TOWN & COUNTRY PLANNING CONCEPT

PLATFORM FOR REAL ESTATE PROJECT AND VALUATION

NWACHUKWU, C.C., ANIH, S.C. & ANIAGOLU, C.O.

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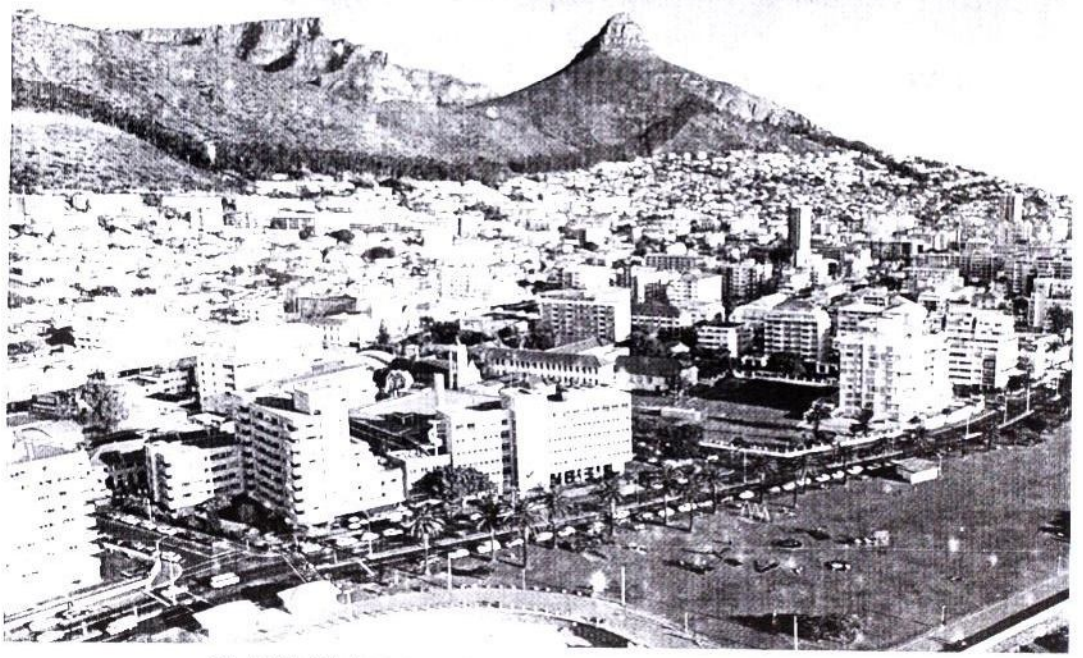

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DEDICATION

This book is dedicated to the Almighty God and to the entire families of Nwachukwu, C.C, Anih, S.C and Aniagolu, C.O.

FORWARD

I appreciate the concept of the authors of this book knowing the economic implications of Town and Country Planning in a developing country like Nigeria. Town and Country Planning is not only the platform for Real Estate Projects and Valuation but when uncompromised, determine the aesthetic appreciation of a city. Planning concept is the engine that propels the wheel of rapid growth that enhances the status of a city center. According to the authors, it creates room for a patterned planning and execution of real estate projects that enhances value creation and subsequently a platform for real estate valuations. Town and country planning determine the bases for developmental control which may be broadly defined as the control of the use of land, the character, appearance and arrangement of buildings and facilities, to ensure economy, convenience, optional results and aesthetics.

I am very optimistic that this book will impact knowledge not only to the undergraduate, postgraduate students but to all the practicing professionals in the built environment and beyond. The authors were my students at the Enugu State University of Science and Technology in the late 1980's and I am delighted in them as those under my mentorship. They have been teaching Town and Country Planning in ESUT for a long time now and at different intervals.

Charles C. Egolum,
Professor of Estate Management,
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PREFACE

Town and country concept is the bedrock and foundation of a viable urban environment leading to a well structured and organized city. It gives room for a patterned planning and execution of real estate projects that enhance value creation and subsequently a platform for real estate valuations. Town and country planning determine the bases for developmental control which may be broadly defined as the control of the use of land, the character, appearance and arrangement of buildings and facilities, to ensure economy, convenience, optional results and aesthetics. We believe that the best planned town is one where the aggregate land values are at a maximum. From the economic point of view, the town plan which would lead to the highest aggregate land value is considered the best.

At any given time, the price of real property will determine the price of land because the supply of land in any use is fixed, but over time because land in any use is variable, the price of land is a determining factor in the price of real property. The essence of town planning is to consider the use of land over time.

The effect of town planning is merely to shift values. To quote, "The public control of the use of land, whether it is operated by means of the existing planning legislations or by other means, necessarily has the effect of shifting land values: in other words, it increases the value of some land and decreases the value of other land, but it does not destroy land values. Neither the total demand for development nor its average annual rate is materially affected, if at all, by planning ordinances "No one can deny that there would be a redistribution of land values under town planning. If certain land uses were permitted in some places and prohibited in others, in so far as this differed from the existing pattern of land use, there would be an increase in some land values and a decrease in other land values.

Within the limitations given by the regional policies, the urban and local plans would be formulated. The urban plans take into consideration the relationship between the town and the region, the main functions of the town, the problems of physical planning in the town and the main purposes of the urban plan and its relationship to the local plans. They would consist largely of policy statements on such factors as

population and housing needs; employment; transport, the town centre; education and leisure facilities; townscape; action areas; and other priorities. The local plans consider the same types of relationships and make policy statements on such factors as green belts, settlement structure and primary communications.

Again, within the limitations set by the regional and urban plans, the local plans are formulated. It is on this level that most of the physical planning takes place. In planning the actual pattern of land use, the local planning authority has to work within constraints whether there are regional, urban and country policies or not. In the absence of such policies, the local body has to take such factors as the transport system, distributions of population, etc., in the surrounding area as given and plan land uses accordingly. These are just as much constraints on the local planning authorities' actions as regional, urban and country policies.

The chosen subjects in this book touch on many different fields of activity in which there are numerous persons connected with, or interested in, these subjects and working at a variety of levels. It is believed that the book will prove useful to persons whose practical work brings them every day, into contact with the problems discussed herein and enable them to see these in a new light. These persons may be professional men employed by private practice, such as surveyors, architects, and planners; or employed in government service, where the aforementioned professional men work alongside geographers, economists, project managers, sociologists and other specialists. In fact, any student studying economics would find this book an example of the application of economic principles to a particular field of study.

The book will serve the purpose of a textbook in the case of students studying for certain university degrees and diplomas and certain professional qualification connected with the land. It is therefore suitable for university students of project management, estate management, architectural studies, land use studies, applied economics, town planning, building studies and urban studies in general. Professional students undergoing studies for various professional examinations will also find this book very useful.

Nwachukwu, Anih and Aniagolu.

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CHAPTER ONE

THE NATURE AND DEVELOPMENT OF TOWN PLANNING

1.1 WHAT IS TOWN PLANNING?

Town planning has been given various names such as Urban and Regional Planning, Physical Land Use Planning, Physical Planning, Urban Planning, Spatial Planning, Planning, etc. The expression, profession and practice of town planning are multi-disciplinary in nature, comprehensive in perspective and changing in character. It is therefore not easy to define. Various definitions have been given like that of Collins (1952) who defined town planning as "the organizing of building and land use in pursuance of an express scheme of urban and rural evolution". Keeble (1952) described town planning as "the art and science of ordering the use of land and the character and citing of buildings and communication routes so as to secure the maximum practicable degree of economy, convenience and beauty". Chapin (1957) in his work on *city planning* defined town planning as "a means for systematically anticipating and achieving adjustment in the physical environment of a city consistent with social and economic trends and sound principles of civic design, deriving, organizing and presenting a broad and comprehensive programme for urban development and renewal." *Land-Use Planning*: "as a part of this larger process of city planning is concerned with the location, intensity and amount of land development required for the various space-using functions of city life. In his opinion, Sharp, (1940) believed that town planning is "an attempt to formulate the principles that should guide us in creating a civilized physical background for human life whose main impetus is thus foreseeing and guiding change".

Town planning involves continuing and evolving process, which responds uniquely to advancement in learning, social aspirations, economic opportunities and economic limitations, as well as to particular physical circumstances, in such a way as to further the common goal. This implies that town planners have a legitimate

interest in, and responsibility for the planning of facilities for transport, health, housing, agriculture, recreation, energy, education, etc.

Furthermore, it implies participation in regional planning, corporate planning, community development, etc, in order to achieve the best results.

Control over the layout and design of urban settlement has been exercised since time immemorial. Evidence of planned towns occurs in the civilization of the valleys of the Nile, Tigris-Euphrates and Indus. These early towns demonstrated an ability to impose order upon comparatively high density community living, and establish an elementary system for the provision of services and facilities. The first period in planning history in which a uniform design of two towns reflected the wishes and needs of the majority of society emerged with the Greeks. The towns' plans featured grid iron layout and a central area of meeting and exchange (the Agora) around which were grouped commercial and public buildings. The principal feature of the Roman plan is the introduction of two main thorough-fares into the 'chess board' layout. The Romans dispersed throughout their empire standardized uniform town plans.

Generally, reviewing town planning before the renaissance period, it is noticeable that architectural merit was lacking. However, during the renaissance, designers began to handle town planning on a large scale and their efforts were architectural in character.

The origin of contemporary town planning, however, may be said to refer to the Town Planning Movement rooted in the social reforms associated with the industrial revolution of the 19th century. The Town Planning Movement in Britain was based on a comprehensive concern for improving social conditions in town and cities. Through the medium of physical plans for town, country, and suburb, the social reformers, such as Robert Own, Cadbury and Ebenezer Howard, hoped to eradicate the social problems of overcrowding, poverty, ill-health, unemployment, insanitary and inadequate living accommodation.

From these socially motivated beginnings, the practice of modern town planning developed. In the early years, it was molded by the influence of the professions of

architecture and engineering as was the case also in Nigeria. Town planning as a discipline has expanded its area of interest beyond the physical plan dealing with location and land use. The scope has been widened to include the critical, social, economic, environmental and political problems that affect the well-being of the human settlements.

