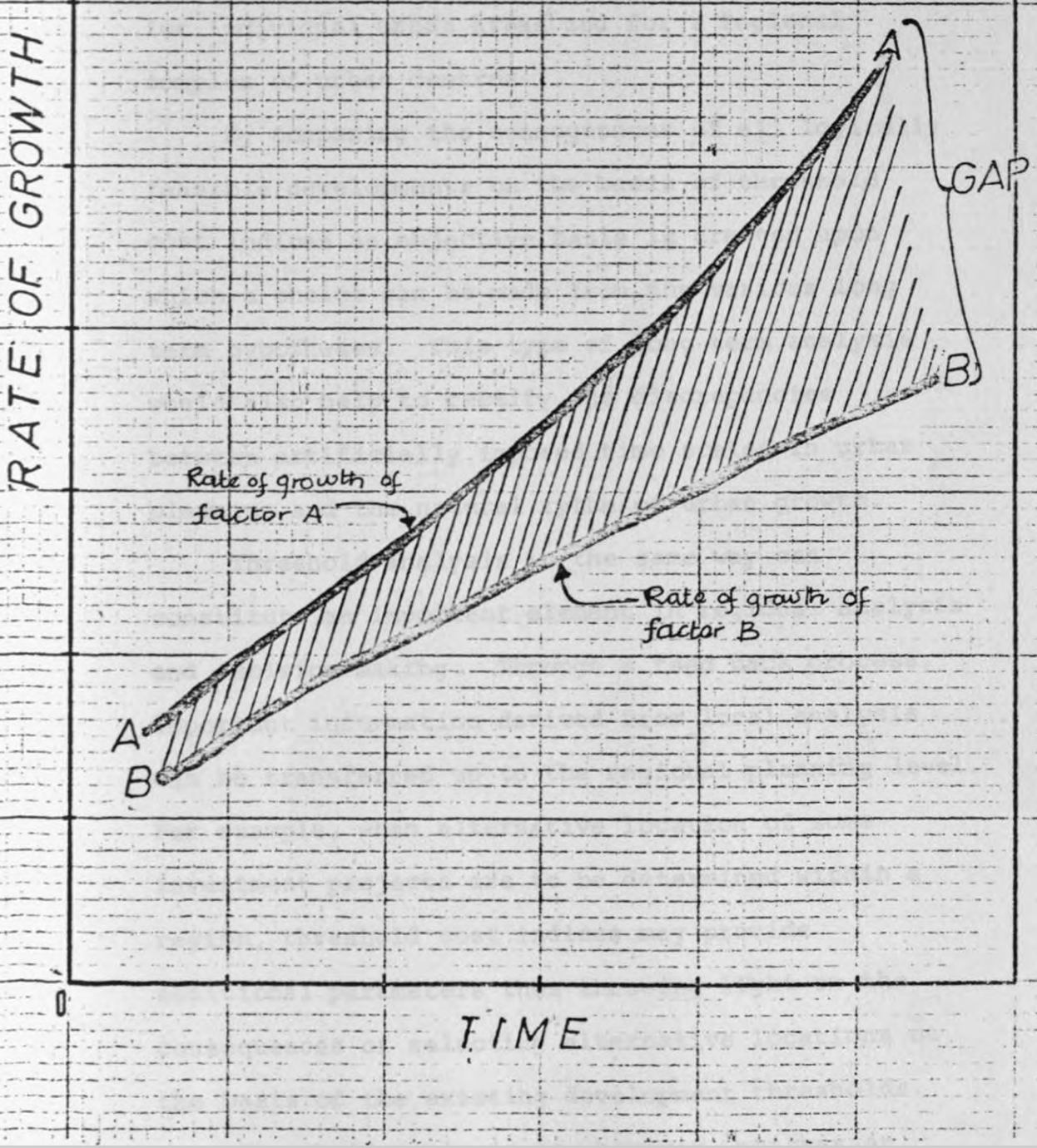
15. J. Kozlowski and J.H. Hughes, Threshold Analysis, Architectural Press, London, 1972, pp.31-33.

chart II.

DIAGRAMATIC ILLUSTRATION OF THE DIFFERENTIAL RATES OF GROWTH OF THE VARIOUS ELEMENTS OF URBANIZATION



quantitative tool to help decision making in long term urban planning.

There are very strong interrelationships between threshold analysis and the problem identifying technique proposed in the analytical framework of this study and long term planning, both for individual urban areas and for a regional complex of urban centres.

By comparing the consequences of all logically feasible developments on the basis of threshold cost indices an objective basis is created upon which a choice can be made from the various long term hypotheses. This type of long term analysis would also help to rectify the discrepancies between artificially imposed time scales in urban planning and the natural rythm of urban growth.

Threshold analysis in the same way can constitute an important element in regional analysis and decision making. Through a feed back process, important information derived from local analysis can be transferred up to the regional planning level. For example, when alternative location of some investment projects are to be determined within a region, threshold cost indices may provide additional parameters thus throwing light on the consequences of selecting alternative locations on the basis of the existing development thresholds.

Threshold analysis is, however, neither an independent planning theory nor a panacea for all

kinds of planning problems but primarily a plan evaluation technique which must be used judiciously in conjunction with other planning theories and techniques.

CHAPTER 4

THE WESTERN REGION OF KENYA

4.1. Physical Base

The Nyanza and Western Provinces correspond approximately to what used to be the Nyanza Province in the various administrative boundaries re-organizations that occurred between 1909 and 1962. The existing boundaries emerged in 1963 as a result of the Boundaries Commission Report of 1962. One of the primary aims of this Commission was to try and relate the administrative boundaries as far as possible to the geographical locations of the various ethnic groups. It was at that time that the then Nyanza Province was split into the present Nyanza and Western Provinces[1].

The two provinces cover a total area of nearly 26,000 square kilometers representing about 4.2% of the total area of the country (see Table V).

Apart from the highlands, the entire region forms a plateau rising from about 1,100 meters at the shores of Lake Victoria to about 2,200 meters above sea level at the edge of the Rift Valley. The main highland comprise Mount Elgon to the North which rises to 4,320 meters (a.s.l.), the Gwasi and Gemba Hills and the Homa Mountains (see Figure VI).

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1. Kenya Regional Boundaries Commission Report, H.M.S.O., 1962.

Table V

WESTERN KENYA - AREA BY DISTRICTS AND PROVINCES

DISTRICT	AREAS IN SQ. KM.	% OF NATIONAL TOTAL.
NYANZA PROVINCE		
South Nyanza	7,778	1.38
Kisii	2,196	0.38
Kisumu	2,660	0.46
Siaya	3,528	0.60
TOTAL	16,162	2.77
WESTERN PROVINCE		
Kakamega	3,520	0.60
Bungoma	3,074	0.53
Busia	1,766	0.30
TOTAL	8,360	1.43
TOTAL WESTERN REGION	26,288	4.2
NATIONAL TOTAL	582,747	100.0

Source: Statistical Abstracts, Ministry of Finance and Planning, 1972.

Fig. V!

PHYSICAL FEATURES WESTERN & NYANZA PROVINCES.

The Western Region lies entirely within the geographic zone of the Lake Victoria Basin and falls into three ecological zones corresponding approximately with altitudes namely, The Lake Shore Savannah Zone: This is the lowest lying part of the region extending from the lake shore to an altitude of about 1,200 meters approximately 15 miles inland. It is also the hottest part of the region and the area of least rainfall. The climatic factors coupled with the fact that it is an area of tse-tse fly infestation combine to make it an area of rather sparse cultivation. The Yala Swamps also occupy an extensive part of this zone. The main crops grown in this area are maize, groundnuts, cotton and root crops but the mainstay of its agricultural industry is livestock rearing.

The intermediate zone referred to as the High Rainfall Savannah lies at an altitude of between 1,200 and 1,350 meters and is cooler and wetter than the previous zone with an annual rainfall of 1,000 - 1,300 mm. This zone covers large areas of South Nyanza, Kisumu and Siaya Districts, most parts of Busia District and the Southern part of Bungoma District. The area is suitable for growing sugar cane, cotton, groundnuts, cereals and root crops and also for animal husbandry.

The last zone which is referred to as the Kikuyu Grass Zone may further be sub-divided into two sub-zones according to altitudes. The lower

part lies at an altitude of 1,350 - 1,800 meters and covers parts of Kisii, Kakamega and Bungoma Districts. This area receives ample rainfall of over 1,400 mm. per annum and is suitable for maize, fruits and vegetable growing in addition to cash crops like tea, coffee and pyrethrum and dairy farming.

The parts of this zone above 1,800 meters cover Kisii Highlands and parts of Kakamega and Bungoma Districts. This is an area of cool climate and very high rainfall, and is mainly forested but parts of the zone bordering the forest are suitable for intensive cash crops and dairy farming in addition to potato, fruit and vegetable growing.

The national agricultural land use potential is classified into four categories according to rainfall expectancies, namely; areas of High Potential with over 1,400 mm. of rainfall, areas of Medium Potential with rainfall of between 1,000 and 1,400 mm., areas of Low Potential with rainfall of 800 to 1,000 mm. and normadic pastoral land unsuitable for cultivation with rainfall of less than 800 mm. per annum (see Figure VII).

Over 72% of the Western region falls within the High Potential category and the rest falls within the category of Medium Potential representing about 36% and 18% respectively of the national total land areas in these categories (see Table VI).

Fig. VII

NYANZA & WESTERN PROVINCES.
MEAN ANNUAL RAINFALL.

Table VI

AGRICULTURAL LAND POTENTIAL BY DISTRICTS

DISTRICTS	C A T E G O R I E S				
	HIGH	MEDIUM	LOW	OTHER	TOTAL
NYANZA					
Kisumu)) Siaya)	432	29	-	-	461
Kisii	220	-	-	-	220
South Nyanza	566	5	-	-	571
TOTAL	1,218	34	-	-	1,252
WESTERN					
Bungoma	253	-	-	35	308
Busia	163	-	-	-	163
Kakamega	325	-	-	27	352
TOTAL	741	-	-	82	823
NATIONAL TOTAL	6,785	3,157	42,237	4,843	57,022

Source: Statistical Abstracts, 1970.
Ministry of Finance and Planning.

4.2. Social Base

The population of the Western Region is composed of various ethnic groups, the major ones of which are the Luos, the Baluhyas and the Kisii. The Luos are of Nilotic origin and are said to have migrated from Southern Sudan along the Nile to the Lake Basin where they encountered and displaced the original Bantu speaking inhabitants who were forced to withdraw to the higher grounds. The Baluhyas and the Kisii are of Bantu origin and are believed to have migrated from the Niger and Congo Basins. Other groups in the region include the Kuria Tende, Nilotic Iteso in Busia District and Nilo Hamitic Elgoni on the slopes of Mount Elgon in Bungoma District[2].

More important in this study than the historical account of the origins and distribution of the ethnic groups is an appreciation of the effect of physical environmental factors on the pattern of settlement formation and the economic activities of the various population groups.

The Nilotic Luos, for example, initially avoided the highlands and high rainfall areas of thicker vegetation. Being by origin a pastoral group they therefore preferred the lowland savannahs as opposed to the Bantu speakers whose economy was based primarily on seed cropping more suited to areas

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2. B.A. Ogot, History of the Southern Luos, E.A. Publishing House, Nairobi, 1967, Chapter 1.

of heavy rainfall. The Nilotic group, however, eventually were compelled by population pressure to move into areas of higher rainfall and gradually had to adapt their mode of living to the new environment by evolving an economy based on cultivation as well as their traditional animal husbandry.

As Professor Ogot puts it, "The story of Luo settlement is thus largely the story of how the immigrant changed the general landscape and on the other hand how the environment gradually modified their mode of life"[3].

The lake basin has always been an area of high population concentration because of its central location as a natural point of migrant settlement. Its fertile environment which enabled it to sustain a relatively large population on a subsistence economy and the physical barrier in the form of the escarpment apparently contributed to discourage further southward migration. The Western Region of Kenya is now therefore a distinctly densely populated area.

The total population of the region at the 1969 census was 3.45 million representing 31.5% of the total population of the country compared with 4.2% of the total land area. The Nyanza and Western Provinces then had average population densities of

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3. B.A. Ogot, Op. Cit., p.37.

169 and 162 persons per square kilometer respectively which were the two highest provincial densities.

The overall rate of population growth in the Western Region between 1962 and 1969 was 3.8% per annum but being an area of net outward migration, the rate of natural increase must have been in excess of the net rate of 3.8%.

There is a close correlation between climatic conditions, land potential and population distribution within the region.

Kisii District had the highest population density in the region in 1969 with an average of 306 persons per square kilometer. Kisumu and Siaya Districts together had an average density of 169 persons per square kilometer reflecting the lower rainfall in this area; a substantial area of the Kisumu District is also occupied by the Yala Swamps of Nyando River which is virtually uninhabitable. South Nyanza had density of 116 persons per square kilometer also reflecting its lower rainfall and its large area of tse-tse infestation.

In the Western Province, the Kakamega and Bungoma Districts had densities of 222 and 114 persons per square kilometer respectively in spite of the extensive area of forest reserve around Mount Elgon. Bungoma District had a considerable population growth averaging 6.4% per annum between 1962 and 1969 due to the massive influx into the District from other parts of Western Kenya. Busia

District had an evenly distributed density of 125 persons per square kilometer (see Table VII) and Figure VIII).

The foregoing figures amply demonstrate that this is an area which is easily capable of sustaining a high population density[4].

4.3. Economic Base

The economic base of Western Region like the rest of Kenya is still predominantly agricultural but several factors have in the past militated against the most beneficial development of the agricultural economy in the area.

The environmental conditions - high temperature, humidity and tse-tse infestation in parts, were not conducive to white settlement and the entire region was, therefore, outside the former Scheduled Area, and apart from Kisumu was virtually ignored during the Colonial Administration. Although it was an area of high agricultural potential, it became instead, a source of African labour for the development of the nearby white settler areas. Because of the immense population pressure in the area, the land has become very minutely fragmented making it difficult for cash

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4. S.H. Ominde, Land and Population in the Western Districts of Nyanza Province, Unpublished Ph.D. Thesis, University of London, 1963, p.15.

Table VII

POPULATION, AREA, AND DENSITY OF PRONVINCES

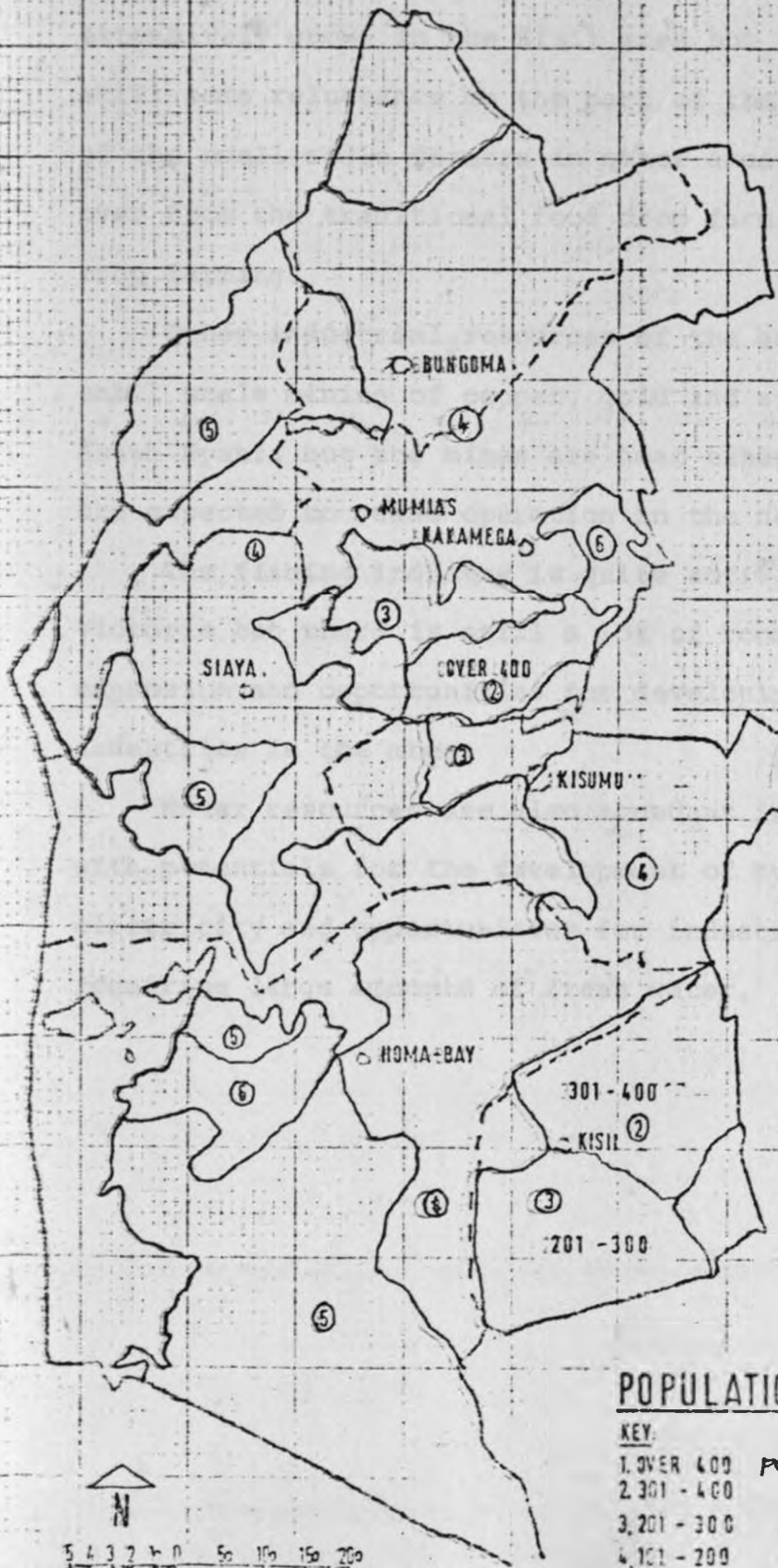
DISTRICT	POPULATION IN OOOs.	AREA IN SQ. KM.	DENSITY PER SQ. KM.
Coast	944	83,041	11
North East	246	126,902	2
Eastern	1,907	154,540	12
Central	1,676	13,173	127
Rift Valley	2,210	170,162	13
Nyanza	2,122	12,525	169
South Nyanza	663	5,714	116
Kisii	675	2,196	306
Kisumu	401	2,081	193
Siaya	383	2,534	151
Western	1,328	8,223	162
Kakamega	783	3,520	222
Bungoma	345	3,074	114
Busia	200	1,629	125
NATIONAL	10,943	569,249	19

Source: Statistical Abstracts, 1970.

Fig. VIII

NYANZA & WESTERN PROVINCES.

POPULATION DENSITIES.



POPULATION DENSITIES.

KEY:

1. OVER 400	persons	per sq	km
2. 301 - 400	"	"	"
3. 201 - 300	"	"	"
4. 101 - 200	"	"	"
5. 21 - 100	"	"	"
6. 0 - 20	"	"	"

crop farming to be carried out on a large scale. Cash crops like pyrethrum, tea and even coffee are extensively grown in the Kisii area but there is still some reluctance on the part of the majority of the small scale farmers in other areas to change over from the traditional food crop farming to cash crop farming.

Other industrial resources of the area include small scale mining of copper, gold and silver in South Nyanza but the mines are near exhaustion and are expected to cease operation in the near future.

The fishing industry is quite active in Lake Victoria but there is still a lot of room for expansion and opportunities for developing ancillary industries in the area.

Water resources are also abundant in the region with potentials for the development of hydro-electricity and opportunities for industries requiring large amounts of fresh water.

Table VIII

WESTERN KENYA - POPULATION PROJECTION BY DISTRICTS

DISTRICT	POPULATION		PROJECTED POPULATION		
	1962	1969	Rate of Growth 1962-1969	1980	200
NYANZA					
Kisumu	301,800	398,200	4%	551,200	995,500
Siaya	325,600	383,700	2.4%	531,100	959,200
South Nyanza	481,600	661,900	4.6%	916,200	1,655,000
Kisii	526,100	672,000	4.8%	930,200	1,680,000
TOTAL	1,634,100	2,115,900	3.7%	2,928,700	5,289,700
WESTERN					
Kakamega	600,200	782,200	3.8%	108,300	195,600
Bungoma	241,900	350,000	6.4%	484,500	875,000
Busia	172,400	203,000	2.4%	281,000	507,500
TOTAL	1,014,500	1,335,100	4%	1,848,500	3,338,500
TOTAL WESTERN REGION	2,648,800	345,100	3.8%	4,777,200	8,628,200

Source: Population Projection by Districts, Ministry of Finance and Economic Planning, 1973.

CHAPTER 5

STUDY OF SETTLEMENTS - SOCIO-ECONOMIC INFLUENCES.

5.1. Introduction

The origin and development of urban centres and in fact all settlements in the country are attributable to certain socio-economic influences that may for simplicity be classified into the following six major categories.

First, there were the transportation nodes of different types, namely, the traditional caravan routes, and then the connections along the railway line and the major roads. These settlements grew in importance and eventually acquired other functions in due course as a result of their centrality and accessibility.

Soja[1] in a recent study of modernization process in Kenya emphasizes the importance of the development of transportation network when he commented that

> "The railway established the general urban pattern in Kenya, fostering the growth of important centres at the key points along their route. The even spacing of these centres reflects the weak influence of local economic factors in initial urban growth for nearly all

1. E.W. Soja, Geography of Modernization in Kenya, A Spatial Analysis of Social, Economic, and Political Changes, New York, Syracuse University Press 1968, p.29.

were within 100 to 125 miles jump from one another."

In addition to the railways, the network of roads which were constructed between 1900 and 1945 played an increasing role in the relative growth of townships and trading centres[2].

Some settlements were resource oriented. These grew up as bases from which the surrounding areas could be opened up for the purpose of exploiting their natural resources.

There were also some settlements which were established purely as convenient bases by the colonial administration from which the surrounding areas could be administered. In fact every significant centre invariably acquired some administrative role eventually.

Some settlements grew up in the first instance as missionary centres, quite distinct from the administrative centres.

There were also the trading centres which served as retail and distributive centres. These emerged either independently or became additional functions of already established centres. Almost all the administrative centres and transportation nodes also served as trading centres.

Then there were of course the traditional centres which were in existence as recognised

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2. E.W. Soja Op. Cit., pp.29-47.

headquarters of the traditional kingdoms even before the arrival of the colonial administration.

These factors did not in fact operate independently but invariably interacted and combined with each other in determining the location, growth and development of settlements in the country.

Dr. Memon[3] delineates three interrelated networks of urban centres that developed in Kenya during the colonial period, namely, the traditional markets, the townships, and the trading centres. The post-independence system of urban centres in the country is still based on the framework set during the colonial era.

In this chapter we shall examine the socio-economic influences on the selected urban centres in Western Kenya within the general framework of origin, development and functions.

5.2. Kisumu

The most significant of these settlements and in fact of all the settlements in Western Kenya is Kisumu. The early history of Kisumu goes back to the 17th century when the Nandis, the Kipsigis and the Nyangeri people left the lakeshore for the highlands. This was followed by a wave of Bantu

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3. P.A. Memon, Some Geographical Aspects of the History of Urban Settlements in Kenya, in B.A. Ogot, editor, Hadit 5, Economic and Social History of East Africa, Nairobi, E.A. Literature Bureau, 1975, p.129.

tribes (Luhya, Kisii, Kuria) but before they had time to settle the Luos descended from the north and drew a wedge between the Bantus of the north and south, namely the Luhyas and the Kisii[4].

The name Kisumu is derived from a Luo word "Kisumu" which means a place of plenty, or a famine relief area. This underscores the point that it was a traditional central place for exchange[5].

The turning point for the settlement occurred in 1899 when Colonel Ternan ordered the gradual removal of the civil headquarters from Mumias to Kisumu and also the transfer of equipment and staff from Port Victoria to Port Florence (the original name for Kisumu). The year before Captain George Whitehouse the Chief Engineer of the Uganda Railway had proposed Port Florence as a new terminus for the railway and port instead of Port Victoria near the mouth of River Nzoia which was found to be unhealthy[6].

The original development plan for Port Florence according to Maston was sketched by Ternan including landing places and wharves along the lakeshore,

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4. S.H. Ominde, Land and Population Movement in Kenya, London, Heinemann, 1961

5. For a bibliographical survey of Kisumu see R.A. Obudho, The Urban Geography on African Kisumu: Materials and Research, 1971, pp.391-396.

6. G.G. Whitehouse, "The Building of the Kenya and Uganda Railway", Uganda Journal Vol.12, 1948, p.5.

government buildings etc.[7] Another plan was drawn up by C.W. Hobley in 1900 in which Kisumu was conceived as a future important regional centre for Western Kenya as well as an important centre for trade between the Coast of Kenya and Uganda[8].

The railway line reached Kisumu in 1901[9] and consequently the caravan route via Mumias to Uganda was abandoned. In 1902 Uganda's Eastern Province and the Elgon District were transferred to the British East Africa; then began the actual consolidation of British influence in the area.

The railway station was originally sited on the north side of the gulf but was later moved to the south side on higher grounds for health reasons. In 1903 the first township boundary was gazetted - 12,566 acres including water was set aside within a radius of 2½ miles from the administration office[10].

Between 1903 and 1906 the development of Kisumu was reinforced not only by the fact that several other centres like Fort Ternan, Kibos and Kakamega were established in its immediate hinterland but also by the fact that other ports such as Jinja, Port Bell, Entebe in Uganda, Bukoba,

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7. A.T. Maston, The Early History of Kisumu, in Guide to Kisumu, Nairobi, United Africa Press, n.d., p.19.

8. A.T. Maston, Op. Cit., p.19.

9. M.F. Hill, Op. Cit., p.237

10. A.T. Maston, Op. Cit., p.20

Mwanza in Tanganyika and Karungu and Asembo-Bay were also established along the shores of Lake Victoria. Two major roads were also built to give access from the town to other centres; these were the Mumias Road and the Kakamega Road. The railway was still the main access route to Nairobi.

Thus Kisumu which initially developed as a port and railway terminus also became an important administrative centre for Kenya. The development of the town proceeded normally and peacefully. Many native Luos began to settle near the town and to participate in the new monetary economy through marketting their farm produce and gaining some employment in the town as well.

The town was very vulnerable to health hazards like malaria, dysentery and blackwater fever. Between 1906 and 1907 it was hit by two epidemics[11]. In spite of these drawbacks the town continued to develop and by the end of 1908 the construction of the port facilities had been completed and Kisumu had become a large government station.

The population of the town was recorded as follows: 47 Europeans including 9 non-officials, women and children, 550 Boanese, Indians and Eurasians, and 1,500 Africans who resided mainly outside the 2½ mile boundary[12].

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11. Charles Miller, The Lunatic Express, An entertainment in Imperialism, New York, The MacMillan Coy, 1971, pp.445-6

12. A.T. Maston, Op. Cit.

In the planning of Kisumu there were two distinct centres: The town section then known as Kisumu proper and the port area which was known as Port Florence. Port Florence included the railway station, piers, godowns, dry docks and quays and Kisumu "Boma" included all the port facilities and the 2½ mile boundary. Because of the outbreak of plague in 1908 Kisumu was zoned as follows

> "Zone A which included all of Port Florence, the official residences, offices and quarters occupied by Europeans and Indian traders, the jail and police lines, hospital and certain locations occupied by Indians and Africans employed in the town. This was surrounded by zone "B" which was about 440 yards wide and reserved as a green belt only for cultivation. The last zone "C" contained all the remainder of the population ---[13]"

The purpose of zone "B" according to the then P.C. was to act as a safety zone around zone"A" and therefore minimize the possible spread of infection from "C" to "A".

By 1910 a commercial bazaar had developed along the major street - the Kakasembe Road (now known as the Oginga Odinga Road). Although many of the Asians worked with the railways some had turned into

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13. P.C. Nyanza Province, A.R.; Nairobi, KNA; 1909, p.13.

entreprenuership to spearhead the commercial development of the town.

The growth of Kisumu picked up speed in the period 1912 to 1914 when more public as well as private developments took place in the town. The first African daily market was also established at this time[14]. The development of the town was briefly halted by the outbreak of the first world war.

After the war a new development scheme was drawn up for the town by the Township Committee. New Swahili, Nubian, Baganda and Wanyamwezi villages were demarcated and built in area "B". Thus for the first time residential land was allocated in the town on the basis of ethnic background[15].

The population of Kisumu during the war years showed an overwhelming majority of males since many Africans were enrolled in the military carrier corps and were stationed in Kisumu, the only military camp in Western Kenya. As shown in Table IX while the number of non-Africans in the township increased as the war progressed and wound up in 1920 the number of Africans in Kisumu dwindled greatly.

Immediately following the end of the war more firms were established in Kisumu in order to tap the trade of the interior. A breakdown of Kisumu

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14. P.C. Nyanza Province, A.R., Nairobi, KNA, 1913, p.39.
15. D.C. Kisumu District A.R., Nairobi, KNA, 1916-17.

Table IX

POPULATION OF KISUMU BY SEX AND RACE 1916, 1919 AND 1920

RACE	MALES			FEMALES			CHILDREN			TOTAL		
	1916	1919	1920	1916	1919	1920	1916	1919	1920	1919	1919	1920
Europeans	64	67	82	20	18	29	7	14	18	91	99	129
Goans	110	81	83	10	17	20	16	17	23	136	115	126
Indians	548	818	772	111	185	206	170	310	324	829	1,313	1,303
Africans	4,000	1,041	1,422	1,370	150	414	-	187	141	5,370	1,378	1,975
TOTAL	4,722	2,007	2,359	1,511	370	667	193	528	506	6,426	2,905	3,532

Source: DC, Kisumu District, ARS (Nairobi: KNA, 1916, 1919 and 1920).

population for 1919 and 1920 by occupation and sex demonstrates that the town was definitely an important commercial centre for Western Kenya (see Table X).

The period between 1921 and 1931 can be characterized as a railway expansion period. The railway line was extended from Nakuru to Kampala thus diverting the traffic from the Coast through to Uganda on which the economy of the town very much depended. This slowed down the rate of economic activities in the town. In addition the diversion of the rail line was also accompanied by the world wide depression of the post world war I era.

Despite all the economic difficulties that the town was experiencing, migration into the town continued. More houses and business premises were constructed to accommodate the increasing population. A new aerodrome was projected to make Kisumu a stopping station for the Cape to Cairo flights[16].

The economic history of the development of port activities for the period 1928 to 1932 is summarized in Table XI.

In spite of the decline, the forces of modernization had been set in motion and consolidated and the town had been established a centre from which these forces would be transmitted

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16. D.C. Kisumu Londiani District, A.R., Nairobi, KNA, 1921.

Table X

POPULATION OF KISUMU BY OCCUPATION, 1919, 1920

	MALE		FEMALE		CHILDREN		TOTAL		% TO TOTAL	
	1919	1920	1919	1920	1919	1920	1919	1920	1919	1920
EUROPEANS										
Officials	23	30	5	8	4	5	32	43	1.99	2.39
Businessmen	20	25	3	5	4	1	27	31	1.68	1.72
Missionary	18	8	10	-	4	-	32	8	1.99	.45
Settlers	29	45	9	8	2	2	40	55	2.49	3.06
Marine Officers	8	10	6	4	5	2	19	16	1.19	.89
Seamen	16	13	6	5	4	6	26	24	1.63	1.34
TOTAL	114	131	39	30	23	16	176	177	10.97	9.83
GOANS										
Officials	50	44	13	11	12	13	75	68	4.67	3.78
Traders	31	60	4	12	5	13	40	85	2.49	4.73
TOTAL	81	104	17	23	17	26	115	143	7.17	8.51
ASIATICS										
Officials	222	265	41	55	84	107	347	427	21.62	23.74
Traders	596	630	141	171	226	241	963	1,042	60.00	57.92
TOTAL	818	895	182	226	310	348	1,310	1,469	81.62	81.66
T O T A L	1,013	1,130	238	279	353	390	1,605	1,799	100.00	100.00

Source: DC, Kisumu District, AR (Nairobi: KNA, 1919 and 1920).

Table XI

TRAFFIC FROM AND TO KISUMU 1928 - 32

Year	1928	1929	1930	1931	1932
Inward Traffic	57,996	70,038	55,258	25,845	27,672
Outward Traffic	41,738	59,334	44,557	15,809	9,537
T O T A L	98,734	129,372	99,815	41,654	37,209

Source: V.C.R. Ford, The Trade of Lake Victoria, A Geographical Study, E.A. Literature Bureau, 1955, p.29.

and diffused to the surrounding countryside.

During the period between 1930 and 1950 nothing very significant happened to revitalize the economy of Kisumu. The short period of gold rush in Kakamega was beneficial to the town due to the fact that it handled a sizeable amount of the transportation of mining materials and equipment. Also very prosperous sugar cane and sugar refining industries were established in the neighbouring centres of Miwani and Muhoroni. The development of the town was also boosted by the fact that it was officially opened as a major airport in the African air route of the Empire Air Services[17].

The outbreak of the second world war did not help matters for Kisumu as all physical and social planning were halted in order to divert goods and services to the war effort.

According to the first National Population Census in 1948 the population structure of Kisumu was as follows: 5,336 Africans, 374 Europeans, 4,725 Asians and 464 others totalling 10,899. Kisumu then had almost three times the population of Kakamega, the next largest town in Western Kenya.

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17. D.C. Kisumu Londiani District, A.R. Nairobi, KNA, 1936.

Of the 7,007 non-Africans who settled in Nyanza Province 71.8 per cent lived in Kisumu. Of the 5,329 Indians who resided in urban centres in Western Kenya 4,725 were in Kisumu.

Despite this concentration of non-African population in Kisumu town there was not a surge in economic development of the town comparable with that which occurred in the Central Highlands. This has been attributed to the fact that Kisumu is located on the fringe of the white settler areas which deprived it of the necessary stimulus for development[18].

At the 1962 census the population of Kisumu had risen to 23,525 representing 73.5 per cent of the total urban population of 39,699 in Western Kenya at the time.

In the 1969 census the population was recorded as 32,431 indicating an annual growth rate of 4.7 per cent compared with 5.7 per cent for the 1948/62 period (see Table XII). This might be explained by the sudden and unrestricted influx of African population after independence into Nairobi and other former "Schedule Areas".

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18. S.H. Ominde, "Problems of Land and Population in the Lake Districts of Western Kenya" in Proceedings of the E.A. Academy First Symposium, London, Longmans, 1963, p.26.

Table XII

POPULATION GROWTH OF KISUMU 1948-69

Year	1948		1962		1969
Population	10,899		23,526		32,431
Annual Growth Rate		5.7%		4.7%	

The population characteristics of the municipality in 1969 further revealed the dominance of Kisumu as an urban centre in the region. Kisumu had 97 per cent of the total urban population in its immediate district and 65 per cent of the province compared with 8 per cent and 1.75 per cent of their overall populations respectively[19]. The age-sex break down showed a high concentration of young adult males. On the whole 55.82 per cent were male as compared with the whole of Western Kenya where there is an overall female dominance (see Table XIII). The literacy rate of 55.41 per cent in 1969 (see Table XIV) was also much higher than the national average of 27.08 per cent and compared well with Nairobi which had 55.96 per cent for the same year.

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19. For District, Regional, National and Nairobi Statistic see Appendix 1.

Table XIII

KISUMU TOWN, AGE-SEX COMPOSITION

AGE	MALE	%	FEMALE	%	TOTAL	%
0 - 9	4,466	48.9	4,666	51.1	9,132	28.2
10 - 19	3,613	46.96	4,081	53.04	7,694	23.7
20 - 29	7,236	62.01	4,433	37.99	11,669	35.98
40 - 49	1,753	73.01	648	26.99	2,401	7.4
50 -	1,035	67.43	500	32.57	1,535	4.73
TOTAL	18,103	55.82	14,328	44.18	32,431	100

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

Table XIV

KISUMU TOWN, LITERACY - 1969

EDUCATION STATUS	NUMBER	%
NO EDUCATION	14,462	44.59
PRIMARY EDUCATION ST. 1 - 8	13,236	40.81
SECONDARY EDUCATION FORMS 1 - 4	4,094	12.62
POST SECONDARY EDUCATION	639	1.97
T O T A L	32,431	100

Source: 1969 Population Census, Ministry of Finance.

The migratory characteristics of the population showed that 33.32 per cent of the population were from the same district while 24.99 were from the other districts in the same province, which means a total of 58.31 per cent from the same province (see Table XV). This contrasted quite sharply with the overall provincial figure where 90.89 per cent were from the same province.

Table XV

KISUMU TOWN, BIRTH PLACE - 1969

O R I G I N	N U M B E R	%
SAME DISTRICT	10,805	33.32
ELSEWHERE SAME PROVINCE	8,103	24.99
ELSEWHERE	13,468	41.53
T O T A L	32,431	100

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

The municipal boundaries of Kisumu were considerably extended in 1973 (see Figure 1X). The population within the new boundaries was then estimated at over 100,000. Some of the additional population were already de facto part of the Kisumu Municipality and were enjoying certain urban amenities while about 61,000 were located in the peripheral rural areas and were essentially peasant farmers. The projected population of Kisumu at the turn of the century is put at around 500,000.

On the economic and functional aspects, Kisumu has obviously remained the most important centre of activities in Western Kenya. Its location combining rail, road and port traffic is the major factor that has helped to sustain its growth, albeit at a rather slow pace. It nevertheless has vast potentials for further growth due to the combination of certain factors like the vast quantities of water suitable for industrial processing, the high potentiality of its agricultural hinterland where conditions are favourable for the cultivation of a variety of cash crops like sugar cane and cotton. It is well recognised that the development of these potentials will create sufficient demand for the establishment of a wide range of industries in the town serving the entire region.