1.2 THE NATURE OF PLANNING PROBLEMS

Most problems facing towns and cities in Nigeria are related to four main issues: population, housing, employment and movement. Indeed, it can be claimed that increases in population, the rate of that increase, and changes in the distribution of that population, are the root cause of many of the problems facing planners. At present, Nigeria is becoming more urbanized. The movement of people from rural areas to urban areas has, in many cases, led to problems of overcrowding, and the utilization of accommodation of poor quality, some of the more remote parts of the country have suffered a decline in population. More recently, the changing balance of population distribution has been further affected by the influx of migrants into state capitals and major cities. Such developments have placed inordinate pressures on the existing supply of jobs, accommodation, and facilities for movement, thereby intensifying the problems of such areas.

In the field of housing, these pressures have led to a situation where the supply of housing accommodation is insufficient to meet the demand; where lack of choice, high rents, an absence of accommodation to rent, and the unavailability of ancillary services such as schools, health and welfare facilities is common-place.

The employment issue is closely tied up with the movement of people from rural areas to the cities in search of 'white collar' jobs, which are non-existent.

On the transport front, the difficulties associated with moving around our towns and cities are readily apparent, and publicized congestion, delay, accidents, inaccessibility and comparatively high costs, affect all sections of the community. Although it is possible to categorize urban problems under the above broad headings, one should not obscure the fact of their inter-relatedness.

1.3 CONCEPTS OF PLANNING

There are many concepts of Town Planning. To start with, we can mention briefly the extremes of thought in planning, i.e. the distinction often drawn between the 'normative' and the 'behavioural' theories of planning. A normative approach is concerned with how planners ought to proceed rationally in an ideal world. A behavioural approach concentrates more upon the actual limitations that hinder the pursuit and achievement of rational action. Undoubtedly, the reality lies somewhere between these two extremes; for most plans aim at some kind of rational solution, but with recognition that they will be affected by and modified in the light of changing circumstances.

Another way of approaching this apparent dichotomy in planning thought is shown by the utopian as opposed to Reformist philosophies. The utopian view aims at achieving an optimal state, advocates a rationally deduced set of means to achieve this, and believes that planning should be comprehensive in its approach rather than disjointed.

Reformism, on the other hand, considers that effort should be made to correct existing problems and therefore proposes a piecemeal path to societal change. It suggests that planning is not capable of pursuing a rational comprehensive ideal. Strict utopianism has been largely discredited because among other things, is it's obvious naivety. Though the planner may retain idealistic concepts at the back of his mind, he is essentially concerned with solving present problems.

Another way of expressing these divergent views is in the distinction between 'Blue Planning' and process planning. Blueprint planning adopts a comprehensive approach towards planning. It sees planning as a static policy prepared at the particular point of time. It is expressed in form of Master Plans. It involves a comprehensive survey of all the activities connected with the environment with a fairly simple analysis and evaluation and then the production of a plan within a neatly defined administrative structure. It is exemplified in the system employed recently in the UK since 1947.

In this approach, the goals and objectives do not constitute part of the planning process since they have been previously decided by political representatives.

One of the main criticisms of this approach is that little emphasis is paid to socio-economic issues. Solutions to urban problems are mainly physical in character, i.e. premium is placed on land use map; zoning and various aspects of development control i.e. it tends to reflect local land use other than integrated planning policy. It produces development plans that are too certain, fixed and inflexible. That is, it is ill equipped to deal with many social issues.

The concept of process planning views planning as a continuous process. It places emphasis on the integration of social, economic and physical aspect of the environment. It requires continuous monitoring of the plan, its constant review and making adjustments whenever the need arises. It tends to be more flexible and adaptable to changing needs and circumstances. In its simplest form as in the U.S, it is of a more ad hoc nature and lacks coercive legislation.

In recent years, the need for incorporation of social, economic and physical aspect of the environment in planning and realization that plans should be sufficiently adaptable to review modifications and revision has led to fundamental changes in theory and practice of planning in many countries and the adoption of process planning approaches.

1.4 SYSTEM APROACH

This approach takes any community, town, city or state as a complex whole i.e. a set of connected activities (social, geographic, economic, political, cultural, etc) organize or not, interacting so as to form an entity-a town, city or state. The relationship between these activities is constantly changing giving rise to new and different conditions some beneficial some not. The planner needs to comprehend this tangled web of relationships and where necessary to guide and control their composition. The activities are connected by channels of communication such as rivers, roads, foot-paths, pipe-lines, and cables. The activities and their connections occur within space and through time. The human environment is thus concerned with change. Therefore the planning of it must be dynamic and not static. Systems

approach helps to analyze dynamic conditions. It takes planning systems as subsystems to bigger ones example; Independence Layout is a subsystem of Enugu, which is a subsystem of Enugu State, which is a subsystem of Nigerian system. For this simple ideology, when treating the town as a system, it is always logical to consider the subsystems that operate within it because it is a logical fact that whenever action is taken in our environment in our own interest, the repercussions spread out like ripples as when a stone is thrown into a pool. The introduction of time dimension into the system changes it into a process.

1.5 TYPES AND LEVELS OF LAND USE PLANNING AND PLANS

Land use planning can be done at various levels. It is important to stress that these levels constitutes a system made of elements and links. The levels interrelate and interact to form a special hierarchy in which lower order levels of planning occurs as constituent component of higher order level of planning. Ideally, a local plan should be prepared within the frame work of an urban plan, an urban plan within the frame work of a regional plan, a regional plan within the frame work of a state plan etc.

We can discuss regional plans, master plans, structure plans, and local plans very briefly.

1.5.1 REGIONAL PLANS

A regional plan is a policy document which outlines government plan regarding a regional territory, over a period of time, usually about 20 years. The type of regional plan prepared in Nigeria summarizes the preferred pattern of land use over the plan period. It shows the future plan size of settlement, transportation areas, including the distribution of such facilities as airports and seaports. Usually, regional plans include recommendations as to the preferential treatment that should be given to the different settlements in terms of development planning. Examples of regional plans are those prepared for various states of Nigeria upon creation.

1.5.2 MASTER PLANS

In some cases, master plans are the off-springs of regional plans, although, the former do not invariably flow from the latter. In the case of Imo state, the regional plans specifically recommended that a number of towns should be treated to master plans. The master plans indicate in a general way how the policy makers want the community to develop in the next 20 to 30 years. The published master plan documents must include a single unified general physical design for the community, and it must attempt to clarify the relationship between physical development policies and social and economic goals. The following are the 5 basic physical elements of the urban region that are treated in all standard master plans:

1. Land use which refers to the use of private property for commercial, industrial, and residential purposes
2. Circulation which is concerned with the street and highway system and public transportation routes and stations.
3. Community facilities include schools, parks, play grounds, civil centers, hospitals, churches etc.
4. Civil Designs- which includes the overall structure and form,- landscaping also inclusive.
5. Utilities which includes all those community services which are provided in pipelines, conduits, or wires which can be overhead or underground. These include the water distribution networks, storm drainage, and sewage disposal systems, as well as gas, electricity, and telephone.

1.5.3 STRUCTURE PLANS:

The concept of the structure plan has a British origin. In America, the process of structure planning is called 'new' or 'action' planning. Unlike physical master plans, a structure plan is very much in the nature of a statement of general policy showing trends, tendencies, and illustrating a broad basic pattern for future development. It comprises of two elements:- a written statement and diagrams, illustration and descriptive matter. Structural plans deal with policies and general proposals and must be justified by survey and other information and have regard

to current regional economic planning policies, to the resources likely to be available for carrying out the proposals of the structure plan and to such other matters as may be necessary.

A common feature of master and structure plans is the identification of action areas and the preparation of action area plans. Action areas are areas where action in the planning field is required on a comprehensive basis as well as at an early date.

1.5.4 LOCAL PLANS

Local plan is essential for the purpose of implementing the structure plan. There are three different types of local plans.

1. The District Plan: it is applied in large areas that are in need of comprehensive planning.
2. Action Area Plan: as explained above
3. Subject Plan: more stabilized plans which handle particular aspects of the structure plan.

Local plans have four essential functions, they apply the strategy of structure plans, they provide a detailed basis for development control; they provide a basis for coordinating development, and they bring local and detailed planning issues before the public.

1.5.5 LAYOUT PLANNING

This is a lower level of physical planning which is associated with subdivision plans and regulations. Under layout plans and plan approval procedures a developer is not permitted to develop or make improvements until the regulation is approved and consequently to develop according to regulation specifications. Normally there are layouts for the main uses namely, residential (housing) layouts, commercial layouts and industrial layouts.

CHAPTER TWO

INTRODUCTION TO NEIGHBORHOOD DESIGN

2.1 NEIGHBORHOOD DESIGN

The neighborhood concept is one of the design concepts which the planner uses in the design of urban subdivision. The term was first coined by Clarence Perry in 1929. The neighborhood concept is guided by the need for providing a firm point for a feasible program for bringing people together, to discuss local problems of mutual concern. The place which best meets these requirements is the primary school. Thus the neighborhood may be defined as the equivalent of a primary school district which is bounded by major thoroughfares and within a walking distance from home.

In terms of design, there are facilities and services which are basic to the functional efficiency of the modern neighborhood. The desirable facilities and services include:

1. Nursery school
2. Primary (elementary) school or a nursery-primary school
3. A neighborhood center for social and cultural activities
4. A shopping center or market
5. A number of retail shops located at strategic points in the neighborhood for easy access to convenience goods
6. A neighborhood playground primarily for formal outdoor recreation
7. At least four pre-school children's playgrounds
8. At least one place of worship
9. A health center
10. A postal agency
11. A police post
12. At least one commercial bank

13. A petrol filling station
14. Public utility sites for water service reservoirs, electricity, transformers, et
15. Some service industries

Within the neighborhood, the facilities and services should not be located haphazardly. They require specific locations for easy accessibility and adequate space (land) allocation. The desirable provision standards of these facilities and services are set out in table 1 below. At least 40 percent of the total land area of a neighborhood should be set aside for roads and these facilities and services. The remaining 60 percent is for exclusive (net) residential use. The specific land areas required for the facilities and services should depend on the following factors.