The slow rate of economic growth that Kisumu has undergone in the past is mainly due to the lack of a wealthy regional market and sufficient economic

incentives. There are not enough industrial establishments at the moment to utilize the economic base of the region which is mainly agricultural.

The major employers in the town are still the Government and the Railways who together account for about 78% of the total employment in the town. The employment figures indicate a predominance of employment in the non-agricultural sector accounting for an average of 97 per cent between 1967 and 1971 (see Table XVI). In 1969 the percentage of the total population recorded as employed in the various sectors was 40.5 compared with the provincial figure of 2.15 per cent and the national average for the same year of 4.85 per cent. The figure even surpassed that of Nairobi recorded as 32.12 per cent. This figure might however be misleading as a large number of those employed in the town lived outside the then boundaries of the municipality.

5.3. Webuye

Webuye formerly known as Broderick's Falls started as a small railway town on the Nairobi - Kampala line and developed into a small trading centre. Hardly any significant growth or development took place in the centre apart from the few institutional establishments like the post office, the police post and the health centre which were added to the railway station. It was to remain so until 1972 when the decision to locate

Table XVI

KISUMU TOWN - EMPLOYMENT BY SECTORS 1967-71

YEAR	TOTAL	PRIMARY		SUB-TOTAL	%	NON-PRIMARY						SUB-TOTAL	%
		Agriculture	Mining			Manufacturing	Construction	Electricity, Gas	Commerce	Transport	Services		
1967	11,734	177	237	414	3.53	2,099	2,162	158	1,748	2,475	2,678	11,320	96.47
1968	13,087	199	154	353	2.70	2,361	2,432	178	1,966	2,784	3,013	12,734	97.30
1969	13,114	232	161	393	3.0	2,561	2,323	205	1,839	2,590	3,203	12,721	97.0
1970	13,003	219	151	370	2.85	2,610	2,610	217	1,694	2,328	3,509	12,633	97.15
1971	13,452	255	120	375	2.79	3,333	1,085	94	1,862	1,778	4,925	13,077	97.21

PERCENTAGE OF POPULATION EMPLOYED IN 1969 : 40.5

Source: Statistical Abstracts, Ministry of Finance and Planning.

the first paper mill in the country at Webuye was taken.

Construction began soon after the site was chosen and has involved a massive capital outlay in various forms. The Government, the National Housing Corporation and the Paper Mill Authorities have jointly engineered extensive physical development in Webuye within the last three years. This has been in the form of housing of various categories and infrastructural development. Webuye is at present a Divisional Headquarter and the existing administrative facilities are also being expanded to cater for the growing population in the centre.

Paper manufacturing is both a capital and labour intensive industry and has, therefore, generated a considerable amount of employment in Webuye. This has in turn attracted population from all parts of the region. The mill is estimated to have a labour force of about 2,000 when it eventually goes into full production.

The location of the paper mill in Webuye has transformed the town from a sleepy and almost dying town to one with considerable prospects for growth. It is, however, difficult to predict the probable rate and extent of future growth. This will entirely depend on the nature of the future operations of the mill and to what extent it will expand and whether or not it will attract ancillary industrial and service activities to the area. The

general speculation about the future of the town appears to be overblown and official estimates are more guarded.

The population which was below 1,000 at the 1969 census is now estimated at around 4,000 and projected at about 10,000 by 1980 and 20,000 by the turn of the century.

5.4. Bungoma

Although a railway town Bungoma had an earlier traditional origin. Babaugoma was one of the dominant clans in Bakusu, a sub-tribe among the Luhyas of Western Kenya. This clan had settled at Webukha on the foothills of the Bungoma hill which they found was a suitable grazing ground[21].

Although the settlement had developed into a traditional market centre no significant development took place in the area until the decade following 1920. The arrival of the railway in 1924 gave a new impetus to the development of the area and marked the beginning of a new era on which Bungoma was later to be founded.

Some of the natives were employed in the construction of the railway, and the presence of Asian and European technicians also provided a basis for monetary exchange of goods and services.

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21. J. Osogo, A History of the Baluhya, London Hutchinson, 1966.

Other developments followed on the completion of the railways, a veterinary centre was established in 1926 and the first shop is reported to have been built in 1928[22]. Some of the traders in Mumias moved to Bungoma which obviously had become more attractive because of the railway station. The present name of the town was officially changed from Wakukha to Bungoma in the 1940s.

Until the 1940s Elgon Nyanza formerly called the North Nzoia and now Bungoma District had no proper district administration centre and was administered from Kakamega. In 1948 when a district administrative headquarter was to be established Bungoma was a natural choice and a temporary post situated at Kavuja was then moved to Bungoma. Bungoma however did not assume its full administrative function until 1956. Further developments followed the creation of the headquarter at Bungoma, like the setting up of the Maize Produce Board. Through self-help efforts the residents of the area were later able to establish an Agricultural Betterment Fund through which they carried out some development projects like the establishment of a health centre which later became the Bungoma District Hospital and a primary school.

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22. P.C. Nyanza, AR, Nairobi, KNA, 1928.

The town was categorized on a township in 1964. Bungoma had a population of 1,589 at the 1962 census and had more than doubled this population by 1969 when the population figure was recorded as 4,801. The mass exodus of Kenyans from Uganda in 1972 had an effect on Bungoma whose population is now estimated at 8,000.

The population break down for the 1969 census showed reasonable urban characteristics with male dominance, a relatively high degree of literacy of 45.76 per cent and nearly 40 per cent of the population originating from outside the province (see Tables XVII, XVIII and XIX).

Bungoma is the second largest town in the Western Province after the headquarters, Kakamega. There was a surge of commercial activities in the town following the influx of population from Uganda. The eonomic base is still predominantly agricultural and there appears to be little economic basis for a sustained growth in the town. The hinterland is rather thinly populated and not very productive. The administration and the railways still remain the major sources of employment. One of the major predicaments of the town appears to be that it is stifled by other important centres of growth like Eldoret, Kitale, Kakamega and more recently Webuye.

Table XVII

BUNGOMA TOWN - AGE-SEX COMPOSITION, 1969

AGE	MALE	%	FEMALE	%	TOTAL	%
0- 9	711	50.5	697	49.5	1,408	31.99
10-19	430	46.04	504	53.96	934	21.22
20-39	982	61.57	613	38.43	1,595	36.24
40-49	226	8.00	53	18.99	279	6.34
50 --	120	64.87	65	35.14	185	4.2
TOTAL	2,469	56.1	1,932	43.9	4,401	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

Table XVIII

BUNGOMA TOWN - LITERACY, 1969

EDUCATION STATUS	NUMBER	%
NO EDUCATION	2,387	54.24
PRIMARY EDUCATION ST. 1-8	1,638	37.22
SECONDARY EDUCATION FORMS 1-4	348	7.91
POST SECONDARY EDUCATION	28	0.64
TOTAL	4,401	100.0

Table XIX

BUNGOMA TOWN - BIRTH PLACE, 1969

ORIGIN	NUMBER	%
SAME DISTRICT	1,582	35.95
ELSEWHERE SAME PROVINCE	1,057	24.02
ELSEWHERE	1,750	39.76
TOTAL	4,401	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

5.5. Homa Bay

The modern origin of Homa Bay is also indirectly linked with the railway. It was established as a port town on Lake Victoria by the East African Railways and Habours during the 1930s. The main objective was to facilitate the transportation of agricultural produce from the rich outlying agricultural districts by lake to Kisumu for onward forwarding by rail to Nairobi. A large maize store and cotton ginnery were established there as ancillary facilities to the port.

It developed into a trading centre but remained small as little growth took place in it. In 1961, however, when Kisii District was carved out of the then South Nyanza District, Homa Bay was accorded a new status on the District Headquarters of what was now left of the former South Nyanza District. The new administrative designation of Homa Bay appeared to have revived its growth for a while as new administrative facilities and personnel had to be provided.

The population of Homa Bay was recorded as just under 1,500 in 1962 and by 1969 it had reached 3,252 and is presently estimated at about 4,500. According to the official projection the town should attain a population of 35,000 by the year 2000.

The 1969 population census did not show any significant difference between its population and that of its rural surroundings except for the slightly

higher masculine characteristic (see Table XX).

The economy of Homa Bay is still backward. The major employers are in the public sector, that is the Habours and the Government. The only manufacturing concern in the town is the sisal processing factory. This is an ancillary activity to the extensive sisal growing industry in the hinterlands.

On the whole it is difficult to visualize any substantial growth taking place in Homa Bay beyond the present rate unless a dramatic change occurs in its economic base. The same view appears to have been expressed by the modest official projection of its future population.

5.6. Siaya

Siaya situated about 80 kilometers north west of Kisumu was traditionally a Chief's Camp and it appears that it was for this reason that the colonial administration did not set up an administrative headquarter there in the first place. Siaya was recognised as an important centre and provided with various facilities like a health centre, a police post and a court etc. The divisional administration was set up at Ukwala and Siaya developed instead into a trading centre and remained so until 1961 when a separate Siaya District was created out of the former Central Nyanza District. Siaya became the headquarter of the new district and was also immediately accorded an

Table xx

HOMA-BAY TOWN - AGE-SEX COMPOSITION, 1969

AGE	MALE	%	FEMALE	%	TOTAL	%
0- 9	489	49.16	515	50.84	1,013	31.15
10-19	284	40.75	413	59.25	697	21.43
20-39	802	66.23	409	33.77	1,211	37.24
40-49	174	83.25	35	16.75	209	6.43
50 --	101	83.47	21	17.36	121	3.72
TOTAL	1,859	57.2	1,393	42.8	3,252	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

urban council status. The administration was then shifted from Ukwala to Siaya.

Some growth and development followed in the aftermarth of the administrative upgrading mainly in the form of augmentation of the administrative facilities like administrative buildings and residential quarters for the additional government staff. This was also followed by other developments like the installation of piped water and telephone services, and the expansion of the health centre to a 120 bedded hospital.

All these have in turn attracted new population and commercial activities into the centre. But perhaps the most significant factor that has influenced the growth of Siaya in recent years has been the exodus of Kenya nationals from Uganda. Many of those expelled originated from Siaya District and therefore returned to their home areas to resettle. This injected new population together with some private capital into the centre.

The present population of the town is estimated at about 5,000 which is quite remarkable considering that it was below 1,000 in 1969.

The main problem of the town is still the lack of a good industrial base. It is doubtful whether the sudden spate of growth which started with the exodus from Uganda can be sustained without a reinforcement of the economic base.

The Yala Swamp Rice Scheme which is presently

underway has improved the prospects for the town. It is hoped that the success of the project will attract some more commercial and industrial activities like milling and wholesaling into the town.

5.7. Mumias

The history of Mumias dates back to the days of the slave trade because of its location on the Lake to Coast slave trade route. It in fact existed as a slave post long before the arrival of the British administration.

Mumias was the base of the first British administration and missionary activities which was established in Nyanza in 1894. From there parts of Eastern Uganda were also administered and this was even before the talk of building the railways started.

The importance of Mumias was however short lived and was soon to be erroded by a combination of factors which ultimately resulted in its being overshadowed by other settlements. First was the shift of the British interest from Uganda to the Kenya Highlands, then there was the fact that Mumias was eventually by-passed by the railway line to Kampala which became the vital link between Kenya and Uganda. Most significant however was the emergence of Kakamega which grew rapidly during its early years due to the discovery of gold and to

which the administration of the area was eventually moved.

Practically no noticeable growth took place in the town in the intervening four decades after its decline in the early 1930s, although it was later to become a Divisional Headquarter. The population of the town according to the 1969 census was 617 similar to the population it had achieved in the early 1920 (see Table XXII) before the gold rush in Kakamega. This was the situation when in 1972 the government decided to establish a sugar factory in this rich sugar growing area.

A fast rate of growth was expected to ensue in Mumias following the establishment of the factory and a development plan was prepared based on a projected population of 7,000 by 1976 and 20,000 by the year 20000. It was originally expected that the National Housing Corporation would jointly develop the necessary facilities in conjunction with the Government. What eventually transpired, however, was that Sugar Factory Authorities had instead decided to provide their own staff housing and other facilities around the factory premises which is situated well away from the main town. This had the effect of syphoning off whatever growth that had been expected to occur in Mumias Township.

Furthermore, all private development that has resulted from the establishment of the factory tend to be located near the factory area which is about

5 kilometers from the main town at Manyoni. Prior to 1972, Manyoni was almost non-existent as a settlement and was only an open air market, but it is now developing at an alarming rate as a result of the factory.

Although basic infrastructure like water and electricity are provided at Mumias while practically none is available at Manyoni, this fact does not appear to influence the trend. Manyoni continues to grow and develop at the cost of Mumias which now appears to be a dying centre.

The prospects for growth in the general area are good as the establishment of the factory has encouraged local growing of sugar cane by co-orperatives and small holders at economic levels. This is helping to generate cash and employment and generally improve the economic base of the area. Whether or not Mumias will eventually benefit from this general improvement in the economic well-being of the area still remains to be seen.

5.8. Busia

The significance of Busia as a settlement is definitely attributable to its administrative function. Being located on the Kenya-Uganda border it has served as a border post both for the Government and the East African Community.

Busia was a Divisional Headquarters before the creation of the Busia District when it was elevated

to its present status as a District Headquarters. The significance of Busia is also enhanced by the location of the National Leprosy Research Centre at Alupe, 8 kilometers from Busia Township.

The population at the 1969 census was 1,059. It was also affected by the exodus from Uganda and the present population is estimated at around 3,500.

The prospects for future growth are generally regarded as slim as there are no economic incentives at the moment to boost the growth of the town.

5.9. Maseno

Maseno which is situated about 20 kilometers from Kisumu town on the Kakamega Road started off as a missionary centre in 1906 when the chief of the area granted an area of land to the Anglican Mission to establish their base[23]. The mission later built several institutions including a mission hospital, and the Maseno High School which is one of the oldest secondary schools in Kenya.

Other institutions followed the missionary establishments and Maseno gradually developed into an important institutional centre which it is today combining a variety of training institutions like the Siriba Agricultural Training College, a Veterinary

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23. A.T. Maston, Op. Cit.

School, a Teachers' Training College and the Maseno Institute of Public Administration.

Because of its proximity to Kisumu it never gained recognition as an administrative centre although it now enjoys an Urban Council status with the headquarter of the division also based there. Other facilities like a police post, water and electricity have been provided to support the institutions. It also has a fairly large market and commercial centre which caters for the needs of the institutions.

The population in 1962 was 1,177 and by 1969 was 1,208 showing just a marginal increase. This can be explained by the fact that the population is mainly composed of the population of the institutions which is normally transitional and tends to fluctuate according to the level of intake into the institutions.

Apart from the existence of the institutions there is no other incentive for growth in the town. The economy is almost entirely dependent on the institutions and geared towards satisfying their day to day needs. The prospects for future growth are therefore entirely dependent at the moment on the possibility of rapid expansions taking place in the institutions, the chances of which, as of now, are rather remote.

5.10. Kakamega

A visiting administrative post had been set up in

Kakamega (then known as Fort Maxted) in 1903 as one of the subsidiary administrative posts to Mumias, the then headquarters of British administration in Nyanza. The early history of Kakamega was also indirectly connected with the railways. The railways had brought in a lot of coastal and Indian traders into Kisumu and some of these soon found their way to Kakamega in the wake of the flourishing commercial activities in the area[24]. Thus Kakamega started almost simultaneously both as an administrative post and a trading centre along the Kisumu - Mumias Road.

The name Kakamega was derived from the tribal name "Kakumega" used in reference to the location and its immediate sub-region. The site had actually been occupied by some native population who clustered at various site on the hill slopes avoiding the thickly forested hill tops and the rather swampy valleys.

The commercial activities in the centre continued to grow and in 1910 Kakamega was officially classified as a Trading Centre[25].

The recurrent health hazards experienced by the administration in Mumias caused by the unhygenic supply of water eventually compelled the administration to move the headquarters from Mumias

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24. A.T. Maston, Op. Cit.

25. P.C. Nyanza AR Nairobi, KNA, 1910.

to Kakamega where the River Isuikhu and its tributaries provided an adequate supply of hygenic water. In 1920, Kakamega then assumed the administrative functions of Mumias and this started a new phase in the development of the centre.

Soon after the transfer of the headquarters to Kakamega the township boundaries were demarcated and this was about one mile radius from the administrative buildings. Kakamega was then gazetted as a township.

Although there was no attempt at formal planning at this stage there was nevertheless a visible segregation of uses, first on use categories and then on racial grounds. For example the shops clustered around the road junction and the administrative buildings were situated near the hill top. The residential quarters were grouped in various locations with the Asian traders mainly living in the commercial areas, the Arabs and Swahili residents from the coast concentrated on the western side of the town.

More government quarters and labcur lines were built to accommodate the staff being transferred from Mumias. The building programme was completed in 1927 when Kakamega became officially recognized by the territorial Governor as the new permanent district headquarters.

The discovery of gold constituted the most significant factor that influenced Kakamega during

the early days of its development. Gold was discovered in the Yala River valley and this event was immediately followed by the famous "Gold Rush" of the 1930s as prospecting spread over the entire area.

The development of mining was first characterized by the establishment of claims by individual prospectors. This reached its height in 1934 when there were 23,158 registered prospectors. Later the individual claims were replaced by large mining companies and syndicates.

The gold rush in Kakamega was particularly significant in that it occurred during a period of general world depression which followed the end of the first world war when prices of products had declined to very low levels. The settler farmers in the White Highlands were attracted to Kakamega to seek alternative means for prosperity.

The net effect of this influx of prospectors was a massive build up in the labour force in Kakamega and its environs and on unprecedented rate of physical development of all sorts including residential and commercial buildings, hotels, schools, health and social and entertainment facilities and a general growth in the economic well-being of the town. Transportation and communication facilities were also greatly improved.

By 1946 the mining activities had considerably

declined due to increasing costs and exhaustion of the gold deposits and by 1948 had almost entirely collapsed

The 1948 population figure although taken at the height of the decline and at the beginning of the exodus of population from the town still shows the considerable amount of growth that had taken place during the twenty year interval between 1928 and 1948 (see Tables XXI, XXII and XXIII).

The immediate effect of the closure of the mines was the halting of many of the projected developments for the area, for example the proposed connection from Butere through Kakamega to Broderick's Falls (Webuye) whose survey had already been completed.

There was also a drastic fall in the population as shown by the 1962 census figures. The decline was most marked in the European population. In spite of all this Kakamega still retained its original functions as an administrative and market centre but very little in the form of development took place.

The population of Kakamega at the 1969 census was 6,244 and is presently estimated at about 9,500.

The population breakdown for 1969 showed similar characteristics in the age-sex composition to that of Kisumu (see XXIV). The literacy rate which was just over 50 per cent in 1969, was slightly lower than that of Kisumu but much higher

Table XXI

KAKAMEGA 1928 - POPULATION COMPOSITION

TRIBAL AND RACIAL GROUP	MEN	WOMEN	CHILDREN	TOTAL
European Officials	9	4	-	13
Goan and Indian Officials	6	2	7	15
Indian Traders	20	5	8	33
Goan Traders	2	-	-	2
Arabs, Somalis, Nubians, and Swahilis	175	203	157	535
T O T A L	212	214	172	598

Source: P.C., Nyanza Province AR, KNA, 1928.

Table XXII

MUMIAS 1928 - POPULATION COMPOSITION

TRIBAL AND RACIAL GROUP	MEN	WOMEN	CHILDREN	TOTAL
European Officials	-	-	-	-
Goan and Indian Traders	-	-	-	-
Indian Traders	18	10	17	45
Goan Traders	-	-	-	-
Arabs, Somalis, Nubians, and Swahilis	76	84	66	226
T O T A L	94	94	83	271

Source: P.C., Nyanza Province AR, KNA, 1928.

Table XXIII

KAKAMEGA POPULATION GROWTH, 1948-69

YEAR	1948	%	1962	%	1969
POPULATION	4,978		3,939		6,244
ANNUAL GROWTH RATE		-1.7		6.8	

Table XXIV

KAKAMEGA TOWN - AGE-SEX COMPOSITION, 1969

AGE	MALE	%	FEMALE	%	TOTAL	%
0- 9	926	51.02	889	48.98	1,815	29.07
10-19	747	51.38	707	48.63	1,454	23.29
20-39	1,329	59.52	904	40.48	2,233	35.76
40-49	313	72.24	103	24.76	416	6.66
50 --	2.3	65.34	113	34.66	326	5.22
TOTAL	3,528	56.50	2,716	43.50	6,244	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

than the national average of 28 per cent (see Table XXV). The migratory tendency showed that 58.15 per cent of the population was from the same district compared with 33.32 per cent for Kisumu while 35 per cent were from outside the same province compared with 41.53 per cent for Kisumu (see Table XXVI).

The administrative function of Kakamega has, since the end of the gold mining era, seemed to determine the tempo of growth in the town. The rather slow rate growth in the late fifties and early sixties must have been accentuated as a result of the sub-division of the former North Nyanza District into two, creating the Elgon Nyanza in 1958. Some Government and Local Authority personnel who were previously based at Kakamega were then transferred to Bungoma.

A similar administrative re-organization occurred in 1968 but this time in favour of Kakamega. The Western Province was created out of the former Nyanza Province and Kakamega became the new Provincial Headquarters, thus expanding its administrative influence.

Kakamega was elevated from an Urban Council to a Municipality in 1971. On the whole the effect of the change in the administrative status of the town has affected the growth of economic activities only to a very marginal extent.

Kakamega is quite a unique settlement in this

Table XXV

KAKAMEGA TOWN - LITERACY, 1969

EDUCATION STATUS	NUMBER	%
NO EDUCATION	3,103	49.70
PRIMARY EDUCATION ST. 1-8	2,540	40.68
SECONDARY EDUCATION FORMS 1-4	525	8.41
POST SECONDARY EDUCATION	76	1.22
T O T A L	6,244	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

Table XXVI

KAKAMEGA TOWN - BIRTH PLACE, 1969

ORIGIN	NUMBER	%
SAME DISTRICT	3,631	58.15
ELSEWHERE SAME PROVINCE	413	6.61
ELSEWHERE	2,188	35.04
TOTAL	6,244	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

area in many ways. Although it has no rail service, no cheap water transportation route or source of power, it nevertheless has the advantages that it is located in a densely populated area with well drained fertile soil and adequate amount of rainfall particularly suitable for the cultivation of a wide range of valuable cash crops. In addition to these, it is served by a major international trunk road and is a provincial capital.

On the other hand all that can be said at the moment of Kakamega is that it has a high trading potential due to the potentially high purchasing power of its surrounding districts. Nevertheless it is and has been for a long time now a dormant town due to the fact that the agricultural potentialities of the surrounding areas are not yet being adequately exploited. Farming in most parts of the area is still carried on almost purely subsistence level. Some small scale sugar, coffee farming is done in places but not enough to generate sufficient economic base for urban growth.

The low level of economic activities in Kakamega and its hinterlands is well demonstrated by the 1969 census figures when only 1.4 per cent of the entire population in the district and 16 per cent in the municipality were in paid employment. 70 per cent of the employment was in service activities which was mainly government employment (see Table XXVII).

Table XXVII

KAKAMEGA TOWN - EMPLOYMENT BY SECTORS, 1967-71

YEAR	TOTAL	PRIMARY		SUB-TOTAL	%	NON-PRIMARY						SUB-TOTAL	%
		Agriculture	Mining			Manufacturing	Construction	Electricity, Gas	Commerce	Transport	Services		
1967	882	-	-	0	0	18	16	89	173	-	506	882	100.0
1968	954	-	-	0	0	19	17	96	188	-	634	954	100.0
1969	1,003	-	-	0	0	51	13	83	144	11	701	1,003	100.0
1970	965	3	-	3	0.31	55	15	34	167	18	673	962	99.69
1971	1,142	4	0	4	0.35	67	87	38	255	13	678	1,138	99.65

PERCENTAGE OF POPULATION EMPLOYED 1969 : 16.06

Source: Statistical Abstracts 1968 - 1972
Ministry of Finance and Economic Planning.

The economic predicament of Kakamega has been further compounded by the fact that it is sandwiched between other growth poles, namely, Kisumu which has the advantage of being an already larger and better established centre with more facilities and in addition two other fast growing settlements - Webuye and Mumias which have obvious economic incentives for growth. Even the public development allocation on which it has almost entirely depended may now be directed to these two new centres where the need for it is more urgent at present. There appears to be no immediate plans to generate industrial growth and the massive projected population growth for the town therefore seems to have no economic basis.

5.11. Kisii

Kisii was a traditional centre for the Abagusii for whom it was a meeting point for festivities and war alike. Some Germans had migrated from Tanganyika to the area to settle in the area having been attracted by the healthy climate and agricultural productivity. Kisii was however within British East Africa and German rule was not extended to the area[26].

By 1903 some commercial development had started mushrooming in the centre with active exchange between the natives and immigrant traders who exchanged agricultural produce like maize and beans

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26. B.A. Ogot, Op. Cit.

with beads bangles and clothing. A government store was later established in the town from where supplies were transported through Kendu Bay to Kisumu. A District Commisioner's Office was built in Kisii in 1905 and some missionary activities started the same year through the establishement of the Seventh Day Adventist Mission. Kisii was declared a township in 1909.

The development of the town was retarded by the outbreak of the first world war. The town was invaded by the Germans but later liberated by the British. A useful development that occurred during the German occupation, however, was the construction of the road link with Tanganyika extending down to Kericho.

At the end of the war Kisii became the headquarters of the South Kavirondo (South Nyanza) District and substantial strides were made in the development of the town. The colonial administration was now beginning to pay particular attention to the development of the agricultural potentials of the area. Veterinary and Agricultural departments were established in the town in 1922. These were later expanded to include the Farmers' Training Centre which has facilities for veterinary demonstration and the Nyanza Research Training Centre.

The population of Kisii at the 1969 census was 6,000 an increase of 33 per cent over the 1962 figure. The present population is estimated at

around 9,500 and the official projection indicates an expected population of 50,000 by the year 2000.

A break down of the 1969 figures reaveals similar compositions to that of Kisumu and Kakamega (see Tables XXVIII, XXIX and XXX). It is however remarkable that the literacy rate was slightly higher than that of Kakamega.

The commercial development of the town has continued to keep pace with its expanding economic base. Although it is a bit isolated being situated outside the major national transportation route, that is, the east-west corridor of Kisumu-Nakuru-Nairobi, it still lies on an international road to Tanzania.

Kisii fell just outside the former "Scheduled Area" in the former White Highlands but still it attracted the attention of the colonial administration because of its fertile farmlands and mild climatic conditions. But in spite of these it was still not convenient for the settlers to claim the area because of its already existing dense population. It was instead used as an administrative centre geared towards agricultural development of the native areas.

Kisii has remained a focal point for commercial activities in the area and is in fact the most important centre in South Nyanza and apparently ranks second only to Kisumu in the entire Western Region in terms of economic development. It is again significant that the percentage (29.6) of the

Table XXVIII

KISII TOWN - AGE-SEX COMPOSITION, 1969

AGE	MALE	%	FEMALE	%	TOTAL	%
0- 9	843	51.18	804	48.82	1,647	27.89
10-19	623	51.45	588	48.56	1,211	19.92
20-39	1,673	66.57	840	33.43	2,513	41.33
40-49	311 311	76.80	100	23.20	431	7.09
50 --	184	66.19	94	33.81	278	4.57
TOTAL	3,654	60.10	2,426	39.90	6,080	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

Table XXIX

KISII TOWN - LITERACY, 1969

EDUCATION STATUS	NUMBER	%
NO EDUCATION	2,918	47.99
PRIMARY EDUCATION ST. 1-8	2,427	39.92
SECONDARY EDUCATION FORMS 1-4	606	9.97
POST SECONDARY EDUCATION	129	2.12
T O T A L	6,080	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

Table XXX

KISII TOWN - BIRTH PLACE, 1969

O R I G I N	N U M B E R	%
SAME DISTRICT	3,071	50.51
ELSEWHERE SAME PROVINCE	1,269	20.87
ELSEWHERE	1,734	28.52

Soure: 1969 Population Census
Ministry of Finance and Economic Planning.

population in paid employment in 1969 ranked second only to Kisumu's of 40.5 and was much higher than Kakamega's of 16.06 (see Table XXXI). This is a clear indication that it probably has a stronger economic base than Kakamega in spite of the higher administrative standing of the later.

On the whole the prospects for further intensive growth in Kisii are good in view of the wealthy surrounding area and the growing recognition of the town by investors and administrators alike as an important centre. One of the causes of the set-back in the past is the lack of processing industries for the agricultural products which were scattered in the rural hinterlands at the sources of production. The I.C.D.C. is presently initiating industrial development in the town by establishing a Rural Industrial Development Centre in Kisii Township.

5.12. Conclusion

In the foregoing chapter we have tried to examine and describe how various socio-economic influences have contributed to the origin and growth of selected urban centres in Western Kenya. It was obvious that in the various centres there were more than one single influence at work - it was invariably a combination of influences.

It was apparent too that the power of the various settlements to draw population to themselves

KISII TOWN - EMPLOYMENT BY SECTORS, 1967-71

YEAR	TOTAL	PRIMARY		SUB-TOTAL	%	NON-PRIMARY						SUB-TOTAL	%
		Agriculture	Mining			Manufacturing	Construction	Electricity, Gas	Commerce	Transport	Services		
1967	1,751	151	-	151	8.62	80	20	8	376	46	1,070	1,600	91.38
1968	1,766	152	-	152	8.61	81	20	8	379	46	1,080	1,614	91.39
1969	1,798	167	-	167	9.29	89	37	10	300	55	1,140	1,631	90.71
1970	1,712	143	-	143	8.35	80	45	12	268	49	1,115	1,569	91.65
1971	1,825	186	-	186	10.19	111	47	18	287	36	1,140	1,639	89.81

PERCENTAGE OF POPULATION EMPLOYED IN 1969 : 29.6

Source: Statistical Abstracts 1968-1972
Ministry of Finance and Economic Planning.

depends to a very large extent on the economic prospects they offer, in the form of employment opportunities. Their rate of population growth depended on the trends in their economic fortunes (or misfortunes).

In the following chapter we shall try to identify and understand in what ways and to what extent these various influences have operated jointly or severally to determine the physical structure of the settlements.

CHAPTER 6

THE PHYSICAL STRUCTURE OF THE SELECTED SETTLEMENTS

6.1. Introduction

In this chapter we shall examine the impact of the socio-economic factors discussed in the previous chapter on the physical structures of the selected settlements in Western Kenya in terms of the spatial arrangement of the different land use types, the amount of land in these various categories, the pattern of growth and change in the physical structures and finally the pattern and trends in land values. In doing this we shall also try to determine to what extent the physical structures in the various settlements conform with existing theories about the physical structure of towns and their evolutionary processes.

6.2. The Overall Spatial Structures of the Settlements[1].

In discussing the various urban growth theories in chapter 2 it was noted that no one of them, the concentric, the sector or the multiple nuclei theory

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1. See Map Appendix for the Land Use Maps of the Selected Settlements.

was sufficient by itself in explaining the spatial disposition of land use in an urban setting. It was further pointed out that certain background considerations must be kept in mind when examining the structure of any urban area.

It is noticeable that the overall shapes or spatial structures in all the settlements have to a large extent been influenced by the accidents of site. Site refers to the physical characteristics of the location of the town. The physical development of the settlements have taken place within the limits imposed by these physical constraints as well as the activities around the settlements.

In Kisumu for example, Lake Victoria which stretches along the western and south western directions and the Nyando Hills to the north constitute natural physical barriers to growth in these directions. Also in the eastern direction is located the Miwani Sugar Plantation and the proposed Kano Irrigation Scheme. The logical direction of growth is, therefore, northwards towards the foot of the Kisumu Hills. In Kisii the main physical constraint is the fact that it is flanked on several sides by steep hills and valleys. The directions of growth have, therefore, been along the trunk roads in the north western and south eastern axes. This has in turn determined the overall shape of the town. Each of the respective settlements have to a greater

or lesser extent been similarly affected by the physical features of their locations.

In spite of these physical constraints certain dominant spatial patterns are still discernible. In each of the settlements there is always a concentrated and well integrated inner core. This might represent the commercial centre, the administrative centre or both as the case may be, but it generally corresponds with the original nucleus of the settlement. The existence of this inner core may at first site suggest that the concentric growth model of Burgess might be applicable in understanding the spatial structure of the settlements. A closer examination of the settlements, however, indicates the contrary.

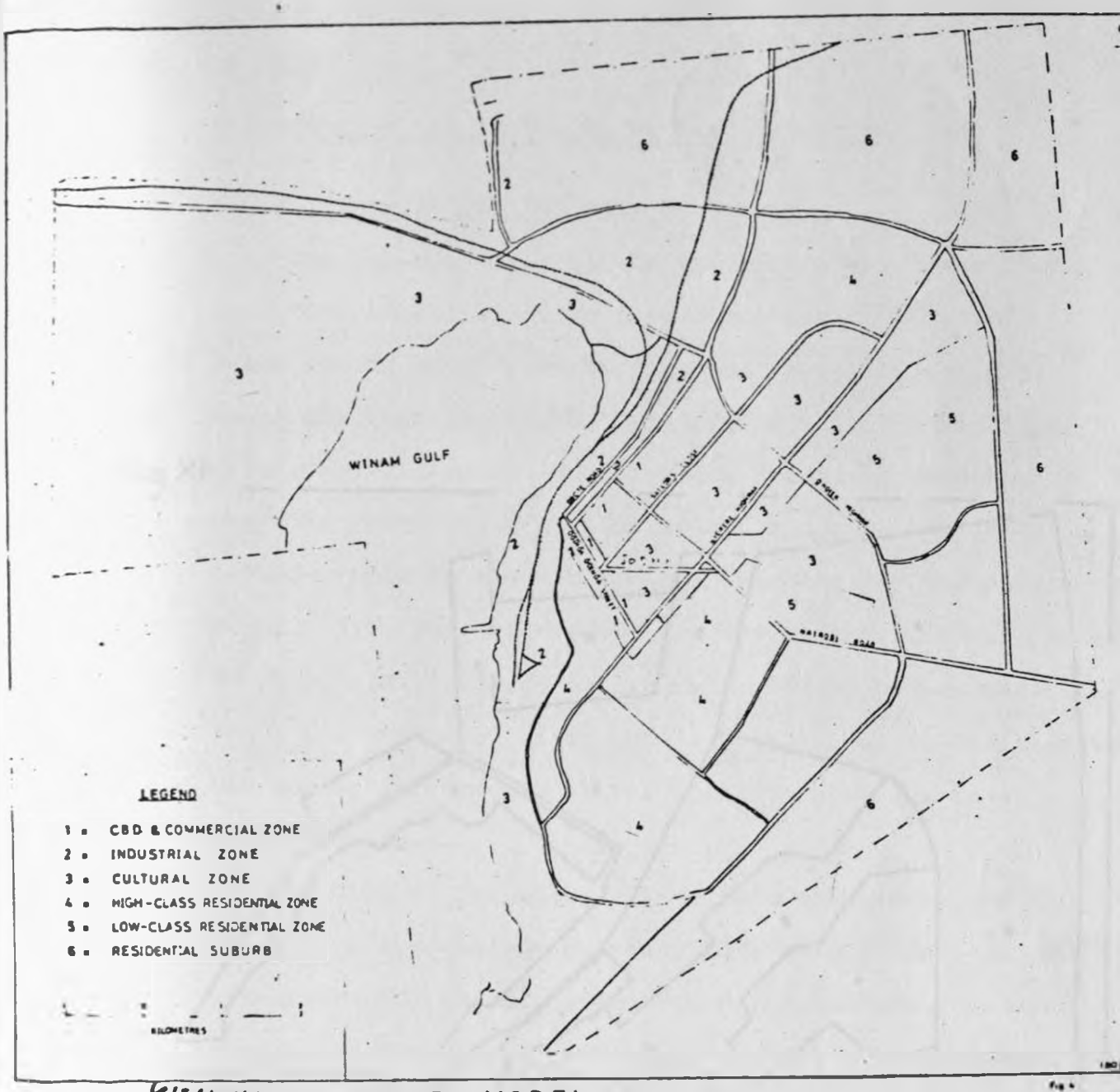
Within the overall pattern of a concentrated inner core is generally superimposed an axial pattern resulting from the access routes which generally radiate from various directions into the main focal points. The axial pattern which is dominant in these settlements have either been responsible for or otherwise resulted from the sectoral patterns of land use disposition which is also observable. The latter suggestion appears to be the case as these settlements were invariably subject to certain measures of control in their origins by the colonial administrators. Because of these controls at the initial stages of their growth the various urban

functions, particularly the different categories of residential districts were generally located in specific areas of the settlements in sectors (see the sector model for Kisumu Figure X).

A further examination of land use distributions in the settlements also indicates that the various uses often occur in patches or clusters which are usually disjointed by other intervening uses or functions. Each cluster then constitutes an enclave of its own with its own focal point in the general urban mosaic. The overall pattern fits the multiple nuclei description of Harris and Ullman. For example, the African residential districts had their separate commercial centres or districts quite apart from the CBD (see Figure XI).