(a) The size of the available land;
(b) The number of people to reside in the neighborhood; neighborhood population ranges from 2,000 to 8,000 persons;
(c) The age structure of the population
(d) The proposed residential density of the neighborhood
(e) The standard of living of the families to reside there; this factor is an important index of space need and the capacity to provide private facilities
(f) The cultural background of the population, and
(g) Climate which influences the relationship between indoor and outdoor activities

TABLE 2.1 Site and Access Standards for Neighborhood Facilities and Services

Neighborhood facilities	Site area (hectares)	Maximum services radius (meters)
Nursery school	0.8 - 1.6	4000
Nursery-primary school	1.6 - 3.2	400-800
Neighborhood center	0.8 - 1.6	800
Shopping center or market	1.6 - 4.0	800
Retail shops	0.05 - 0.1	100 – 150

Neighborhood playground	1.6 – 2.4	400 – 800
Neighborhood park	0.8 – 2.4	400 – 800
Children's playground	0.2 – 0.5	100 – 150
Health centre	0.4 – 0.6	800
Place(s) of worship	0.3 – 0.4	800
Postal agency	0.1 – 0	800
Police post	0.2 – 0.4	800
Commercial bank	0.3 – 0.4	800
Petrol filling station	0.3 – 0.4	800

Source: Claence A. Perry (1929)

It is important to note that the site areas for the neighborhood facilities and services in the table includes building coverage (area), circulation and parking space as well as service areas. They do not include the buffer ships that may be needed to protect the residences bordering them.

The number of the facilities and services mentioned above that are needed in a neighborhood will primarily depend on its population size. The most fundamental of the facilities is the primary school. Consequently, the primary determinant of the population size of a neighborhood should be the number of children of primary school age. This assertion is supported by the American Public Health Association Committee on The Hygiene of Housing. Their views is that since the neighborhood requires the service of an elementary school and since other facilities required in a neighborhood appears to be supported by a population even less than that for the school, the area, and population which can be served by an elementary school is a reasonable basis for the size of the neighborhood.

Therefore, on this basis they argued, it appears that a 4,000 to 5,000 person neighborhood offers certain advantages as a planning unit. In the first place, it makes for efficient use of land since population concentrations above these figures may require duplication of some community facilities. Secondly, it supports a school of the size recommended by many educational authorities. Thirdly, the geographical area will not exceed the desirable 400-metre radius of accessibility.

2.2 SITE PLANNING

Site planning has been described as the "art of arranging the external physical environment to support human behavior. Site plans locate structures and activities in three-dimensional space and when appropriate in time".

A site plan relates to a detailed design of specific uses such as shops, offices, housing estates, residential neighborhoods, town centers, educational services etc. sometimes, it might involve mixed development. The nature of the use and the form of the layout is determined by the following.

- Provision of the development plan
- General accessibility
- Requirements of the client
- Characteristics of the site such as topography etc.

2.3 SITE SELECTION AND ANALYSIS

Residential site selection:

Purpose of selecting a site for residential development

1. To procure a site which is suitable for physical development which include the installation of utilities
2. For the provision of dwellings, a circulation system and neighborhood community facility in a well planned relation and which is free from any grossly unfavorable environmental factor.

For healthy development and maintenance, the following conditions must be borne in mind in the selection of a site.

2.3.1 SOIL AND SUBSOIL CONDITIONING

Soil and subsoil conditioning must be suitable for excavation and site preparation, for the location of utility connections, and for grading and planting. Subsoil conditions should afford suitable bearing capacity for economical construction of the type of buildings contemplated. E.g., bearing capacity will be affected if the site contains shifting sand or quick sand, peat etc.

2.3.2 GROUND WATER AND DRAINAGE

Water table needs to be low enough to protect the buildings against basement flooding, absence of swamps or marshes, slope sufficient to permit surface drainage of normal rainfall and a free flow of sanitary sewers. High ground water table can also cause dampness in crawl places beneath the buildings. High water table can disqualify a site unless preventive measures can be applied.

2.3.3 FREEDOM FROM SURFACE FLOODS

Freedom from surface floods by streams, lakes and tidal waters –such land should not be included in the development area unless flood control measures have removed the danger.

2.3.4 SUITABILITY FOR SITTING OF PROJECTED BUILDINGS

Land should not be too steep for satisfactory grading in relation to dwelling construction.

2.3.5 SUITABILITY FOR ACCESS AND CIRCULATION

Topography should permit grading so that streets and walkways will perform to a graded standards.

2.3.6 SUITABILITY FOR DEVELOPMENT OF OPEN AREAS

Land reserved for private yards, gardens, play lots, parks etc. should permit grading and development in conformity with specification.

2.3.7 FREEDOM FROM TOPOGRAPHIC ACCIDENT HAZARDS

Freedom from topographical accident hazard such as bluffs, precipices, open pits, landslides above disused mine workings etc.

2.3.8 AVAILABILITY OF SANITARY AND PROTECTIVE SERVICES

Water supply and sanitary sewage disposal:- under no circumstances should a site lacking public water supply and sewage systems be accepted unless there is a binding assurance that these problems can be solved.

2.3.9 NOISE AND VIBRATION

Excessive noise, sometimes with appreciable vibration, is commonly produced by railroads, airports, street traffic, heavy industries etc. The site and the surrounding area need to be investigated for such potential sources of noise, odours, smoke and dust such as from industrial plants, refuse dumps, stream polluted by sewerage, animals dung etc.

2.4 RURAL SETTLEMENT TYPES IN NIGERIA

1. The Southern Forest Zone

The rural settlement type to be found in an area as already stated, is to be explained by cultural, historical, economic, and ecological factors. At present, five generalized rural settlement types can be discerned in the southern forest of Nigeria. They are nucleated villages; small walled villages, hamlets and fishing camps, dispersed rural settlements, and satellite farm villages and hamlets. These types are however subject to changes in distribution and character.

a. Nucleated rural settlements:

These are found around Ogoja, and the lowlands of the Niger valley including Owerri and Benin. In Ogoja small highly nucleated villages are the rule. In the nucleated villages around Owerri, the compounds are grouped in a circle so that their walls form a continuous outer screen. In the centre of the circle can be found several compounds enjoying some measure of protection provided by the outer ring. This type of circular arrangement of the villages has been attributed to defense and trading needs. In the Niger-Delta, the physical characteristics of the area probably compelled the people to pack tightly into few areas of dry ground above flood level.

b. Moderately dispersed small walled villages:

In Northern Igbo land, there are scattered small defensively walled villages. The dispersal of homesteads here are not as remarkable as in the rest of Igbo land.

In Nsukka division, the settlements are sometimes separated by patches of compound land, oil palm bush or fallow. In areas of higher population densities the

villages are more clustered, almost tending towards nucleation, and the intervening areas of farmland are small. Despite the apparent dispersal, the gathering together of compounds for defense purpose is a major characteristic of the rural settlement types of this northern part of Igbo land. Around Ekwensu in Nsukka division, new villages characterized by ribbon development of compounds along main roads are tending to emerge. The new compounds have developed to take advantage of good sites for marketing.

c. Hamlets and fishing campus

These are found along coastal ship fronting the Bight of Benin. As a result of the broken up nature of this area and the multiplicity of ethnic and occupational 'island' it is unlikely that large or nucleated settlements will ever emerge.

d. Dispersed rural settlements

In most of the Igbo and Ibibio lands in southern Nigeria, scattered or dispersed hamlet provides the normal settlement pattern. The dispersed nature of the settlement is a product of the gradual disintegration of nucleated settlements. The disintegration of the original nucleated settlements might have been brought about by the increasing demand of farmland, due to population growth or may have been caused by other factors such as kinship and inheritance. (in Anambra, Imo, Edo and Delta states new villages are tending to emerge by ribbon development of compounds along the main roads to take advantage of good commercial sites.)

In the Afikpo, Bende and Eket areas, dispersed hamlets predominate. Thick bush and forest in these areas must have obstructed large-scale community clearance of the bush, thereby making the hamlet the ideal unit for joint effort on a small scale. In Aba, Abia State with moderate population density, dispersal of compounds rather than of hamlets is the rule.

e. Satellite farm villages and hamlets

These may be found in the area of the highly urbanized Yoruba land to the south-west. The dominant crop here is cocoa. The highly urbanized environment has

meant that farmlands may be found at substantial distances from the settlement centers. To reduce the time and expense of commuting between the towns and the farms, many hamlets and villages have therefore been founded near the farms, and settlers live in these, visiting their urban settlements during festivals.

f. The Northern Savanna Zone

Rural settlements in the savanna area fall into two broad categories: nucleated and dispersed. Within each category, variations may be found.

The rural landscape, especially in the Hausa areas is dominated by old nucleated villages with dispersed compounds. The dispersed compounds contain a number of huts and granaries, the latter emphasizing the agricultural base of the settlements. The compounds are usually enclosed by a fence with a single entrance. The old nucleated villages are walled, implying that defense must have been a major consideration in the location and pattern of rural settlement in the past.

Nucleated forms of rural settlements are also found in other parts of the savanna region such as in Nupe land. Another important ethnic group noted for nucleated settlements are the Kanuris in the northeast of the savanna region.

The general picture of the rural settlement pattern is, therefore, one of nucleation with dispersed compounds and hamlets in northern half of the savanna region, with a pocket of nucleated settlements in the southwestern part. In some cases, the settlements are separated by long distances.

2.5 URBAN SETTLEMENTS AND URBANIZATION PROCESS

Generally, a process of urbanization means transformation of the society from traditional rural community to modern, urban community which is spatially more concentrated and socially and economically differentiated. It means a movement of population from rural to urban areas, spreading out of urban areas, the growth of urban population and the number of cities and towns. The term 'a level of urbanization' refers to the stage of above process.