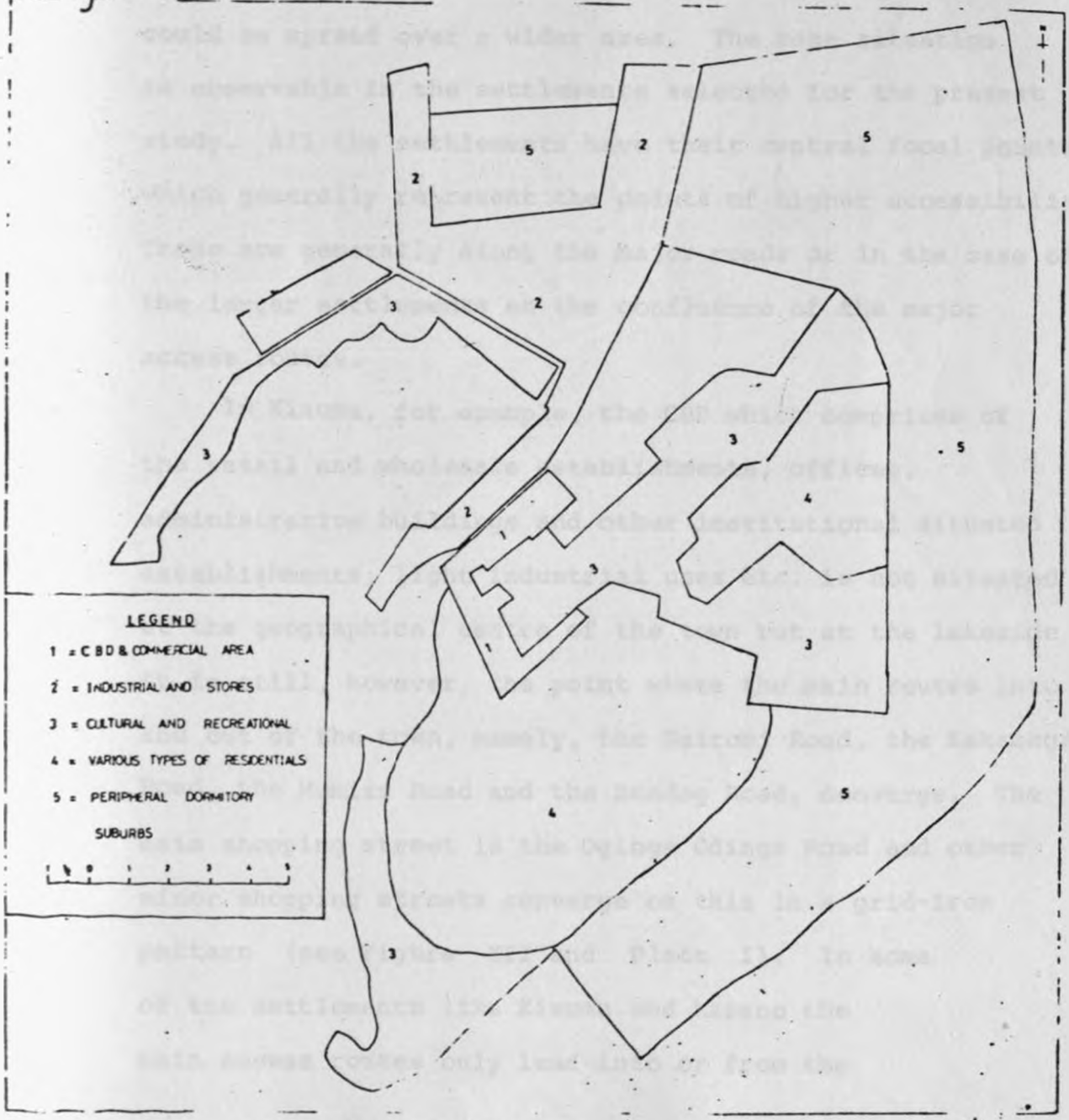
The overall pattern of the settlements has generally tended to remain integrated within the township boundaries with growth taking place both through infilling of vacant site within the existing structures and gradual accression in the various sectors. In the peri-urban areas outside the township boundaries, however, development has tended to be haphazard and chaotic. There is a general trend of development stringing along the main access routes culminating in scattered semi-rural enclaves.

Figure X



KISUMU — SECTOR MODEL

Fig XI



KISUMU — MULTIPLE NUCLEI MODEL

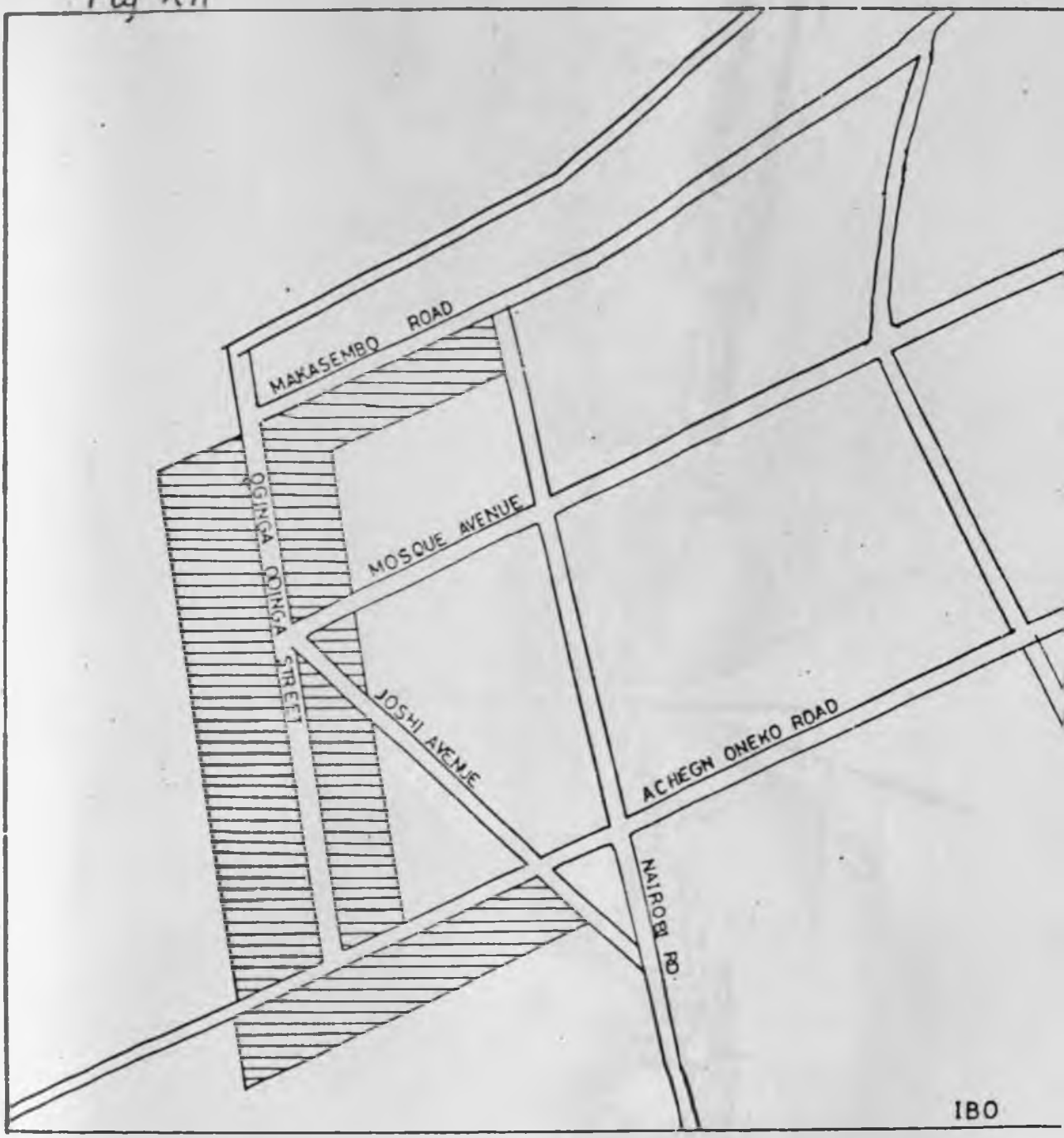
6.3. Spatial Distribution of Urban Functions

6.3.1. The Central Business Districts

The various urban growth theories acknowledge the fact that there is always a dominant centre of focal point in any urban setting which is generally referred to as the Central Area or the Central Business District. This might simply be located along the major street or could be spread over a wider area. The same situation is observable in the settlements selected for the present study. All the settlements have their central focal points which generally represent the points of higher accessibility. These are generally along the major roads or in the case of the larger settlements at the confluence of the major access routes.

In Kisumu, for example, the CBD which comprises of the retail and wholesale establishments, offices, administrative buildings and other institutional situated establishments, light industrial uses etc. is not situated at the geographical centre of the town but at the lakeside. It is still, however, the point where the main routes into and out of the town, namely, the Nairobi Road, the Kakamega Road, the Mumias Road and the Bondoq Road, converge. The main shopping street is the Oginga Odinga Road and other minor shopping streets converge on this in a grid-iron pattern (see Figure XII and Plate I). In some of the settlements like Kisumu and Maseno the main access routes only lead into or from the

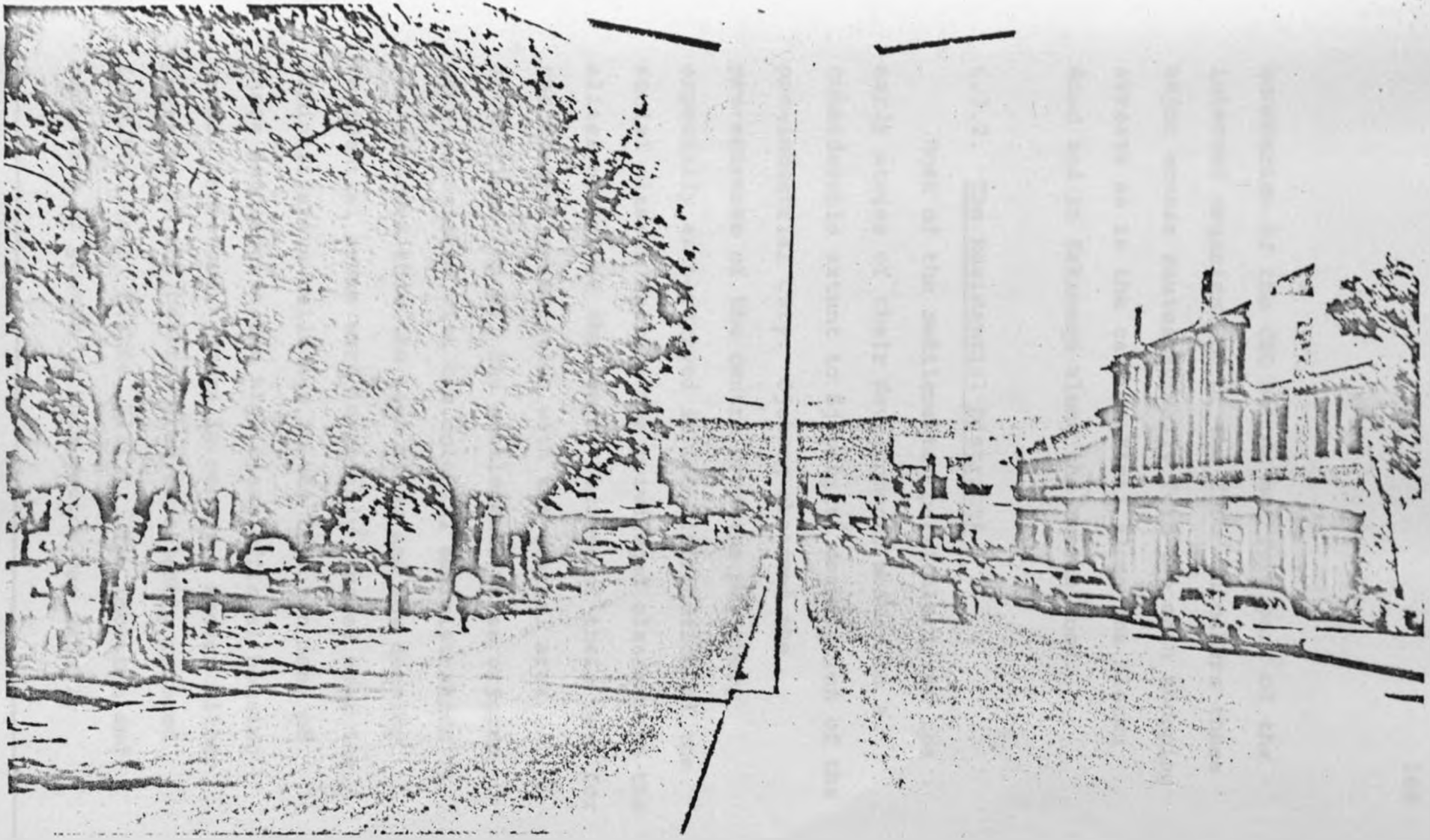
Fig XII



KISUMU — CENTRAL BUSINESS DISTRICT

Plate I

A view of the main shopping street in Kisumu.



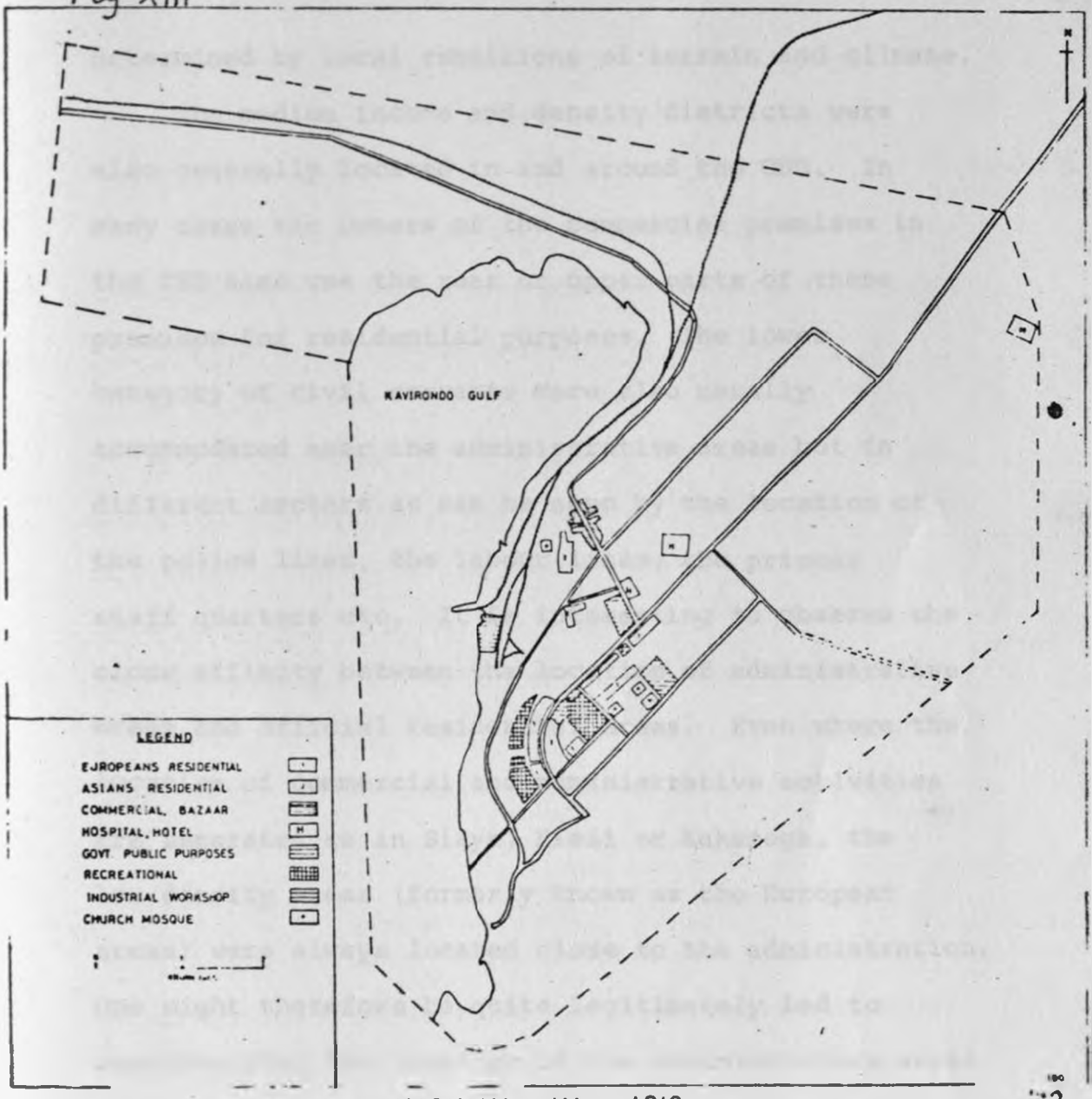
boundaries of the CBD but do not form part of the internal organization of the CBD. In others these major access routes actually form the main shopping streets as is the case in Kisii along the Kisumu Road and in Kakamega along the Mumias Road.

6.3.2. The Residential Districts

Most of the settlements, particularly at the early stages of their development, answer to a considerable extent to Sjoberg's[2] description of the pre-industrial city. Sjoberg observed the pre-eminence of the centre over the periphery especially as portrayed in the distribution of the social classes whereby the privileged classes and the elites gather at the centre because of their need for the closest association with the central area activities. In all the settlements whose origins were associated with the colonial administration it was observed that the high class and low density residential areas were invariably located near the administrative buildings in the CBD. In many of these settlements the high class official housing areas, therefore, generally occupy a sector either starting at the central area or slightly removed from it. (see Figure XIII). The location and direction of growth of this sector was usually

2. G. Sjoberg, Op. Cit., p.95

Fig XIII



KISUMU IN 1910

determined by local conditions of terrain and climate.

The medium income and density districts were also generally located in and around the CBD. In many cases the owners of the commercial premises in the CBD also use the rear or upper parts of these premises for residential purposes. The lower category of civil servants were also usually accommodated near the administrative areas but in different sectors as can be seen by the location of the police lines, the labour lines, the prisons staff quarters etc. It is interesting to observe the close affinity between the location of administrative areas and official residential areas. Even where the location of commercial and administrative activities are separated as in Siaya, Kisii or Kakamega, the low density areas (formerly known as the European areas) were always located close to the administration. One might therefore be quite legitimately led to conclude that the location of the administrative areas were usually determined by considerations of their suitability for the habitation of the then colonial administrators.

Apart from the official residential areas the rest of the population usually lived in the outskirts of the towns outside the official boundaries or in enclaves demarcated as non-official housing areas. There was usually a marked difference between the official housing areas which were properly laid out

and serviced and the non-official enclaves which were usually disorderly agglomorations of buildings. (see Plate II).

Sjoberg[3] also observed a characteristic segregation of residential areas according to ethnic, occupational or family ties in the pre-industrial cities. The same observation can be made for most of the settlements in this study particularly at the early stages of their development. There was always a visible segregation on racial lines with the Europeans occupying the low density areas, the Asians mainly oncentrated in the areas within and around the commercial districts and the Africans usually in enclaves removed from the other groups. Even among the African there was often some segregation along ethnic lines with the Swahilis, the Nubian, the Luos etc. drawn together by ethnic affinities as the original names of these formerly segregated enclaves still indicate.