There are 3 basic stages of urbanization process:

1. The initial stage
2. The acceleration stage
3. The terminal stage

In the least developed countries only 15% of the total population lives in urban areas while in highly developed countries it is about 76%. These two groups of countries occupy opposite stages of urbanization process. Most parts of the world's population are at the middle stage of urbanization.

During the initial stage of urbanization, agricultural is the main human activity and population is dispersed in vast areas. The growth rates of rural and urban population are alike (around 1% per annum). The urban settlements are usually service centers. The urban population ranges from 5 - 25%.

During the acceleration stage, urban population increases from 25 – 75%. Manufacturing and services are the main economic activities. There is a gradual decrease of agricultural employment. There are marked differences between developed and developing countries at the acceleration stage of urbanization. In developed countries, rapid urbanization was strictly connected with industrialization while in developing countries, a large part of new comers work is in marginal services.

The terminal stage of urbanization process is characterized by progressive slowing down and stagnation of the urban population. Technical progress reduces agricultural employment and the number of industrial workers. There is an increase in service employment especially in administration, management and research. The urban styles of life, urban behavior and culture tend to spread in rural areas.

The final stage of urbanization contains two major forms of urban areas. Spatial integration of neighboring agglomeration along the main high ways and roads is observed. This is the process of metropolization i.e. agglomeration absorbs areas within themselves and metropolis emerges.

The highest stage of urbanization produces the megalopolis in the spatial functional association of metropolitan areas. Megalopolis occupies vast areas and it is inhabited by 20 – 50 million people.

Around 600km^2 off the Atlantic coast of U.S is occupied by the largest metropolis in the world

2.6 THE URBAN LAND USE; We may distinguish 5 basic urban land uses: Residential land

1. Commercial land
2. Industrial land
3. Public land
4 Transportation space.

CHAPTER THREE

LAND USE REGULATIONS AND PROCEDURES

3.1 LAND USE

Urban planners have always dealt with the issues of land use. Elements of land use planning are activities, people and locations all of which interact with one another. Each can be explained in terms of relationships with the others.

People, businesses and industries have locational preferences which result in spatial patterns of concentration or dispersion. People may wish to be near jobs, relatives or amenities, businesses and industries may wish to operate near the market, their raw materials or major transportation links.

In rural areas, dispersion or concentration is affected by such factors as physical factors, economic and technical factors, social factors and political factors. Land use planners can either reinforce these natural patterns or create new patterns through zoning and other land use controls.

3.2 PUBLIC REGULATIONS OF LAND USE

The primary sources of governmental authority to regulate the use of land are:

a. The police power
b. Eminent domain
c. The power to tax

3.2.1 THE POLICE POWER

The power to pass and enforce laws to protect the welfare of all the people whether they be enacted at a local or national level, is called the exercise of the police power. The police power regulates actions and activities to protect the health, safety, morals and general welfare of the community without compensation to individuals. The legislation enacted by the people or their representatives is generally enforced by the police department, which apprehends people accused of law violation.

In cases where police power is used to regulate the continued use of property without compensation, it must be clearly shown that the continued use of that property would be inimical to the best interests of the community.

3.2.2 EMINENT DOMAIN

The power of condemnation allows government to take property for public purpose (benefit) with compensation to the affected individual. Condemnation of the property is instituted in the courts which then establish a fair price based upon testimony from the witnesses representing the owner, the community and impartial appraisers.

The main difference between the use of the police power and eminent domain lies in the matter of compensation to the owner. Under the police power, the state does not take the property from the owner; it regulates the right to use on behalf of the public welfare.

3.2.3 THE POWER TO TAX

The control of the use of land through various land tax policies.

3.3 LAND USE REGULATIONS

There are traditional regulatory vehicles by which government take actions to implement plans, particularly for environmental purposes. These are zoning ordinances and subdivision regulations and building and health codes.

3.3.1 ZONING: This can be defined as the division of an urban area into districts for the purpose of land use. It involves the regulations of:

a. The height and bulk of all structures;
b. The area of plot that may be occupied and that may be left open;
c. The population density; and
d. The use of structure and land for commerce, industry, residence, etc.

Zoning is a legal regulation of land use. It is an application of the police power for the protection of the public health, welfare and safety. In simple terms, according to Andrews (1962), the main purpose of zoning is to channel city growth in the

proper direction and proper uses in order that a safe, efficient and stimulating community will result. Zoning is enforced through zoning ordinances. In other words, zoning ordinances give legal backing to the exercise of zoning. The enforcement of a zoning ordinance is usually delegated to the planning authority.

3.3.2 OPERATION

In the zoning plan, the community is divided into districts in which the land is restricted to certain classified uses. The sizes, shape and location of these districts reflect the major uses indicated in the master plan. The Master Plan may indicate an area to be appropriated for residential districts, whereas the zoning plan may permit a commercial use within specified limits to be developed as a shopping centre and contribute to the neighbourhood quality of the area. A site for a school and a park may also be provided within such an area. Such developments of the precise plans are refinement of the master plan. Their purpose is to create a balanced community design. A community may be zoned into a variety of districts but the main ones are residential, commercial, cultural and manufacturing.

The separate districts may be individually subdivided into sub-districts. For example, the residential district may be subdivided into 'high,' 'medium,' and 'low' density sub-districts. Zoning should not be confused with a master plan, building code or a layout regulation. However, it is normally guided by the master plan.

3.3.3 SUBDIVISION REGULATIONS

A subdivision simply means any land or portion of land which is divided into plots for purposes of sale and for development. The regulations, which apply to the development of individual parcels of land, are the zoning laws, the housing laws or codes, health and building codes and sanitation laws. Many interests are involved in the subdivision of land and these include the original owner(s), the developer, the prospective buyer and the city as a whole.

3.4 PROCEDURE FOR THE PREPARATION AND APPROVAL OF LAND SUBDIVISION PLANS

Before embarking on land subdivision, the prospective land developer or his agent should seek the professional advice and service of a qualified and experienced

town planner as the preparation of layout plans for residential, commercial and industrial developments requires a sound knowledge of the principles and techniques of both urban and local planning.

It is the responsibility of the town planner to advise the prospective developer on the suitability or otherwise of his parcel of land for the proposed development having regard to the purpose and nature of development for which that particular parcel of land is proposed or earmarked in the urban plan (if any) of the planning authority. The town planner should ensure that the land use of the proposed layout plan is in conformity with the proposed land use in the urban plan or planning scheme or, in the absence of an urban plan or planning scheme, the conditions which the planning authority may consider necessary for land subdivision, especially:

a. The terrain of the land;
b. The microclimate of the area;
c. The nature of the soil;
d. The nature of the surface drainage;
e. The nature of the wildlife flora and fauna;
f. The provision of physical infrastructures;
g. Roads, water and electricity supplies, sewers, etc.;
h. The protection of existing physical infrastructures-highways and roads, water mains, power lines, sewers, telephone cables, etc.; and
i. The use and nature of the land abutting the one to be subdivided.

If the town planner finds the parcel of land suitable for subdivision on the basis of the above-mentioned points, he would advise the land developer to engage the service of a qualified licensed land surveyor to produce the site survey plan of the parcel of land on the scale of 1:1000 or 1:1250 if the parcel of land is small, or on the scale of 1:2000 or 1:2500 if it is larger than say 150 hectares.

The natural and cultural (man-made) features to be shown on the site survey plans to be used for the preparation of layout plans include:

a. The boundaries and area of the parcel of land;
b. The scale of the plan;

c. The north point;
d. The existing or proposed road(s) on or near the land for the purpose of road linkage and co-ordination;
e. The existing or proposed land use (if any) in the immediate vicinity of the land for the purpose of land use co-ordination and to prevent the occurrence of incompatible land uses;
f. The permanent buildings and structures on the land which are to be retained in the layout plan if their physical conditions are sound;
g. Public utility lines, such as power lines, permanent easements, surface water mains, gas lines, sewers, drainage lines, manholes, etc;.
h. Landforms such as hills, knolls, rock outcrops, valleys, depressions, ditches, quarries, etc.;
i. Contour lines, unless the parcel of land is flat or almost flat, contour lines at vertical intervals of 1.0 or 1.5 meters should be used to show landforms;
j. Wetlands-areas of poor drainage such as marshes, swamps, bogs, etc.; and
k. Surface water bodies such as rivers, streams, creeks, lakes, canals, reservoirs and ponds.

On the completion of the site survey, the developer or his agent should file an application accompanied by at least two copies of the survey plan with the planning authority stating his intention to divide the land shown in the plan survey. The planning authority will consider the application and communicate its decision in writing to the developer. The planning authority may approve or disapprove the application or approve it subject to conditions. If the plan planner had earlier done his feasibility surveys well at the site and at the office of the planning authority, the question of disapproval is unlikely to arise. If the application is approved, the developer will be informed of the type(s) of use or development permissible on the land. Having obtained the consent of the planning authority, the town planer can now subdivide the land.

The design of layout plans must proceed from the general to the particular. For operational convenience, the procedure is generalized as follows:

a. Study the character of the topography;

b. Mark out the areas for informal outdoor recreation;
c. Site the distributor (collector) road;
d. Layout the network of access roads;
e. Site the necessary facilities and services;
f. Divide the layout blocks into building plots; and
g. Show the sites of buildings if possible.

The first thing a layout designer should do is to carry out a close study of the topographical features shown on the site survey plan provided by the client or his agent on which contour lines should ideally be shown at vertical intervals of 1.0 or 1.5 metres as pointed out above. The study of the character of the topography depicted on the survey plan should be complemented with site inspection and study. The detailed study of the features and objects of the land should reveal to the designer the functional uses of the land, that is, the suitable uses of the different parts of the land. The topography should be employed as the framework on which to base the design, that is, a framework to which the roads and buildings as well as the facilities and services should relate for the purpose of achieving integration between the landscape and developments. Unless a site is flat and featureless, site exploitation, that is, designing in line with the disposition of the topography is bound to give an area (locality) character and individuality.

The next step is to mark out on the site survey plan the resources for informal (passive) outdoor recreation such as steep slopes, flood plains, wetlands, power line easements, etc. Level sites are for formal (active) outdoor recreation (games and sports).

Next, lay out the road network-first, the distributor (collector) road and then the access (service) roads. Other factors being constant, the distributor should be well positioned to equitably serve all parts of the land being laid out. The minimum distance between two distributors should be 210 meters. The network of access roads should be so arranged in a residential area that the minimum distance between two adjacent ones is 60 metres; the minimum depth required for two back-to-back plots. The minimum and maximum lengths of layout blocks (islands) are set out. A layout block is a unit of land surrounded by roads.

To produce a functionally efficient and aesthetically pleasing road pattern is not an easy task. Consequently, it is desirable to sketch out several different road layouts and accesses, their relative merits and demerits before selecting one for refinement.

Simultaneously with the arrangement of the access road, the sites of the larger facilities (in terms of space need) should be determined. In many, if not most cases, it is the space requirements of the facilities that dictate the position of their access roads. This is particularly true of such central neighborhood facilities as the primary school, the neighborhood (socio-cultural) centre, the shopping centre or market and the neighborhood playground.

Lastly, the layout blocks are subdivided into building plots based on the specifications of the local planning authority and/or the client. The sitting of the smaller facilities and services in Table 8 is undertaken either prior to the division of the layout blocks into plots or simultaneously with it.

It is noteworthy that some layout designers show the position of residential buildings in their plots or advise that they should be shown diagrammatically by rectangles of appropriate sizes. Unless one knows what forms (sizes and shapes) buildings will take in future, their positioning (sitting) in layout plans, is an unrealistic and fruitless exercise. In most cases, the future developers of the plots are unknown, let alone the sizes and shapes of the buildings they will erect.

The forms residential buildings take are basically a function of:

a. The annual income or standard of living of the household;
b. The size and age of the household; and
c. The living habits of the household members with particular reference to the use of space within and around buildings.

The implication of this is that until the architect or the draughtsman has produced the site plan of a building plot based on the specifications and requirements of the client and the local planning authority, the form of the building to be erected on it cannot be known. This explains why building forms are not shown on the plots.

Consequently, they are positioned in relation to the roads, their plots and each other.

The developer (his agent or the town planner on behalf of the developer) should submit to the planning authority at least four copies of the draft layout plan signed by both the town planner who prepared the layout plan and the land surveyor who prepared the site survey plan.

The layout plan should be drawn in black Indian ink on tracing paper on the scale of 1:1000 or 1:2500 if it is extensive, for instance, if it is over 150 hectares or on any other suitable scale prescribed by the planning authority. The details to be shown on the layout plan should include:

a. The boundaries of the parcel of land subdivided and its area in hectares or acres depending on the official or acceptable unit of measurement;
b. The scale of the plan and the north point;
c. The contour lines at vertical intervals of 1.0 or 1.5 metres;
d. The correct alignment of any existing road(s) and/or layout plan(s) abutting the subdivided land;
e. The correct positions of any existing buildings within the layout plan or on the contiguous land;
f. The correct positions of all surface water bodies;
g. The correct positions of any existing public utility lines and sites;
h. The designations of all proposed roads (if required), blocks, plots and all land uses;
i. The number and dimensions of plots and, if required, their areas, and
j. Land use analysis; that is an analysis of land allocated to the various uses, such as residential, industrial, commercial, roads, recreation, etc.

The planning authority will consider the application and the draft layout plan and inform the prospective developer or his agent of its decision in writing whether the plan is tentatively approved, disapproved or requires amendments and modifications. If the later is the case, the applicant will amend the draft layout plan to the satisfaction of the planning authority.

On giving its preliminary approval, the planning authority will ask the developer or his agent to properly demarcate the boundaries of the land beacon (with concrete pillars) on the draft layout plan. The demarcation and beaconing will be carried out by a qualified land surveyor to the satisfaction of the planning authority.

The applicant will then submit to the planning authority for final approval at least two copies of the demarcated and beaconed layout plan on the linen tracing cloth duly signed by the town planner and the land surveyor. The planning authority will examine the plan and communicate its approval with or without conditions to the applicant. For instance, the conditions may include an undertaking by the applicant to construct the layout plan roads and provide water and electricity supplies within a specified period of time say two to three years of the final approval of the layout plan. Towards this end, he may be required to produce letters of guarantee from the water and electricity authorities indicating their readiness to supply water and electricity to the subdivided land within the stipulated period of time.

It is noteworthy that it is unlawful for plots with an approval layout plan to be further subdivided into smaller plots except with the written approval of the planning authority.

3.5 APPEAL

An aggrieved person, dissatisfied with the decision of the planning authority regarding his layout plan, may appeal in writing to the Minister or commissioner in charge of town planning against the decision of the planning authority within the period of time (say thirty days) specified in the land subdivision regulations of the planning authority. The specified time may commence from the date of the decision of the planning authority or the date of the receipt of the decision if the letter is delivered by hand or if the postal system in the area is so efficient that it could be received in not more than two or three days.

3.6 TITLE TO LAND

It is also important to note that the approval of a layout plan by a planning authority is not a guarantee of the applicant's title to the land. Land use planning has nothing to do with land tenure. It merely sets out how land should be referred

to the law court or to any other competent body or persons by the parties concerned for adjudication and settlement. The approval given by a planning authority to layout plans does not therefore make it a party to any litigations over titles to land.

3.7 DEDICATION

On the approval of land subdivision plans, the ownership of all the lands set aside for roads, recreation, and other public uses in the plan, automatically become vested in the planning authority having jurisdiction over the area.

3.8 FEES

Under normal circumstances, the registration and assessment fees to be paid by applicants for their layout plans are not arbitrary but spelt out in the approved fees order of the planning authority.

CHAPTER FOUR

DEVELOPMENT CONTROL

4.1 DEVELOPMENT CONTROL

Development control may be broadly defined as the control of the use of land, the character, appearance and arrangement of buildings and facilities, to ensure economy, convenience, optional results and aesthetics. In other words, the process of development control involves the regulation of the detailed aspects of physical development, about which precise guidance cannot be given in the master plan or the subdivision layout or local plan (Keeble, 1968). Development control is the formal voice of the planning authority regarding such matters as the permitted density, height limitations, user restrictions, access, and outstanding preservation or conservation orders of one kind or another (Ratcliffe, 1978). Some of the other functions of development control include the segregation of obnoxious activities out of residential areas, and the prevention of over-exploitation of land. Development control is, therefore, an instrument of overall environmental quality control, to the extent that it sets standards and regulations guiding the bulk and use of structures, as well as the air space around buildings.

Generally, there are two levels of development control: the macro and the micro. At the macro level, the objective is to control the subdivisions of land. This is the control of the development of layouts or subdivisions. The aim is to ensure that as new areas are brought under urban use and influence, they not only form an integral part of the present overall urban structure, but also fit into the future structure. At the micro level, the objective is to control the development of individual plot and structure within the subdivision.

4.1.1 DEVELOPMENT CONTROL AT SUBDIVISION LEVEL

It is necessary to control the development of layouts so as to ensure their conformity with the standards set for the wider city region. This implies that

before the development of any subdivision is undertaken, permission must be obtained from the appropriate planning authority. This permission is usually conveyed in the form of the approval of the subdivision or local plan. A subdivision plan or layout must be approved before development, so as to prevent chaotic, premature and sporadic development.

The subdivision should be drawn to a scale of 1:1000 and must contain among other details the following: contour lines at intervals of 1.5 meters; the total land area in hectares, major topographical and design constraints such as water bodies, streams, gullies, with existing permanent structures and so on; a land budget indicating the analysis of the proposed use of the land for residential, transportation, commercial, industrial, open spaces, institutions, recreation, community facilities, and so on; the alignment, dimensions and classes of the streets in hierarchy; and the total number of plots, their sizes and the estimated population to be accommodated. The plan must indicate the true North as well as the direction of the prevailing winds.

The major principles and standards in the design of the subdivision maybe summarized as follows:

a. BLOCKS

A residential layout should have blocks which are not shorter than 122 meters (400 feet), but not more than 366 meters (1,200 feet). Generally, blocks that are longer than 244 meters (80 feet) should be broken by a green area and/or a walkway. An industrial layout should have some flexibility regarding its block dimensions, as some production processes may require unusual lateral spread. Normally, however, industrial blocks should not be longer than 370 meters (2,400 feet). Finally, commercial layouts should have blocks that are not shorter than 67 meters (220 feet), but not longer than 134 meters (440 feet).

b. PLOTS

Normally, plots designed for residential development should have a width of not less than 15 meters (50 feet) and a length of not less than 30 meters (100 feet).

The minimum plot area should, therefore, be 450 square meters. However, corner plots may be wider than 15 meters so that the structure could be shielded from possible danger. Industrial plots should normally not be less than 46 meters (150 feet) in width and not less than 61 meters (200 feet) in length, with a minimum plot area of 2,806 square meters. Finally, commercial plots should not be less than 18 meters (60 feet) in width, as well as in length, with a minimum plot area of 324 square meters. Again, as with residential plots, both industrial and commercial plots at the corners of blocks may be designed to be wider.

c. SHAPES OF BLOCKS AND PLOTS

As much as possible, under given topographical constraints, all blocks and plots should be rectangular.

However, in residential areas, where plots are arranged around the heads of cul-de-sacs, radial plots may be allowed. The designer should ensure that the incidences of irregular, non-perpendicular plots are minimized, but preferably completely avoided. The designer should also ensure that the incidence where one plot has boundary with two or more plots on either side is avoided. As such, designs are more expensive to beacon. Incidental or left-over spaces is a sign of weakness in the organization and use of space by the designer.