6.3.3. Industrial Uses

The amount of industrial land use in most of the settlements is scanty and the pattern of industrial land use distribution is therefore not so clearly defined. In Kisumu, Homa Bay and Bungoma the industrial land use is located near the railways

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3. Sjoberg, Op. Cit., p. 95

Plate II

Showing the two categories of residential districts in Kisumu. On the right is the official housing area well laid out and on the left is the disorderly agglomeration of streets, houses on the non-official housing area

and port facilities and these consist mainly of godowns and railway yards. In all the other settlements industrial activities tend to locate near the CBD outside the main shopping streets. These industries are mainly of the small scale, light industrial category consist of such activities as furniture manufacturing, metal waorks, shoe making, vehicle repairs, flour milling etc. - such activities that are usually categorized as belonging to the informal sector.

Apart from those accommodated in their proper zones near the CBD or in separate industrial estates as in Kisumu these activities are also found in various parts of the settlements locating haphazardly in areas not zoned for them, for example on vacant sites and in temporary sheds along the streets where they are constantly subjected to harassment by the town authorities. But most predominantly they locate in the peri-urban areas.

6.4. The Ecological Processes

Regarding the internal ecological processes of urban areas discussed in chapter 2 these have also been observed to operate within certain limits and with variations in the study settlements.

On the question of centralization and decentralization it has already been observed that the overall spatial pattern of the settlements is

that of a cencentrated inner core which is generally associated with high densities and intensities of land use. In some of the settlements particularly the larger ones like Kisumu and Kakamega it is, however, to be noted that in addition to the high densities in the central areas there are also relatively high density squatter type enclaves as well as planned developments on the fringe areas. On the other hand, as already noted in almost all the settlements, some very low density areas which originated at the early stages of their development still persist near the centres.

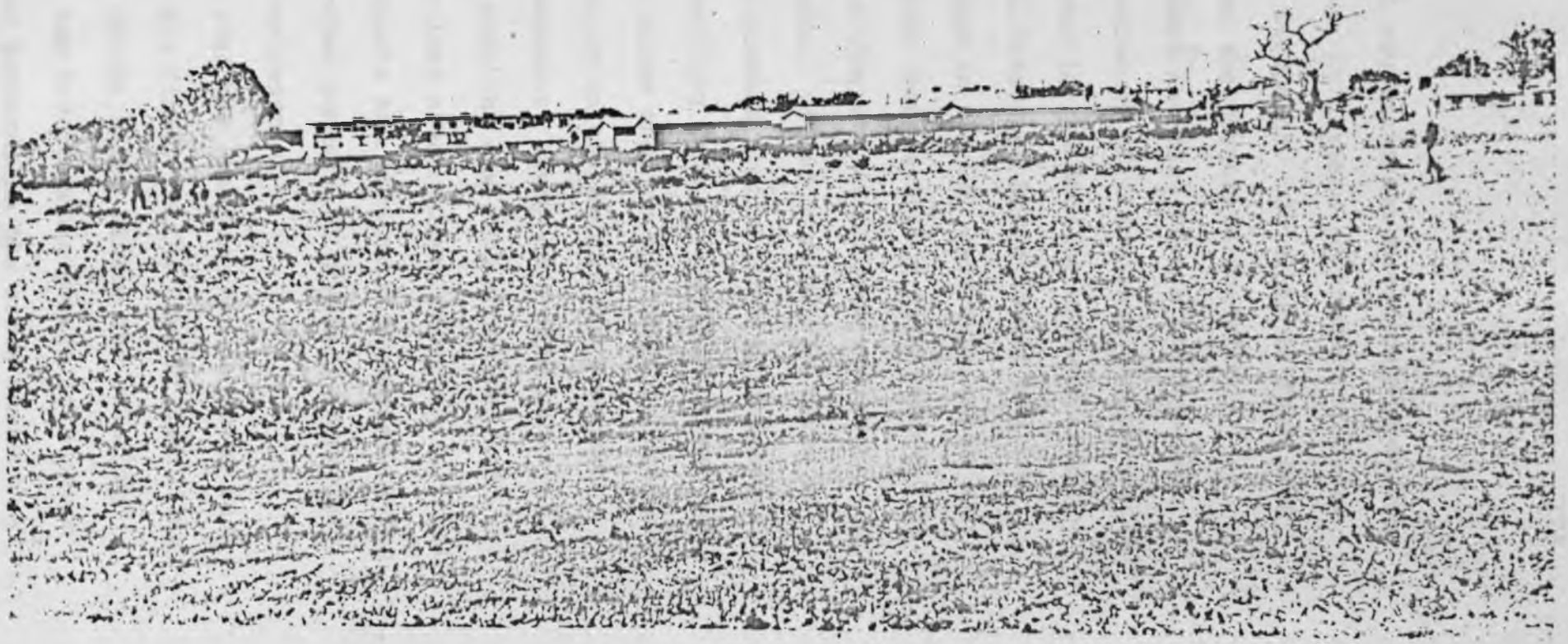
The question and causes of segregation has already been identified and discussed earlier on. Segregation in the various settlements today has become increasingly based on economic status rather than on purely racial ground.

There is also a visible degree of specialization in the inner boundaries which has been achieved both through the urban ecological process and planning control. In the peripheral areas where there is no planning control there is usually a considerable intermixture of uses, with shops, light industrial users and residences freely intermingling with small farms and grazing areas. (see Plate III).

In the study settlements some degree of invasion and even succession has occurred in the residential structure since after independence. The former

Plate III

Peri-urban development in Kisumu showing an intermixture of uses.



European official housing areas have now almost been entirely taken over by African government officers who replaced the Europeans. This has in fact been the trend all over the country since after independence. There has also been a considerable amount of penetration of Africans into the commercial districts. In fact in the smaller centres like Homa Bay, Maseno, Siaya and Busia almost all the commercial premises in the CBD have been taken over by Africans. These changes should not, however, be overdramatized as they do not in fact reflect fundamental changes. Viewed strictly in terms of urban ecological process (rather than politically) these changes resulting from Africanization are not very significant since they do not reflect changes in land use patterns or in the social and economic status of the residents. They have only meant a change of faces with the new African elites and officials moving into areas former reserved for their European counterparts and African businessmen taking over shops and other commercial premises formerly owned by Asian businessmen.

The actual land use changes that do occur in the settlements are first, in the form of infilling developments of vacant sites within the existing structure. The new developments generally conform with the existing patterns in the areas where they occur. Then there is also outward expansion whereby

the outer fringes of the settlements previously in rural use are brought into urban use. The process of invasion and succession is therefore generally outwards with the rural fringes being invaded by urban users. This form of growth occurs both through planned development and unplanned sprawl particularly outside the official boundaries. This reflects both inadequate supply of building land within the township boundaries and the general tendency of the new immigrants to move to the outer fringes where cheap housing accommodation is available.

The short term planning proposals for the settlements generally take the form of allocation and reservation of land for the various uses in the settlements without interfering very much with the existing use patterns. The long term proposals as in the case of Kisumu, Kakamega or Kisii (Figures XIV, XV, XVI) however envisage very fundamental and far-reaching changes in the physical structures of the settlements. It should, however, also be borne in mind that these long term plans are conceived on the assumption that equally fundamental and far-reaching socio-economic changes will take place in the settlements to provide the necessary dynamics for the degree of growth envisaged in the plans.

KISUMU LONG TERM DEVELOPMENT PLAN

Fig XIV.

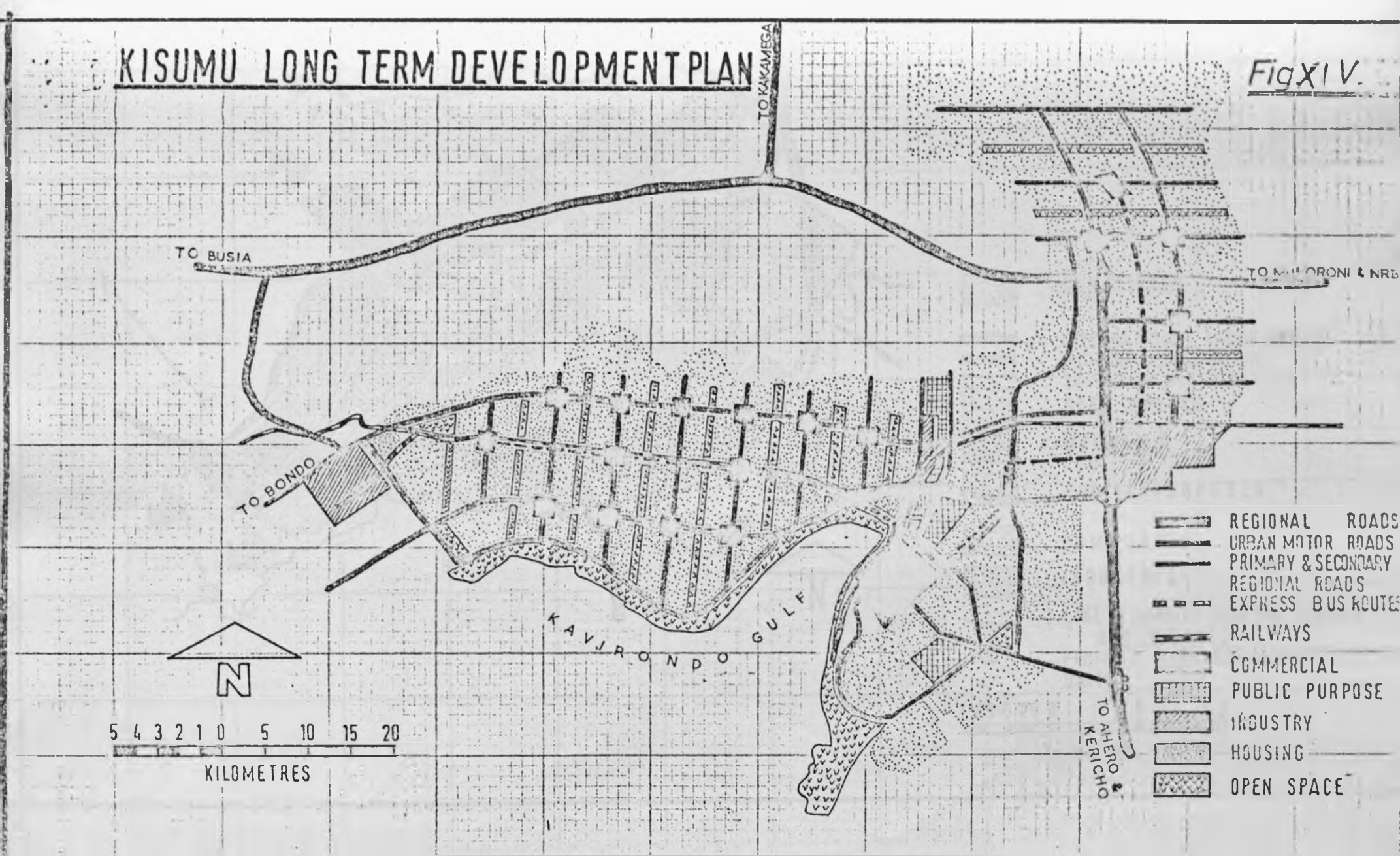
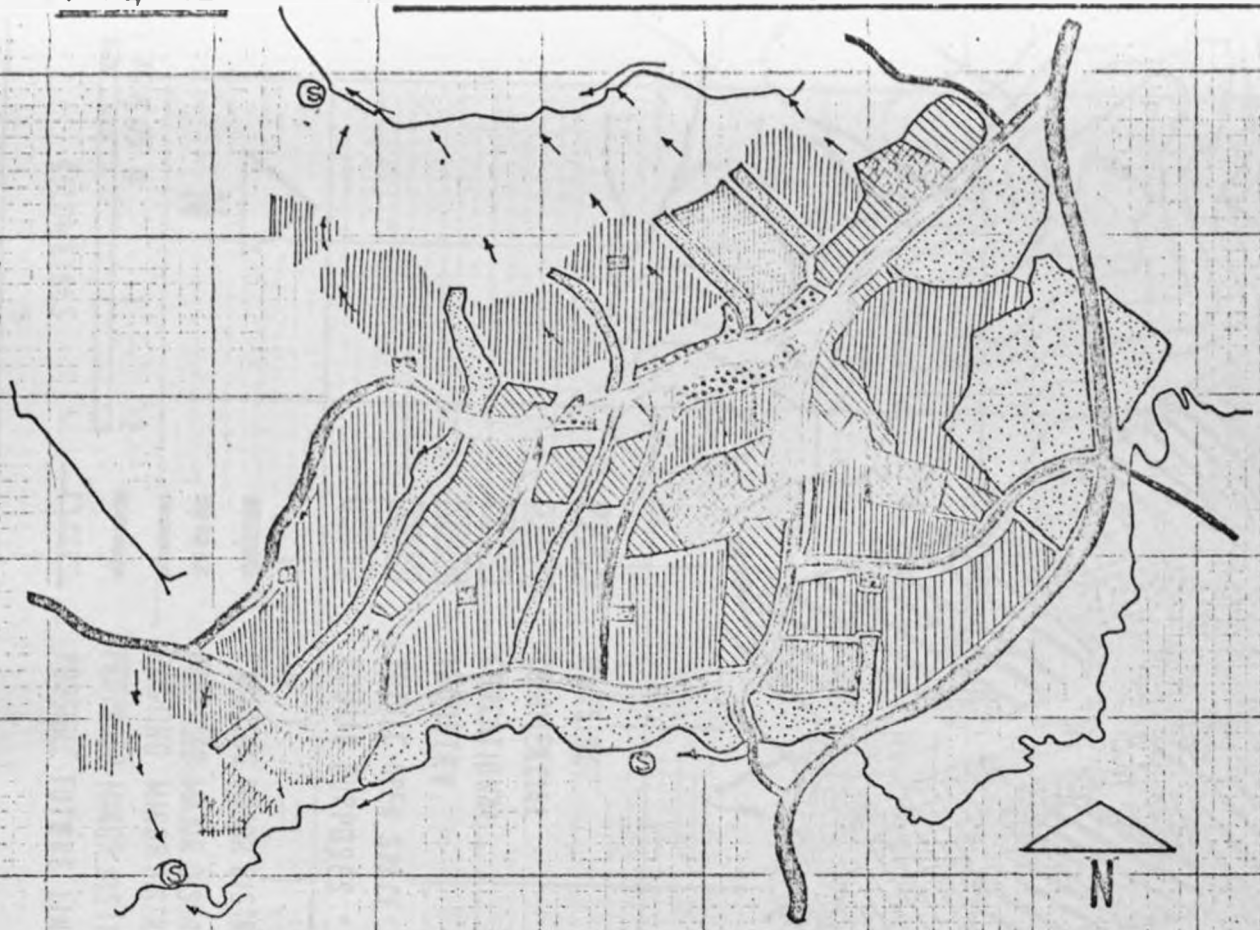


Fig. XV

KAKAMEGA LONG TERM DEVELOPMENT PLAN.



EDUCATIONAL

INTERNATIONAL TRUNK ROADS

PRIMARY DISTRIBUTORS

SECONDARY DISTRIBUTORS

OPEN SPACES

HOUSING

PUBLIC PURPOSES

COMMERCIAL

INDUSTRIAL

LINE OF GRAVITY FLOW FOR SEWAGE AND DRAINAGE

(S) - PROPOSED SITES FOR SEWAGE DISPOSAL UNITS

1 ·75 ·5 ·25 0 1 2

KILOMETRES

6.5. Land Use Compositions and Space Provisions

There are no standard proportions for land use compositions and space provisions in urban areas. The land use composition in any urban area is a function of the type of activities and the amount of each activity in the area, for it is these activities that generate the demand for the various categories of land use in the area. It is therefore possible to study and explain the land use composition in an urban area in terms of its functions.

The examination of land use composition in this study will be done on the basis of comparison of the compositions in the various settlements and the national average figures for urban areas. We shall try to identify any variations in the compositions between the settlements as well as variations from the national average figures and to see whether and to what extent these variations can be exaplained in terms of the socio-economic circumstances of the settlements.

Four major land use categories have been chosen for the purpose of this study as follows:-

1. Residential, including all the housing categories, public and private.
2. Commercial, including retail and wholesale premises as well as private offices.
3. Industrial, including manufacturing and light industrial premises and godowns.

4. Institutional, including public and private institutions like government offices, schools, religious premises etc., but excluding their residential parts which are included in (1) above.

Open spaces and recreational grounds have been deliberately left out on two counts: first because they can easily be confused with vacant land and secondly because they are often provided at the whims of town authorities and not necessarily in response to actual need or demand. The four use categories chosen however represent a large proportion of the overall land use in each settlement.

The general picture of land use allocations in the settlements is as shown in Table XXXII.

6.5.1. Residential Use

This accounted for the largest proportion of land use in all the settlements averaging about 56 per cent for the settlements compared with 52.1 per cent for all urban centres in the country[4]. There was a general tendency for the proportion of land use in this category to decrease the larger the settlement.

There were two obvious exceptions to the above generalization, namely, Kisumu with 55.5 per cent

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4. R.A. Obudho, Historical Geography of Metropolitan Kisumu - A Study of Western Kenya's Growth Centre, Rutgers University, 1974.

Table XXXII

LAND ALLOCATIONS BY USE IN THE SELECTED SETTLEMENTS - IN ACRES

Settlements	Residential	%	Commercial	%	Industrial	%	Institutional	%	Total
Kisumu	705	55.5	50	4.8	105	8.3	396	31.4	1,265
Kakamega	270	51.0	6	1.1	28	5.3	225	42.5	529
Kisii	240	54.3	20	4.5	22	5.0	160	36.2	442
Bungoma	190	56.0	7	2.1	22	6.5	120	35.4	339
Homa Bay	105	49.3	3	1.4	15	7.0	90	42.3	213
Siaya	180	57.5	3	1.0	10	3.2	120	38.3	316
Busia	185	67.5	2	0.7	12	4.4	75	27.4	274
Webuye*									
Mumias*									
Maseno	110	22.6	4	0.8	2	0.4	370	76.1	486
National Average		52.1		4.3		8.9		34.7	

* Figures not available.

Source: Authors Land Use Survey and Department of Physical Planning, Kisumu Development Plan, Nairobi.

and Maseno with 22.6 per cent. The case of Kisumu may be explained by the fact that the land use measurement included parts of the outer area which have become part of the municipality due to the recent extension of the municipal boundaries. The areas are mainly used as dormitories for the new immigrants to the town. Maseno's can also be explained by the disproportionate amount of institutional uses as will be seen later.

6.5.2. Commercial Use

This accounted for the least proportion of land use with an average of 2 per cent for the study settlements compared with the national average of 4.3 per cent. This would appear to indicate that the proportion of commercial activities in the settlements as a whole is lower than that in the average urban centre in the country. Kisumu still ranked highest among the settlements with 4.8 per cent followed by Kisii with 4.5 per cent, both exceeding the national average. It was also interesting to note that the figure for Kakamega was 1.1 per cent ranking fifth among the settlements. The relatively high proportion of commercial land use in Kisii does in fact indicate the high rate of commercial activities in the town which has been followed up with a boom in commercial development.

6.5.3. Industrial Use

The proportion of land use in this category was again indicative of the generally low level of industrial activities in the region. The average proportion of 6.3 per cent for the study settlements was below the national average of 8.9 per cent. Here again Kisumu with 8.3 per cent had the highest ranking among the settlements but even the figure for Kisumu was still below the national average. Homa Bay ranked next to Kisumu with 7 per cent but this is due to the extensive storage facilities connected with port activities.

6.5.4. Institutional Use

This constituted the second largest use category ranking next to residential. The average proportion of land in this category for the study settlement was approximately 40 per cent which was higher than the national average of 34.7 per cent. It is difficult to draw a consistent inference from the figures obtained about land use in this category. This is probably due to the fact that the allocation of land for institutional purposes, particularly public institutions is often arbitrary and institutions often acquire land far in excess of their immediate requirements. The case of Maseno is however outstanding with 76.1 per cent of the land use under the institutional category. This clearly shows the

predominance of institutional uses in the centre.

6.6. The Pattern of Land Values

6.6.1. General Levels

The general level of land values in an urban area as compared with other urban areas in the same regional or even national setting reflects the relative demand for land use as well as the general level or tempo of activities in the area. The general level of land values is influenced by socio-economic determinants such as population and the level of economic activities which act together to determine the level of effective demand for the different categories of land use. For example, an increase in the population seeking acccmmodation in an area is likely to result in an increase in residential land values; an increase in the level of commercial activities would equally result in an increase in the demand for commercial premises and therefore commercial land values etc. As already pointed out in chapter 3 (section 3.3.2.) these factors are in fact interlinked.

Table XXXIII indicates a very strong correlation between the economic well-being of the various settlements and the general levels of land values in the areas. The table shows the current market values for the three categories of marketable urban land as

Table XXXIII

LAND VALUES BY USE IN THE SELECTED SETTLEMENTS

SETTLEMENTS	LAND VALUES IN '000 SHILLINGS PER HECTARE			
	Commercial	Residential	Industrial	Peri-Urban
Kisumu	600-1,000	100-200	250-400	60-100
Kakamega	250- 300	50- 65	100	10
Kisii	300- 400	50- 80	150-200	*
Bungoma	150- 250	50- 70	120	12
Homa Bay	80- 100	15	75	10
Siaya	80- 125	50- 60	*	12
Busia	40- 60	15	*	10
Webuye	80- 100	50	*	15
Mumias	60	20	*	4
Maseno	100- 150	20- 30	*	*

* Figures not available.

Source: By Courtesy of the Valuation Section
Ministry of Lands and Settlements.

well as land in the peri-urban areas.

Kisumu tops the list in all use categories with values ranging from about shillings 1,000,000 per hectare for commercial land to shillings 60,000 for peri-urban land. Kisii follows Kisumu at quite a distance with commercial land values ranging at upto shillings 400,000 per hectare. It is again significant Kisii ranks higher than Kakamega in terms of land values thus corroboration the observations already made through the land use and economic activity indices.

The comparative levels of values in specific use categories also reveal certain common characteristics and trends. For example, although the levels of values in the residential category are similar for settlements like Kisii, Kakamega, Bungoma, Homa Bay and Siaya there are noticeable differentiations of values in the commercial and industrial categories indicating the differential levels of activities and demand in these use sectors. There were also relatively high overall levels of values in the peri-urban areas much above their agricultural values. This may be explained by the general pressure of demand on peri-urban land caused by two factors, namely, speculation and the inavailability of land within the existing township boundaries. Speculation is particularly rife at the moment in Webuye due to the rather high expectations about the future of the settlement.

It is in fact reported that most private land along the five kilometer stretch on the main road have been subjected to extensive fragmentation and eventual disposal within the last three years. Inadequate supply of building land is particularly noticeable in those settlements like Siaya, Bungoma and Busia which have experienced sudden growth in population during the last few years especially where the township boundaries have not been extended to provide more land. In Busia, for example the new H.H.C. development is in fact taking place outside the existing township boundaries.

6.6.2. The Internal Structure of Land Values

Land value in the last analysis is a function of land use and the pattern of land values in an urban area is therefore ultimately determined by the pattern of land use. Land would normally go to the highest and best use as determined through the normal economc process of supply and demand. The variations in value among parcels in an urban setting reflect among other things their different locational advantages (and disadvantages) within the limitations imposed by planning restrictions. Thus if a parcel or an area in a town which may be particularly well located and would have otherwise attracted high values is zoned for a lower use. category, then its value would only reflect its

utility as zoned.

The general land value maps for Kisumu and Kakamega (see Map Appendix) conform to the general land use surface. The prime locations in these towns are the points of highest accessibility at the meeting points of the major transportation routes. These also represent the areas of highest land values in the towns. It is however observed that the land value patterns away from these points are not generally determined by accessibility to the centres as should theoretically be the case. The patterns of land values are invariably tied with the existing patterns of land use as determined by zoning.

In Kisumu for example, the highly attractive lakeside residential plots at Milimani are zoned for low density residential development and restricted to one dwelling house per acre. Thus in spite of its otherwise high potential development value, the planning restriction on the area has resulted in the fact that it attracts the lowest rateable value (eight shillings per square meter) in the municipality. On the other hand the more removed and apparently less attractive high density areas towards the peripheral areas of the town where much higher intensities of development of up to twenty dwelling units per acre are permitted attract much higher values (fifteen shilling per square

meter). The same phenomenon can also be observed in all the other settlements where land use zoning is practised.

By the same token, due to the fact that the urban ecological process and the resultant rate of change in land use patterns has been sluggish coupled with the rather conservative approach to planning in these settlements, the evolution of the pattern of land values in the settlements is also generally slow. Changes have therefore been generally confined to the outer fringes where rural land is brought into urban use in the process of urban expansion.

6.7. Conclusion

In the foregoing chapter we have seen that socio-economic factors which are reflected in the origins, functions and the various phases of development of the towns are responsible for the emerging physical structures of the settlements. The spatial distribution of the various land use types, the amount of land in each use category, the level and pattern of land values, the process of evolution and change are all reflections of the various social and economic forces that generate them.

A point that emerged rather clearly in this chapter is the fact that the economies of the settlements, in terms of their employment opportunities and the earning and purchasing powers

of the residents are not adequate to sustain sophisticated levels of urban growth. This appears to be the main cause of the emergence and proliferation of the squatter type enclaves and their associated forms of development and activities in the peri-urban areas.

It was also seen that some of the existing theories about the urban ecological processes are not applicable in explaining the process of change in these settlements. This is mainly due to the fact that socio-economic assumptions that underlie these theories do not obtain in the study settlements.

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

7.1. Introduction

An attempt will be made in this final chapter to summarize the major findings of the study. Based on this a number of relevant planning recommendations will be made. Finally further research proposals in related areas of urbanization will be suggested.

7.2. The Urban Centres

Socio-economic forces were indeed very relevant to the understanding of the growth and development processes in the various settlements studied especially when these are viewed from a historical perspective. It was also possible to understand and explain the present physical structures of the settlements, that is, their land use and land value patterns in terms of the socio-economic influences to which the settlements have been subjected.

The Western-based growth models were found to be applicable to the settlements only within certain limits. In Kisumu, for example, it was realised that both the sector and the multiple nuclei models could be applied together in explaining the internal structure of the towns.

The conventional explanation of the urban

ecological processes were also found to be applicable to a certain extent in understanding the modes of growth and change in the settlements within the overall framework of planning and land use zoning. It was however found that the process of invasion and succession was not significantly noticeable. The inner boundaries which represent the original nuclei of the settlements were characterized by fossilization and conformity whereby the existing and often out-moded patterns of land use tend to persist. This was found to be due to a general absence of the necessary dynamics either through the urban ecological processes or through planning to generate the necessary changes. The process of change, therefore, appears to be restricted to the peripheral areas where the rural fringes are being penetrated by both planned and unplanned urban uses.

Perhaps it is indeed too soon to expect very dramatic changes in these settlements in view of the fact that until quite recently urban development took place under the restrictive conditions of the colonial administration. The contradiction between the land use and land value patterns in these settlements and conventional theories are, therefore, explicable in terms of the socio-economic conditions within which they developed. For example, the continued existence of low density residential districts near the CBD of many of settlements can

only be seen as structural hangovers from the colonial era.

The long term planning strategies such as those for Kisumu, Kakamega dnd Kisii seem to acknowledge the need for a complete overhaul of the existing structures by evolving more rationalized distribution and patterning of land use in these centres. The long term plan for Kisumu, for example proposes among other things the future use of the entire inner area for commercial and high density residential uses. relocation of industrial uses from the CBD to the outskirts of the town as well as a complete reorganization of the internal and external transportation networks of the town. The short term proposals, however, still tend to be rather conservative and, therefore, there appears to be no direct relationship between the radical long term proposals and the short term plans. A bolder and more dynamic approach should therefore be adopted even for the short term proposals in order to marry them with the long term strategies. For the long term strategies can in fact only be realised through a series of short term actions.

The most patent problem in all the settlements is the lack of viable economic bases to sustain balance urbanization. There is a natural gravitation of population towards the urban centres from the rural areas as a result of the economic depression that

generally prevails in the rural areas. The consequential effect of this population movement is that the urban centres are not able to absorb the influx of population by way of providing them with adequate employment opportunities or in fact physically in terms of housing and urban services. As a result the majority of the immigrants again drift to the peri-urban areas only to continue their subsistence forms of living and often in worse conditions than that in which they lived in the rural areas. Two issues that arise from the situation are first the question of urban unemployment and secondly that of peri-urban development.

With regard to urban unemployment it would sound glibly rhethorical simply to suggest that more employment should be created in the urban areas. The author, however, feels that the resources and opportunities afforded by small-scale industries and the informal sector have not been explored but are instead being stiffled by the continued stigmatization of many of these activities as illegal. Since these activities form a considerable proportion of the activity system in urban areas they definitely deserve more attention and consideration than they have hitherto received in the administrative and planning circles.

These industries locate mainly in the peri-urban

areas due to, among other factors, the lack of alternative planned zones for them in the urban areas, the prohibitive regulations and high standard requirements in the urban areas, and the comparatively cheaper land costs in the peri-urban areas. The inclusion of some of the formerly non-gazetted areas in the urban boundaries of some of the settlements has again meant subjugating these activities under the urban building and other prohibitive regulations. Due to the uncertainties arising from the fear of demolition the proprietors resort to poor structures and this in turn leads to even poorer urban environment.

It is appreciated that there has to be a measure of development control in these areas. But there is definitely a need to review the present planning standards to bring them in line with the economic means of the indigenous people so as to accommodate these "inevitable" activities and the developments associated with them in the urban setting.

As Inukai[1] aptly pointed out some of these laws and regulations were formulated in the pre-independence social and political environment and designed to create monopolistic or to enforce aesthetic standards for the European elite in the urban areas. This in itself becomes self defeating in that the laws are

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1. I. Inukia, Legal Framework for Small-Scale Rural Enterprises in M. Kemp, ed; Small Scle Enterprises, Occasional Pater No.6 I.D.S. University of Nairobi, P.149.

no longer consistent with national goals of creating employment opportunities for all. Perhaps the establishment of cottage industrial estates, an experiment which has met with considerable success in Tanzania, would alleviate the locational problems faced by these industries.

There is similarly a need to relax building standards for housing development in the peri-urban areas. The initiation of site and service schemes and the encouragement of co-operative housing schemes in these areas might also prove effective by harnessing the private resources of the residents to augment the efforts of the public authorities in achieving acceptable and realistic standards of development.

The planning authorities should also be empowered to carry out comprehensive long term planning for their immediate peri-urban areas. Such plans would provide guidelines for the general pattern of development while at the same time making adequate reservations for future public land use requirements in the areas. A similar step has been taken by the Nairobi City Council for the Dagoretti Location of the city. Such a policy would also require that all the urban areas should review their existing boundaries with a view to extending them where necessary in order to bring them the peri-urban areas within their immediate effective control. In

most cases they in fact already depend on the towns for services even before they are officially absorbed into the settlements.

7.3. The Region

The overall trends in the development of urban centres in the region is interlinked with the growth trends in the respective centres. The overall regional physical planning strategy is, therefore, bound to have implications for the individual settlements.

The existing distribution of service centres was analysed by the Department of Physical Planning. A hierarchy of settlements was derived on the basis of points award for the existence of specified services. Four levels of settlements were identified, namely, Urban Centres, Rural Centres, Market Centres and Local Centres. On the basis of this model Western Kenya has a total of 274 service centres distributed as follows:-

7 Urban Centres,
42 Rural Centres,
72 Market Centres and
153 Local Centres

(see Appendix 2).

The current regional physical planning strategy for Western Kenya was based on a projected urban population of over three quarters of a million in

the seven major urban centres and a total urban population of nearly one million in the region by the turn of the century[2] (see Tables XXXIV & XXXV). On the whole the plan proposes fourty seven growth centres for the region (see Figure XVII). The strategy appears to be more of a projection of existing trends with hopeful statements rather than definite proposals of how the strategy could be realised. In fact such detailed proposals could not have been reasonably expected in a strategy of such a long term nature.

The major problems of the region have been identified as that of a dense rural population with an agricultural economy geared mainly towards the production of food crops at subsistence levels and which cannot therefore provide sufficient basis for industrialization. Coupled with this is the drift of population to urban areas which are not equiped to provide the required economic opportunities to support such large increases in population. The regional development strategy should therefore be geared towards dealing with both the rural and the urban problems at the same time as both are, in fact, inextricably linked in this context.

The rural problems of Western Kenya has already been stated as that of low agricultural productivity which is strange for an area with some of the most

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2. Department of Physical Planning, Western Kenya: Regional Physical Plan, Nairobi, 1972.

Table XXXIV

NYANZA PROVINCE - URBAN POPULATION PROJECTIONS IN OOOs

DISTRICT	SETTLEMENT	1948	1962	1969	1973	1978	1980	1990	2000
Kisii	Keroka	*	*	*	*	*	2.0	4.1	8.5
	Managa	*	*	*	*	*	2.0	4.1	8.5
	Ogembo	*	*	*	*	*	2.0	4.1	8.5
	Kisii	2.4	4.54	6.08	8.0	11.2	12.8	25.2	49.5
Kisumu	Ahero	*	*	*	*	*	2.0	3.9	7.7
	Maseno	*	1.17	1.28	2.1	2.6	2.9	4.8	7.8
	Kisumu	10.9	23.5	32.4	76.0	107.8	124.0	249.8	499.3
Siaya	Ukwala	*	*	*	*	*	2.0	3.9	7.7
	Yala	*	.38	.418	.7	1.5	2.0	3.9	7.7
	Siaya	*	*	*	3.5	4.5	6.7	8.5	12.8
South Nyanza	Kendu Bay	*	*	*	*	*	2.0	3.7	6.9
	Migori	*	*	2.0	2.6	3.5	3.9	7.0	12.6
	Homa Bay	*	1.44	3.25	4.4	6.5	7.6	16.4	35.3

* Figures not available.

Source: Ministry of Finance and Economic Planning (1970)

Table XXXV

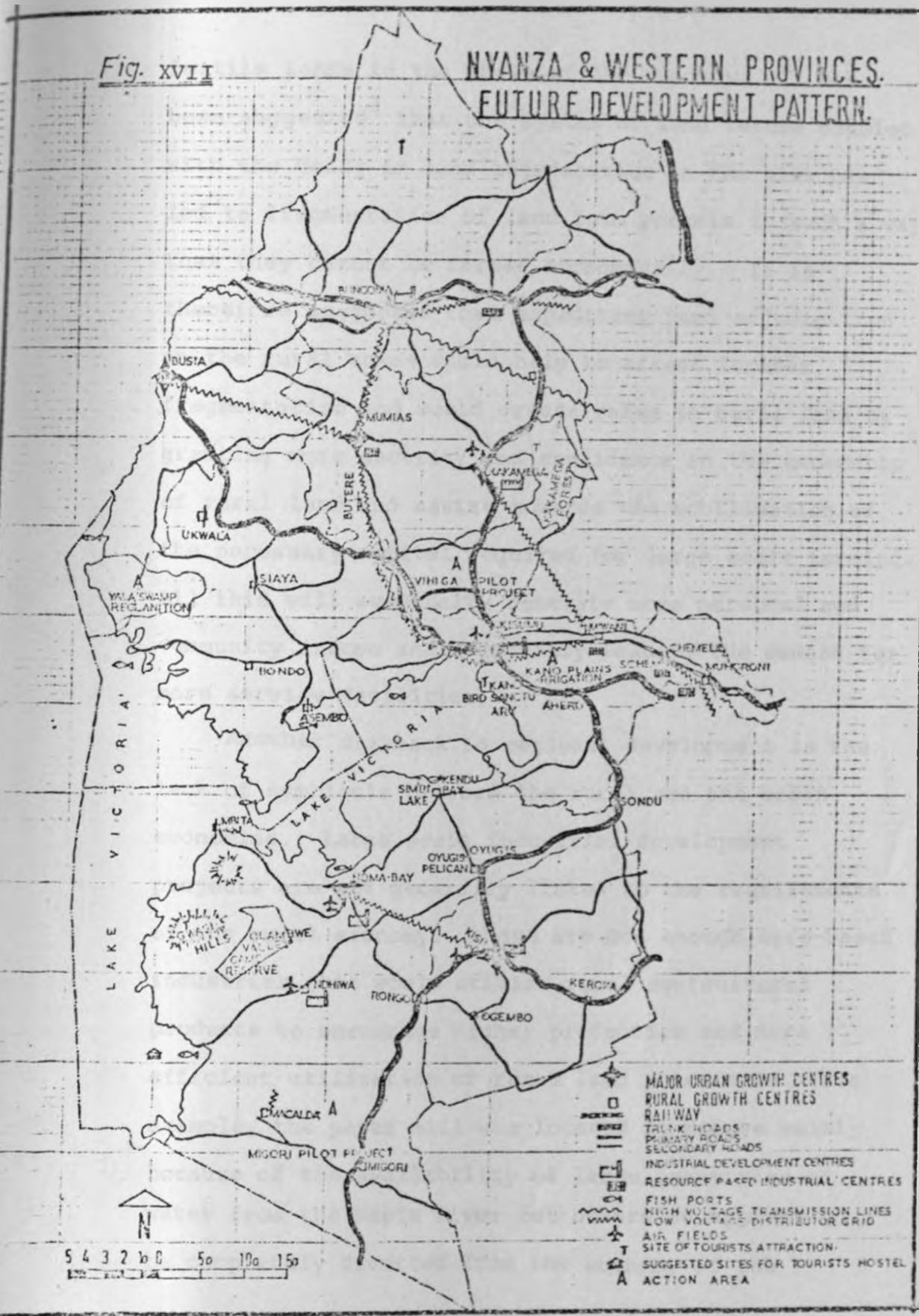
WESTERN PROVINCE - URBAN POPULATION PROJECTIONS IN 000s

DISTRICT	SETTLEMENT	1948	1962	1969	1973	1978	1980	1990	2000
Bungoma	Webuye	*	*	*	3.0	8.0	10.0	14.1	19.9
	Kimilili	*	.501	.723	1.0	1.0	2.0	4.1	8.5
	Bungoma	*	.58	4.4	5.9	88.4	9.7	20.1	41.4
Busia	Busia	*	*	1.055	1.5	2.5	3.0		
Kakamega	Kakamega	4.98	3.93	6.24	8.9	14.0	16.7	40.8	99.7
	Mumias	*	*	.697	5.0	8.0	10.0	15.7	25.6
	Butere	*	*	.286	1	1	2	3	
	Majengo	*	*	*					
	Khayega	*	*	*					
	Kaimosi	*	*	*					
	Luanda	*	*	1.7					

* Figures not available.