4.1.2 CIRCULATION (STREET/ROAD HIERARCHY)

The total classes of roads in a hierarchy will depend on the total size of the subdivision and also its location relative to existing streets and route ways. Generally, however, the following standards may be adopted for the various classes and types of streets.

a. No class of street should have less than 6 meters of carriage-way (that is, the paved surface, or the portion meant to carry traffic) of not less than two lanes, and a right-of-way (that is, the distance between the property lines on both sides of the road) of less than 12 meters. These standards may not apply to a cul-de-sac.

b. The minimum dimensions of carriage-ways and right-of-way for the various classes of roads, should not be less than as indicated below:

		Carriage-way	Right-of-way
i.	Freeways and express ways	20 meters	60 meters
Ii	Arterials or primary distributors	15 meters	30 meters
iii.	Collectors or local distributors	10 meters	20 meters
iv.	Local access	6 meters	12 meters
v.	Cul-de-sacs	6 meters	9 meters

c. In addition to the dimensions for the cul-de-sacs, the following standards should also be employed. Except in exceptional cases, no cul-de-sac should be longer than 137 meters. The turning radius of the cul-de-sac must not be less than 15 meters. Cul-de-sacs must not terminate at industrial and commercial uses. As for residential areas, the cul-de-sac should normally not service more than 18 normal plots at its sides and its head.

d. With respect to junctions and intersections, the following standards may be employed:

i. In an attempt to reduce accidents involving vehicles, the right angle intersection is favoured over the oblique and acute angle intersections that could develop from an unskillful application of the curvilinear approach.

ii. The 'T' intersection is preferred over the four-arm intersection.

iii. Rotaries should not be provided indiscriminately, except where three or more route ways of the same class meet, and the volume of traffic warrants it.

iv. At block corners, the property lines should be rounded off at a radius of 4.5 meters. However, more generally at street junctions, the radius of the curve should not be less than 9 meters for major roads and not less than 6 meters for access streets.

v. The spacing of intersections should not be less than as indicated below for the various classes of roads.

1.	Freeway and express-ways	467 meters (1,500 feet)
2.	Arterials and collectors	213 meters (700 feet)
3.	Local access	76 meters (260 feet)

e. Where a layout or subdivision adjoins a freeway or an arterial, a service street should be provided to prevent direct access to the subdivision. The carriage way of the service street should not be less than 6 meters, while the right-of-way should be at least 15 meters.

f. Sidewalks should be provided on both sides of every street, including cul-de-sacs. Sidewalks should be at least 2 meters wide.

g. The streets should be designed such that double frontages are avoided on the properties serviced. Double frontage is where roads run through the back and the front of the plot.

e. EDUCATIONAL INSTITUTIONS

Space allocation for educational establishment should be at least as indicated below for the various levels of institutions:

i. Nursery school: not less than 2 hectares.
ii. Primary school: not less than 4 hectares.
iii. Post-primary school: not less than 8 hectares.

In all cases, the site coverage (that is, the total area of the plot that may be covered by structures) must not exceed 30 percent.

4.1.3 DEVELOPMENT CONTROL AT THE INDIVIDUAL STRUCTURE LEVEL

At the level of the individual structure, development control essentially involves the designing of building plans to satisfy specified standards and ensuring that the actual development conforms to the approved plan. Development control at this level, therefore, involves the enforcement of the relevant housing and building codes, so as to ensure that no illegal developments are embarked upon. Usually, the authority responsible for development control at this level is the area planning office or the municipal (city) planning office as the case may be.

Every building plan submitted to the planning authority for approval must be accompanied by a site plan, drawn to a scale of 1:500. The plan should show among others, the North, the size and the location(s) of the proposed structure(s); all existing structures such as trees, wells, power lines, roads, streets, drains, as well as any other physical feature and constraints, including flood and subsistence potentials.

Among the things that the planning officials should consider in building plan approval are the lighting, the ventilation, and the drainage; the design relative to the building line; the size and lighting of rooms; the height of the structure and floor level relative to the level of road, size and materials of walls. The location of sanitary fixtures; the proportion of the site to be covered by the proposed structure; the provision of open space and circulation areas, the location of any out-buildings in relation to the main house, access to the structure, fire and emergency exits; parking facilities; and the provision of loading and off-loading areas, in the case of industrial and commercial development.

In terms of the detailed design requirements, the following are among the things considered in the approval of building plans, as per the Town and City Planning Law of former Bendel State now Edo and Delta States (Cap 165) of 1977:

a. **Density**: The average number of dwelling houses per acre shall not exceed 6. The maximum number of rooms per plot, shall not exceed 12. The occupancy rate per habitable room shall not exceed 2.

b. **Coverage:** Site coverage is defined as the percentage of a site, which is covered by any building or structure erected upon it, including ancillary buildings and out-houses, bathrooms, garages, and so on. With dwelling houses, the percentage of the plot that shall be covered by any building or structure erected over it shall not exceed 45%. The figures for the other uses are as follows:

Block of residential flats	50%
Place of worship	50%

Place of amusement, social hall, etc.	70%
Business premises	70%
Industrial buildings	70%

c. **Air space:** An air space is defined as the space between two adjoining plots, buildings or structures. Air space is operationalized in terms of setbacks. A set-back on the other hand, is defined as the required minimum distance between the edge of a plot and any building or structure on it. Accordingly, the following minimum setbacks are recommended:

Table 4.1 Minimum Setbacks

	Front (m)	Back (m)	Left side (m)	Right side (m)
i. Residential uses	3	2	2	1.5
ii. Departmental stores	8	3	2	2
iii. Warehouses	9	3	2	2
iv. Banks/Hotels/Restaurants	8	2	2	2
v. Light industrial/Service	8	3	3	2
vi. Heavy industrial	12	8	3	2

Generally, the front setback is more stringent (that is, more allowance is given) when higher order classes of roads and streets, are abutted.

d. **Height:** No structure shall be constructed whose highest point projects above a line drawn from a point at street level at the other side of the street at an angle to the horizontal specified as follows:

Residential	30^0
Business	45^0
Institutional	45^0

In other words, given the setback, the height of a building should not exceed the point where a line drawn from the facia to the outer edge of the drain on the other side of the street makes an angle less than as specified above for the various uses.

e. **Habitable rooms:** A habitable room is defined to include any bedroom, sitting room or parlour, lounge, study, dining room or any other room, which is ordinarily used or intended to be used for sleeping and living purposes. Thus defined, habitable rooms should have not less than 12 square meters of floor space. No side of the room should be less than 2.5 meters.

f. **Domestic conveniences:** All domestic buildings should have a toilet and bathroom or combinations of a toilet and bathroom at a minimum rate of one unit for every flat or one unit for every three habitable rooms, whichever one is greater. Commercial and industrial establishments should provide toilets according to the number of workers engaged at any one time, as follows:

25 workers and less	2 toilet sets
25-50 workers	3 sets
51-150 workers	4 sets
151-250 workers	5 sets
Above 250 workers	1 set per 50 workers.

Although the water closet is often recommended as the minimum acceptable sewage disposal system, theventilated improved pit latrine and the aqua privy could be acceptable as intermediate system (Omuta, 1986).That should be before 90's as any type of pit latrine is not acceptable in this modern age.

g. **Space organization:** The organisation of available space should be such that maximizes circulation of people and air, and reduces costs. Accordingly, all wet areas in the house should be aligned on one wall so as to reduce the cost of plumbing. Also to facilitate cross-ventilation, all habitable rooms should be aligned to the direction of the prevailing winds at 45 degrees. The activity areas of the building (living, dinning, kitchen, bedrooms) must be properly related. There must be an adequate circulation or lobby area.

CHAPTER FIVE

RURAL PLANNING CONCEPT

Rural Planning

The focus of rural planning activities is on all the rural areas outside the limits of urban administration. But since a high level of interaction exists between urban and rural population and environments, particularly those rural areas in proximity to urban areas, rural planning should, of necessity, include the consequences of urban-rural interaction. Also technically, it might be neat and appropriate to limit rural planning activities to settlement below 20,000 populations (judging from our earlier definition of rural settlements). Such an arbitrary exclusion based on numbers gives too much weight on demographic factors when in fact, other variables are often more important. Rural planning is therefore an exercise carried out at all levels of government for the rural population no matter what parameter such a population has been delimited.

5.1 Goals of rural planning

From the definition of rural development planning provided in the preceding section, certain goals of rural planning are apparent. Some of them are discussed below:

5.1.1 Need for an improved knowledge base: An improved understanding of rural and regional planning is important if we are to help policy makers marshal the tools to deal systematically and rationally with the issues confronting the rural environment and rural people. Literature is also needed for instruction of students and even the general public who have become conscious of the rural planning problems but who cannot find adequate materials, which spell out the methods of rural planning. Professional practitioners need conceptual guidelines and tested knowledge on which to base their planning and action programmes. Government officials must have sufficient knowledge of rural planning to design and administer the rules by which it is undertaken. Finally, the general public needs to understand

and partake in the practice of rural planning in order to fully benefit from the result of various rural planning endeavour

5.1.2 RESERVATION OF ECOLOGICAL INTEGRITY SO AS TO PROVIDE A CONTINUING SUPPLY OF LIFE-SUPPORTING RESOURCES: Many countries are in danger of seriously damaging or destroying the life-giving processes on which people depend for survival. These processes occur primarily on rural land and involve complementary resources: vegetation, water and air. It is the goal of rural planning to discover what must be done to ensure continuing renewal of the essential ecological processes and to proceed systematically and vigorously to undertake the necessary preserving or enhancing actions. Rural planning should aim at developing within the context of the logical capacity of the areas being planned. This is what is commonly known as co-development. The rural environment has its ecological capacity within which any form of development will be forged. The aim is to avoid the impairment of the rural area in the course of development. Thus, a major goal of rural development is to observe the ecological rules and eliminate environmental stress in any form of rural development efforts being pursued (Glikson, 1971).