Fig. XVII

NYANZA & WESTERN PROVINCES. FUTURE DEVELOPMENT PATTERN.



fertile lands in the whole of the country. It has been suggested[3] that the system of land tenure coupled with the delay in land adjudication in the area has led to fragmentation of land into parcels in such a way that they cannot be farmed economically. It is therefore suggested that expediting land adjudication in the rural areas would help to arrest further fragmentation and would create value in rural land by granting more security and confidence in the ownership of rural land and assist towards the mobilization of the necessary capital required for large scale farming. All this will eventually generate more personal and community income and eventually lead to the demand for more service facilities.

Another drawback to regional development is the lack of symbiosis between the rural and the urban economies. Large scale industrial development projects are not generally linked to the requirements of the rural economy. There are not enough agro-based industries that would utilize rural agricultural products to encourage higher production and more efficient utilization of rural land potentials. For example, the paper mill was located at Webuye mainly because of the availability of large quantities of water from the Nzoia River but otherwise appears to be completely divorced from the economy of the

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3. Information obtained by the author through discussions with the Provincial Town Planning Officer.

surrounding rural areas. The logs used in the production of paper are presently imported from the Kitale area and there appears to be no immediate plan to start local growing of pulp wood in the area.

An important aspect of any regional development strategy is that any large scale investment expenditure should, as far as possible, be linked to a chain of other smaller related projects in the surrounding areas in order to help maximise the net benefits by activating the economy within the local areas.

Turning to the urban development strategy for the region, the existing distribution and pattern of service centres has already been mentioned. It was seen that the present level of economic activities cannot support extensive urban development all over the region. It does in fact appear on this account that forty seven growth centres as is proposed in the current regional strategy would be excessive and might again lead to diffused growth.

It is also recognised that large scale industrialization would be necessary to vitalize the rural economy by providing viable markets for the rural products.

Put together, therefore, these two views would suggest regional concentration, at least initially. This would be in the form of a strong dominant regional centre. It would also be consistent with national policy of industrial decentralization as a

strong regional centre - a Primate City for Western Kenya would act as a counter pole of attraction to Nairobi and Mombasa.

Kisumu with its combination of rail, road and water transportation system, its centrality in the region together with its existing physical set up perhaps lends itself more than any other town in Western Kenya for such development. This would call for a high degree of priority in the future allocation of development resources for Kisumu until it reaches a point of self sustained growth.

This point appears to have been appreciated in the Regional and Urban Strategies for the region in view of the projected population of nearly half a million for Kisumu by the year 2000 on the basis of which the long term Master Plan was also prepared. The idea of a Regional Primate City does not however, appear to have been sufficiently emphasized hitherto nor do the recent investment allocations in the area in any way indicate that question of priority has been considered.

The problem that such a policy would encounter in view of the fact that Western Kenya is not a homogeneous administrative unit are obvious. In spite of this, it should be pointed out that a prima facie case exists for the creation of a Primate City in the Region.

7.4. Proposals for Further Research

Although this study has concentrated on the relationship between socio-economic factors and the physical structure of urban centres it has also touched on other related areas in which further research would be beneficial to the understanding of urbanization in the region. The following are some of the areas in which the author believes that further investigation is necessary.

1. The relationship between public investment allocations and the growth of urban settlements in the region: The ultimate aim of any investment in urban development is to promote the welfare of the area by generating economic growth. Any development strategy must therefore be judged by the extent to which its allocation of scarce development resources optimizes growth potentials. Studies could, therefore, be carried out to evaluate both the economic and physical planning strategies for the region and its various urban centres to determine whether and to what extent the differential allocation of development capital among the various centres results in differential rates of economic growth. This, in short, would be a study of action and response in urban development.

2. Related to this is the application of the threshold evaluation technique in determining the optimum levels of development expenditure at the

various levels of urban growth. This would be very useful particularly in planning expenditure for the provision of infrastructure. The present system of providing or augmenting existing infrastructure in the settlements appears generally to be characterized by lack of long term planning and co-ordination.

3. Another important area that requires further investigation is the role of the informal sector in the economic development of urban areas. This would involve a detailed study of the structure and composition of these activities in order to determine how best they can be assisted and harnessed towards solving the economic problems of the urban areas which is primarily urban unemployment.

A P P E N D I C E S

APPENDIX 1.1

WESTERN REGION - POPULATION AND EMPLOYMENT FIGURES

NYANZA PROVINCE - AGE-SEX COMPOSITION

AGE	MALE	%	FEMALE	%	TOTAL	%
0- 9	385,740	50.81	373,472	49.19	759,212	35.78
10-19	267,356	51.38	253,040	48.63	520,396	24.52
20-39	222,906	44.40	279,168	55.60	502,074	23.66
40-49	63,918	45.96	75,171	54.05	139,089	6.56
50 --	107,333	53.33	93,941	46.67	201,274	9.49
TOTAL	1,047,253	49.35	1,074,792	50.65	2,122,045	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

NYANZA PROVINCE - LITERACY

EDUCATION STATUS	NUMBER	%
NO EDUCATION	1,593,388	75.09
PRIMARY EDUCATION ST. 1-8	487,441	22.97
SECONDARY EDUCATION FORMS 1-4	37,994	1.79
POST SECONDARY EDUCATION	3,222	0.15
T O T A L	2,122,045	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

NYANZA PROVINCE - LITERACY

EDUCATION STATUS	NUMBER	%
NO EDUCATION	1,593,388	75.09
PRIMARY EDUCATION ST. 1-8	487,441	22.97
SECONDARY EDUCATION FORMS 1-4	37,994	1.79
POST SECONDARY EDUCATION	3,222	0.15
T O T A L	2,122,045	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

NYANZA PROVINCE - BIRTH RATE

O R I G I N	N U M B E R	%
SAME PROVINCE	1,928,659	90.89
ELSEWHERE	193,386	9.11
T O T A L	2,122,045	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

WESTERN PROVINCE - AGE-SEX COMPOSITION

AGE	MALE	%	FEMAL	%	TOTAL	%
0- 9	252,089	50.10	251,105	49.90	503,194	37.88
10-19	167,244	50.64	163,033	49.36	330,277	24.87
20-39	118,359	42.08	162,925	57.92	281,284	21.18
40-49	34,780	40.03	42,135	54.78	76,915	5.79
50 --	69,045	50.54	67,583	49.47	136,628	10.29
TOTAL	641,517	48.30	686,781	51.70	1,328,298	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

NYANZA PROVINCE - EMPLOYMENT BY SECTORS

YEAR	TOTAL	PRIMARY		SUB-TOTAL	%	NON-PRIMARY						SUB-TOTAL	%
		AGRICULTURE	MINING			MANUFACTURING	CONSTRUCTION	ELECTRICITY, GAS	COMMERCE	TRANSPORT	SERVICES		
1967	43,458	8,796	619	9,415	21.66	4,970	2,849	209	2,540	2,711	20,764	34,043	78.3
1968	42,505	7,210	661	7,871	18.52	5,745	2,573	250	2,159	2,886	21,021	34,634	81.4
1969	45,722	7,670	648	8,318	18.19	6,131	2,591	258	2,713	3,155	22,556	37,404	81.8
1970	46,578	8,350	693	9,043	19.42	8,388	2,170	269	2,610	2,200	22,898	37,535	80.5
1971	48,859	8,825	721	9,546	19.54	7,405	2,206	237	2,701	2,164	24,600	39,313	80.4

Percentage of Population Employed in 1969 : 2.15

Source: Statistical Abstracts 1968-1972, Ministry of Finance and Planning.

WESTERN PROVINCE - LITERACY

EDUCATION STATUS	N U M B E R	%
NO EDUCATION	915,389	68.91
PRIMARY EDUCATION ST. 1-8	383,318	28.86
SECONDARY EDUCATION FORMS 1-4	27,216	2.05
POST SECONDARY EDUCATION	2,375	0.18
T O T A L	1,328,298	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

WESTEN PROVINCE - BIRTH PLACE

ORIGIN	NUMBER	%
SAME PROVINCE	1,256,088	94.56
ELSEWHERE	72,210	5.44
TOTAL	1,328,298	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

WESTERN PROVINCE - EMPLOYMENT BY SECTORS

YEAR	TOTAL	PRIMARY		SUB-TOTAL	%	NON-PRIMARY						SUB-TOTAL	%
		AGRICULTURE	MINING			MANUFACTURING	CONSTRUCTION	ELECTRICITY, GAS	COMMERCE	TRANSPORT	SERVICES		
1967	17,892	3,858	--	3,858	21.56	497	33	25	789	504	12,186	14,034	78.44
1968	17,470	2,956	--	2,956	21.56	377	545	28	510	600	12,454	14,514	83.08
1969	18,761	3,017	--	3,017	16.08	570	458	30	663	685	13,338	15,744	83.92
1970	19,837	3,476	3	3,479	17.54	775	374	36	665	630	13,878	16,358	82.46
1971	20,929	3,856	3	3,859	18.44	797	595	117	890	459	14,212	17,070	81.56

Percentage of Population Employed in 1969 : 1.41

Source: Ministry of Finance and Planning.

APPENDIX 1.2

NAIROBI - POPULATION AND EMPLOYMENT FIGURES

NAIROBI - AGE-SEX COMPOSITION

AGE	MALE	%	FEMALE	%	TOTAL	%
0-9	68,273	50.31	67,436	49.69	135,709	26.65
10-19	44,442	49.08	46,112	50.92	90.554	17.78
20-39	139,189	65.91	72,003	34.09	211,192	41.47
40-49	30,758	74.06	10,776	25.95	41,534	8.16
50 --	20,557	67.85	9,740	32.15	30,297	5.95
TOTAL	303,219	59.54	206,067	40.46	509,286	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

NAIROBI - LITERACY

EDUCATION STATUS	N U M B E R	%
NO EDUCATION	224,300	44.04
PRIMARY EDUCATION ST. 1-8	203,894	40.04
SECONDARY EDUCATION FORMS 1-4	66,049	12.97
POST SECONDARY EDUCATION	15,043	2.95
T O T A L	509,286	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

NAIROBI - EMPLOYMENT BY SECTORS

YEAR	TOTAL	PRIMARY		SUB-TOTAL	%	NON-PRIMARY						SUB-TOTAL	%
		AGRICULTURE	MINING			MANUFACTURING	CONSTRUCTION	ELECTRICITY, GAS	COMMERCE	TRANSPORT	SERVICES		
1967	163,692	5,959	663	6,622	4.05	28,984	16,097	1,954	25,545	19,396	65,094	157,070	95.9
1968	163,691	5,676	890	6,566	4.01	28,724	17,767	2,255	22,818	19,734	65,827	157,125	95.9
1969	163,615	5,098	763	5,861	3.58	29,159	18,454	2,286	22,662	19,114	66,079	157,754	96.4
1970	164,002	4,798	840	5,638	3.44	29,709	18,085	2,300	22,310	18,585	67,375	158,364	96.5
1971	178,149	4,733	847	5,580	3.13	35,563	19,548	2,384	25,537	18,894	70,643	172,569	96.8

Percentage of Population Employed in 1969 : 32.12

Source: Statistical Abstracts, Ministry of Finance and Planning.

APPENDIX 1.3

NATIONAL POPULATION AND EMPLOYMENT FIGURES

KENYA - AGE-SEX COMPOSITION

AGE	MALE	%	FEMALE	%	TOTAL	%
0- 9	1,971,538	50.51	1,931,565	49.49	3,903,103	35.67
10-19	1,278,022	51.23	1,216,829	48.77	2,494,851	22.80
20-39	1,309,481	47.94	1,422,034	52.06	2,731,515	24.96
40-49	364,403	49.96	364,976	50.04	729,379	6.67
50 --	558,937	51.57	524,920	48.43	1,083,857	9.91
TOTAL	5,482,381	50.10	5,460,324	49.90	10,942,705	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

KENYA - LITERACY RATE

EDUCATION STATUS	N U M B E R	%
NO EDUCATION	7,979,287	72.92
PRIMARY EDUCATION ST. 1-8	2,657,751	24.29
SECONDARY EDUCATION FORMS 1-4	267,750	2.45
POST SECONDARY EDUCATION	38,017	0.34
T O T A L	10,942,705	100.0

Source: 1969 Population Census
Ministry of Finance and Economic Planning.

KENYA - EMPLOYMENT BY SECTORS

YEAR	TOTAL	PRIMARY		SUB-TOTAL	%	NON-PRIMARY						SUB-TOTAL	%
		AGRICULTURE	MINING			MANUFACTURING	CONSTRUCTION	ELECTRICITY, GAS	COMMERCE	TRANSPORT	SERVICES		
1967	597,369	190,027	2,421	192,448	32.21	68,263	29,900	5,539	46,479	46,511	208,229	404,921	67.78
1968	507,631	141,127	2,063	143,190	28.21	62,812	23,941	3,435	41,291	45,323	187,639	364,441	71.79
1969	531,248	164,333	1,641	165,974	31.24	66,927	23,879	3,193	41,291	45,323	153,195	365,274	68.76
1970	547,230	123,935	1,810	125,745	22.98	76,112	18,980	4,481	47,499	43,438	230,975	421,485	77.02
1971	691,286	211,130	2,976	214,106	30.97	92,803	34,806	5,157	46,674	45,582	252,058	477,180	69.03

Percentage of Population Employed in 1969 : 4.85

Source: Statistical Abstracts 1968-1972, Ministry of Finance and Planning.

APPENDIX 2

CLASSIFICATION OF SETTLEMENTS

NYANZA PROVINCE

DISTRICT	URBAN CENTRES	RURAL CENTRES	MARKET CENTRES	LOCAL CENTRES	
KISUMU	Kisumu	Maseno	Kibigori	Nyakach	Ombeya
		Ahero	Kiboswa	Koru	Pawakuche
		Miwani	Kisiani	Otonglo	Nyalanda
		Muhoroni	Paponditi	Songhor	Anyuongi
		Chemulil	Rabuor	Awasi	Awach
		Sondu	Kombewa	Kusa	Nyang'ande
				Katitu	God-Abuoro
				Tamu	Chiga
SIAYA		Yala	Nyamgweso	Ndero	Anyuongi
		Siaya	Ngiya	Lwaka	Rera
		Ukwala	Rang'ala	Ndori	Kambare
		Bondo	Ukala	Boro	Bar-Ober
		Asembo	Ugunja	Nyalima	Awai

(contd .2)

DISTRICT	URBAN CENTRES	RURAL CENTRES
	.....	.....
KISII	Kisii	Keroka Manga Nyambunwa Ogembo Kebirigo Kendu Bay Migori Rongo Oyugis Ndhiwa Macalder Awendo Sare Mbita

MARKET CENTRES	LOCAL CENTRES	
Usenge	Nzoia	Sifuyu
Sega	Wagusu	Nyang'oma
Madiany	Uranga	Luanda
Sigomere	Sidindi	Luambwa
	Bondo	Ramula
Nyamache	Mogunga	Riochanda
Nyamira	Gesusu	Birongo
Kenyanya	Igare	Obwari
Keumbu	Nyanturago	Tombe
Nyamarambe	Magombo	Riana
Nyamaiya	Magwagwa	Ikoba
Riosiri	Kiamokama	Mokomoni
Gesima	Marani	Manga
Ikonge	Ramasha	Itumbe
Nyangusu	Magenche	Motonto
Tinga	Etago	Mogumo
Nyansiongo	Masimba	Kegogi
Rangwe	Manianku	Maroo
Ranen	Mosocho	Dede
Kadongo	Kehancha	Luanda

(contd.3)

DISTRICT	URBAN CENTRES	RURAL CENTRES	MARKET CENTRES	LOCAL CENTRES	
			Karungu	Mawego	Ntimaru
			Rodi Kopany	Suba Kariye	Ober
			Rapogi	Doho Kosele	Sindo
			Homa Lime	Ratanga	Wagwe
			Isebania	Mariwa	Kagaga
			Taraganya	Uriri	Sena
			Muhoro	Ndiri	Aoro Chuodho
			Miriu	Ndiru	Kadel
				Ikerenge	Mukoro
				Omoya	Ogongo
				Magunga	

DISTRICT	URBAN CENTRES	RURAL CENTRES	MARKET CENTRES	LOCAL CENTRES	
KAKAMEGA	Kakamega	Luanda	Vihiga	Luandeti	Serem
		Butere	Soy	Litambitsa	Ekambuli
	Mumias	Malava	Senende	Lugari	Namasoli
		Khayega	Kima	Magada	Kisiru
		Khwisero	Sabatia	Shiatsala	Matungu
		Mbale	Matete	Ingotse	Kabiri
		Kaimosi	Shianda	Samitsi	Lukume
		Navakholo	Chavakali	Malaha	Mautuma
			Esibuye	Butali	Mbaraka
			Shinyalu	Kipkaren	Likhuyan
			Bukura	Kakunga	Mabusi
			Lubao	Gambogi	Eregi
			Kilingili		
			Lumakanda		

(contd.2.)

WESTERN PROVINCE (.2.)

DISTRICT	URBAN CENTRES	RURAL CENTRES	MARKET CENTRES	LOCAL CENTRES		
BUNGOMA	Bungoma	Kimilili	Sirisia	Sikusi	Nzoia	
		Broderick Falls	Misikhu	Namorio	Kimaeti	
		Malakisi	Mayanja	Chemoge	Chebukwa	
		Chwele	Myanga	Sitikho	Chebkube	
		Tongareni	Makatero	Kaptama	Kapkateny	
			Bokoli	Ndivisi	Malondo	
			Kamakoiwa	Kuywa	Mukuyuni	
			Cheptai	Sangalo	Mbakalo	
			Kabula	Bumala	Sikhendu	
			Ndalu	Kaboiywa		
			Kapsakwany			
BUSIA	Busia	Mangina	Malaba	Alupe Chakole	Tingole	Siribo
		Nambare	Port Victoria	Mundika	Mabunge	Bukhalarire
		Butula	Amukura	Likoli	Luanda	Kadibwora
		Hakati	Murumba	Mungatsi	Bukiri	Kolait
		Kacholia	Buyofu	Lugulu	Igara	Namurudu
			Bumala	Kwangamor	Lugale	Machaku
			Buhuyi	Chaisiri	Mabinju	
			Sio Port	Jairos	Bukoma	

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