5.1.3 EFFICIENT AND APPROPRIATE LAND-USE: The seeming abundance of rural land often leads to its misuse. Also, the tenancy pattern of rural land especially in Nigeria where customary tenancy confers ownership of land on individuals and communities without a central control makes land to be used according to the individual interests and tastes of its owners, even though it might be much better suited for some other uses. As rural land and associated resources become increasingly scarce, the larger society has a greater stake in ensuring that land is not misused for private gain to the disadvantage of present and future generation. Surface water, soil conditions, vegetation and other factors have much to do with best potential uses of land; they should be studied as a basis for developing the basic rules to circumscribe what should and should not be done with certain kinds of land. Efficient and appropriate land use, if achieved, will ensure that the maximum potentials of a rural environment are achieved. Quite

often, the resources of a rural environment are not maximally utilized because of non-evaluation of the potentials or poor diagnosis (Okafor, 1986).

5.1.4 HEALTHY LIVING CONDITION: The health of a rural population is obviously very much related to ecological integrity. This is because a constructed physical environment is required to minimize the dangers of physiological and mental disease and maximize the potentials for comfort and security of home and family. One of the achievements of rural planning is to attain a stage where rural wastes are disposed in such a manner as to preserve health and sanitation in the rural environment. Healthy living conditions in the broadest sense must embrace all attempts to make the rural environment a worthy place to live without the danger of degeneration of the health of the occupants.

5.1.5 AESTHETICALLY-PLEASING ENVIRONMENT: Aesthetic tastes of individuals vary widely. Yet, most of us can differentiate degrees of beauty in natural or built-up physical environments. We can define differences in purity of air, levels of noise, and in general, attractiveness of the landscape. Given a choice between the noise of urban bustle and rustle and the quiet of a deep forest, a fair proportion of the population would probably opt for at least occasional opportunities for the latter. Also given a choice between an urban-fringe littered with refuse and characterized by dysfunctional land-use types and a rolling countryside with occasional farmlands, a fair proportion of people would probably prefer the open countryside. The general tendency in a technologically advancing society is to put up with noise and dysfunctional land-use, as well as other aesthetically displeasing actions in the interest of economic gain. Such values must profoundly be re-examined in the process of rural planning if our taste for an aesthetically-pleasing environment is to be fulfilled (Glig, 1985).

5.1.6 EFFECTIVE SOCIO-ECONOMIC AND GOVERNMENTAL INSTITUTIONS: If census statistics and studies of rural areas especially in Nigeria are anything to go by, it is obvious that the created institutions, which serve our rural areas, are often inadequate or obsolete. For example, health and welfare services are of

substantially lower quality and more scarce in many rural areas than in urban places. Local government machinery is not as efficient as expected in handling rural development matters. Similarly, the supportive institutions for rural development planning are not fully developed. Most people would probably prefer improved functioning of the institutions responsible for guiding social, economic and governmental activity.

5.1.7 IMPROVED HUMAN WELFARE: This suggests that there should be some minimal, economic and social level below which no human being would be allowed to live.

5.2 FACTORS RELATED TO THE DEVELOPMENT OF ENVIRONMENT AND INSTITUTIONS

The final product of physical planning in the rural environment is either preservation of physical features or some form of physical adaptation or construction. The products of social or human resource planning on the other hand, are principally new forms of social patterning, which alter (or possibly preserve) the organizational structure of network through which human goals are accomplished. However, systemized rural planning has usually focused on guiding the physical development of communities and regions without specific attention to the patterns of social organizations. Both forms of activity are critical if the planning process is to be complete and effective over the long term. It is only through effective rural planning that physical structures meant for improving the rural living standards can be built. Similarly, the human institutions through which goals and values are realized must also be reconstructed or developed to fit the new physical and social circumstances. The assumption here is that both physical and social construction and development will proceed more productively if guidance is provided by an informal planning process.

5.3 PLANNING FOR HUMAN AND FACILITIES IN RURAL AREAS

Formalized planning for the complex of human services and facilities in rural areas is becoming an important aspect of rural planning. Prior to this period, many

governments allow the springing up of service points at locations, which do not conjure a good image in the context of environmental quality and maximum accessibility to the facilities. Most often, rural planning activities at the state and national levels of government focus on specific projects such as comprehensive health, water provision, road construction, rural electrification, or other subsets of rural services. There is, however, little common understanding or agreement about the objectives and roles of services planning in rural areas. This section attempts to explore the objectives and goals of planning and locating human services and facilities in rural areas.

5.4 OBJECTIVES IN PLANNING AND LOCATING HUMAN SERVICES AND FACILITIES

In trying to locate human services in rural areas, the planner is faced with one major constraint. This constraint is the problem of meeting the planning needs with scanty resources. The resources that are available permit the provision of few facilities. Therefore, this constraint demands that specific objectives be set up in an attempt to make the maximum use of the limited resources.

Generally, four principal objectives are aimed at. These include:

a. **Minimization of travel cost:** The essence of locating facilities at several points in the rural environment is to minimize the travel cost involved in long distant travels, which the rural population usually undertakes to the few service points that usually exist in rural areas. In a rural environment more than in other places, the question of minimizing travel cost is fundamental. There are limited means of transportation which makes movement difficult, poor social mixture to break ethnic barriers affecting accessibility to facilities, unfavourable physical terrain that increases distance cost, and low income that prohibits elaborate spending on travels (Okafor, 1984a). Considering these facts, planners will aim at locating facilities at central point so that they will draw consumers from the immediate surroundings so as to minimize travel costs.

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b. **Maximization of Demand:** Because the resources at the disposal of the planners are limited, it is fundamental in the process of locating rural facilities to ensure that facilities so located are in full use. This objective aims at saving cost by not merely locating for location sake. The pursuance of this objective has an economic connotation, which may be in conflict with the social objectives of facilities' location in rural areas. In practice, however, planners try to marry the social and economic objectives in their planning practice. To achieve the objective of maximum demand, planners usually apply the concept of threshold. The threshold is the minimum sales volume or population needed to support a business or a facility. Threshold population varies along a continuum. If the threshold population is too large for an existing facility, over-utilization of the facility may occur, and if the threshold facility is too small, there may be under-utilization. It is, therefore, a principal objective of a planner to ensure neither over-utilization nor under-utilization.

c. **Maximization of Equity:** Some inequality in access is inevitable in the practice of facilities' location. Some people will always be nearer the service of facility node than others. To minimize this inequality, planners aim at locating facilities at a place, which reduces the longest journey of any consumer to a minimum. The form of inequality could be inter-rural or intra-rural. In whatever form the inequality occurs, the objective in planning is to locate the facilities in such a way that no social or economic group is unduly favoured.

d. **Satisfaction of Special Demands**: As much as there is the need to justify the principle of equity in the location and allocation of rural facilities, situations exist where the planner has to satisfy some special demands, which may be social, ethnic, political, etc. The satisfaction of special demands is one aspect of planning, which depends very much on the ingenuity of the planner. There may not be an economic rationale for doing this, but it is fundamental to satisfying the needs and interests of some

people who may have been omitted in the process of satisfying the economic rationale of location/allocation decision. The pursuit of this objective without adequate caution may negate the other objectives of locating rural facilities, but as Hodgart (1978) has argued, not all decisions for locations, should be mathematically rational. The planner uses his initiative to know how and when to deviate from economic or mathematical principles in order to satisfy equity and social needs.

5.5 STAGES IN THE LOCATION OF RURAL HUMAN SERVICES AND FACILITIES

The underlying goal of location/allocation decisions for rural facilities is to improve the accessibility to the facilities and maximize their utilization. To achieve this major objective, the planning process involves the following stages:

1. Identifying the basic problems of major social categories of the population.
2. Measure the existing human service provisions for each subcategory of population.
3. Identifying potential central places (and their zones of influence) of various orders for the location of the facilities.
4. Identifying potential central places in under-developed areas, which can be developed for an induction of growth in these areas in the future.
5. Establishing ideal conditions in the form of general goals to be achieved.
6. Measuring the gap between existing conditions and the ideal conditions to develop specific operational objectives or targets.
7. Identifying the necessary infrastructure that will be required for the most profitable utilization of basic resources.
8. Designing procedures or programmes and locating sources of funding by which objectives can be met in some order of priority.
9. Helping to monitor and guide the programmes toward reaching the objectives.
10. Measuring results, progress, or failure:

As a part of this process of service location and planning, Lassey (1977) suggests that the following activities are equally essential:

a. Coordinating the activities of social institutions and agencies to provide improved service delivery across a single functional area (say a local government area in the case of Nigeria) and to provide for delivery of integrated and comprehensive services. It may turn out to be more economical and efficient if integrated area planning is undertaken in the location of services.

b. Coordinating:

a. Physical planning, which is traditionally concerned with providing the activities for meeting human needs;

b. land-use planning, which is concerned with locating those facilities in appropriate or ideal land spaces.

c. Examining and redirecting social institutions towards a future orientation, in accord with technological, social, economic and political changes, which dramatically affect individual and collective well-being.

The basic assumption in pursuing the foregoing objectives is that fulfillment of group and individual needs can be achieved through specific and coordinated programmes, undertaken by public and private agencies, and under the general coordination and guidance of legislative and administrative bodies. In Nigeria, the three tiers of government-federal, state and local governments have historically been responsible for the provision of rural facilities. State and federal governments finance and direct the provision of services at the most local level but unfortunately, often operate separately from the local government through independent planning and administrative systems. The solution to this problem lies in sorting out priorities and assigning responsibilities among the different tiers of government. It would be seen that the local governments are in the best position to identify rural planning needs. The state and federal governments could come in the areas of supplying personnel, technicians and funding. Meanwhile, it is apparent that the local government will have to take greater responsibility in rural planning by locating rural needs and priorities, providing personnel and funding the projects by generating their own resources. More often, the local governments tend to be interested primarily in relatively specialized sets of priority activities

and seldom engage in or understand the complexities of the total planning effort. Equipping the local governments with qualified personnel will help them to diagnose more vigorously their rural planning needs.

5.6 OBSTACLES TO EFEFCTIVE RURAL PLANNING

Although rural planning aims at creating a condition under which the affected population will be able to improve its living conditions and where other rural activities can flourish and resources properly utilized. There are problems, which limit the achievement of these objectives. These problems vary in severity from one rural environment to another. Until these problems are identified and solutions sought, the planning endeavours of many practitioners will continue to be a matter of trial and error. The problems are legion and only a few can be pointed out here. They include:

i. **Shortage of Funds for Rural Planning Projects:** The urban problems ca which in many countries seemingly outweigh the rural can problems divert planning attention and funds. In addition to the fact that many rural communities are starved of funds, some of the communities have large geographical areas with low population density and therefore cannot generate enough funds to carry out their planning programmes. In Nigeria, the rural communities under the jurisdiction of Local Government Areas depend on state and federal governments' grants for their operating funds. Under this arrangement, the rural planning activities in rural communities suffer from inadequate and uncertain funding (Okafor, 1984). In such a circumstance, the local government officials in-charge of rural planning are forced to operate on crisis basis in making resource allocation decisions.

ii. **Poor Staffing Conditions:** Planning at the local level should rest on the local government staff who are familiar with the needs and priorities of the local environment. Unfortunately, the local government lacks the qualified staff to carry out the required planning activities. The practice in Nigeria is to attach local government areas to some urban centers for the purpose of directing planning in the local government areas. By this practice, the local governments are often

forgotten and hardly do they get the opportunity of benefiting from the knowledge of professional or trained planners.

iii. **Conflict of Planning programmes:** Rural planning programmes, especially in Nigeria, are mounted by the three tiers of government-the federal, the state and the local governments. These programmes though geared towards improving the living conditions of the rural people, are sometimes conflicting and repetitious. This results from lack of adequate consultation and improper flow of communication between various levels of government. In Nigeria, at present, there are few mechanisms for integrated planning involving all the levels of government which are interested in rural development planning.

iv. **Obstructing Influences of Tradition and Culture:** Rural planning in many respects involves changes. These changes could occur in rural settlement patterns, land use, economic and cultural settings. In some rural areas, these changes are seen as revolutionary and do not quite fit into the pace of change desired by the traditionalists. This could militate against the desired rural planning measures and programmes.

5.7 THE LAND USE ACT (DECREE NO. 6) OF 1978

The Land Use Act otherwise known as Decree No. 6 of 1978, promulgated on the 29th of March, 1978, is one of the most far-reaching and controversial legislations enacted by government in this country aimed at revolutionizing the system of land ownership and allocation. Prior to the coming into effect of the Act, there were no harmonized land tenurial arrangements in the country especially between the Northern and Southern parts of the country. The land tenure system in the North before the Act, was predicted on the Land Tenure Law of Northern Nigeria 1962, by which all lands were declared to be native lands and subject to control and disposition by the Commission responsible for land maters, who administered the land for the benefit of all. As a result, land required by government for development purposes was made available easily. In the Southern part of the country, however, absolute ownership of land was rested in the individual or family group.

Under this customary land tenure system, land value became very high and land speculators had a field day. Apart from harmonizing the tenurial arrangements in the country, reasons given for the promulgation of the Land Use Act include:

1. To reduce land speculation, which was largely responsible for the astronomical stabilization of land values especially in urban areas. Stabilization of land values, it was thought, would stabilize the cost of government projects.
2. To remove the difficulties which government experienced in the acquisition of land. If ownership and allocation of land became vested in the government, then government would have fewer difficulties in making use of whatever piece of land it desired fit for public purposes.
3. To reduce the number of litigations brought before the courts over land matters. Litigations have in the past aborted plans for the location of industries, hospitals, schools and other projects. With a formalized arrangement for the ownership and allocation of land, it was thought some of these problems would be eliminated.
4. To modernize agriculture through improved tenurial; arrangements. Consequently, the then military administration promulgated the land use decree No. 6 of 1978, which essentially vested all land comprised in the territory of each state in the Federation in the Military Governor of that state who held such land in trust and administered it for the use and common benefit of all Nigerians.

By the provisions of Section 27 4(5) of the 1979 Constitution, the Act became entrenched in the constitution and, as such, it can only be repealed or altered by an approval of not less than two-thirds majority of the members of each House, and also approved by resolution of the House of Assembly of not less than $^2/_3$ of all the states as provided by 5.9(2) of the Constitution of the Federal Republic of Nigeria.

5.8 GENERAL PROVISIONS OF LAND USE ACT

It could be seen from the foregoing that the Act enjoys an enhanced status, and is therefore a radical departure from the status of other land law legislations prior to

the enactment of the Act. For this reason, and to better understand the Act, it is necessary to critically review and analyze the major provisions of the Act.

The Act provides under Section 2 that all lands in the urban areas, shall be under the control and management of the military governor of each state and that all other lands shall be vested in the local government within the area in which the land is situated. It further provides for the creation in each state, of a body to be known as the Land Use and Allocation committee, charged with the responsibilities of advising the governor on all matters relating to the management of land in the urban areas, and also advising the governor on any matter connected with resettlement of persons affected by the revocation of rights of occupancy on the ground of overriding public interest, and finally, the body will have the responsibility of determining disputes as to the amount of compensation payable under the Act for the improvements on land. The Committee shall have as its members, persons to be determined by the governor and will include an estate surveyor or Land Officer and a legal practitioner of not less than five years post-qualification experience.

At the local government level, the Act provides for the creation of the Land Allocation Advisory committee, which shall advise the local government on any matters relating to the management of land in the area of jurisdiction of the local government.

Looking at these provisions critically, one would tend to believe that they are antithetical to the intents of the Act, which includes the making of land easily and readily available for development purposes. The creation of the land-use and allocation committee means an over-centralization of land management, which inevitably leads to delay, chaos and inefficiency. There is a grouping misconception of the proper functions of land use and allocation committee, which ought to be in the policy areas of determining amounts for compensation and the resettlement of displaced persons. Because matters affecting the land use committee on matters of compensation are expressly taken out of the jurisdiction of the courts, these committees might become instruments of oppression and vindictiveness. It is also

intriguing that no provisions are made for the inclusion of town planners as members of the Land-use and Allocation Committee.

5.9 IMPLICATIONS OF THE LAND USE ACT (1978) FOR PHYSICAL PLANNING IN NIGERIA

One of the cardinal objectives of the Land Use Act is to make land easily available to governments for productive utilization in the public interest. Nonetheless, by the provisions of the Act, certain constraints are placed on physical planning practices, even though some aspects of the Act enhance physical planning in the country. In the Act itself, planning terms, such as land use, urban areas, developed and undeveloped lands, are frequently used.

Prior to the enactment of the Act, property and housing development corporations and planning authorities has statutory rights to acquire land either by agreement or compulsorily for plan implementation and development purposes. By the provisions of the Act, it is now only the governor who has the rights to revoke people's interests and rights over land. The implication of this arrangement is that development of new housing schemes and the implementation of plan proposals take longer periods of time. This is so because this time around, these agencies have to liaise with the governor's office or ministry, charged with land matters before land is acquired and certificate of occupancy obtained. Knowing what governmental procedures and bureaucracies in this country are, the net result is unnecessary long delays.

For planning purposes, it is important that certain criteria be used as guidelines in designating an area, an urban area, but nowhere in the provisions of the Act were such guidelines stated. Also, the Act does not make it mandatory that the governor shall cause any master plan, or planning or development scheme to be prepared before or after designating any area as an urban area in the state. If one of the aims of the Act is to achieve a rational control and use of land, then guidelines must, of necessity, be laid for planning and development of land. It might be argued however that the various planning authorities already have the responsibility of preparing planning schemes in their planning areas.

The restriction placed on the land holding capacity of the individuals by the Act, and the inability of individual to layout or transfer any plot therein to any other person(s) without the consent of the governor, hampers the ability of private estate developers to develop housing schemes. Most importantly, the Act was silent on estate development by individuals or companies. Consequently, town planners in private practice do not get those jobs involving the preparation of layout schemes. This provision also has some implications for government-owned housing corporations, and there is need to review the provision requiring the governor's consent so that this should not be required for subleases and transfers of possessions over a right of occupancy when government agencies are involved in such transactions.

Because of the negative reactions to the Act in the southern part of the country, it has been difficult for government to enter lands earmarked for acquisition, for the purposes of survey and planning. This has greatly hampered the implementation of planned proposals. On the other hand, the provisions of Section 43 should be seen as aiding development control in the urban areas. By this provision, no person shall, without the consent of the governor, erect any building, wall, fence or other structure upon any land.

Contraveners shall be guilty of an offence, and liable on conviction, to a fine of N500 or one year imprisonment. The Act is silent on contraventions or (unauthorized use of land) in the local government areas. This has serious implications for planning, in that there is a tendency for illegal structures to abound.

CHAPTER SIX

NATURE, SCOPE AND OBJECTIVE OF TOWN AND COUNTRY PLANNING

6.1 DEFINITION AND SCOPE

Town Planning is brief and concise as a title, although, it could and is indeed also referred to as Town and Country Planning, Urban and Regional Planning, and to a lesser extent, Land Use Planning. Town planning is adopted in this work because it has been generally used to cover the essential core of the subject areas. Concerned with and generally understood to include rural planning, land use planning, regional planning and even spatial planning (Collins, B.J, 1957, Kebble, L. 1968). Robert (1974) referred to what is generally termed town planning as land use planning. This particular reference might be the result of her disagreement with what she calls "Worthy sounding goals of town planning, which she asserts town planning only plays a fairly minor part even in facilitating them." The sounding goals inferred include maximizing individual happiness, opportunity and choice.

But Kebble (1968) observed that land use planning as a title to the subject area of what is currently referred to as town planning, leaves out of account the more detailed aspects of planning or town planning. Town planning as a complete process requires all aspects and ramifications of the physical development of land with the object of making a region or a community into an effective and within limits, self-contained and organized whole (Kebble, 1968). Having cited all these terminological issues, we shall attempt some definition(s) of town planning as implied in urban and regional planning, town and country planning, land use planning and/or spatial planning. Unlike the profuse definitions that attended and still attend to the intelligent and rational action of planning, town planning has few definitions because of the fairly strong consensus among scholars and planners about the subject area of modern town planning. Perhaps, the earliest of such definitions of modern town planning was that offered by B.J. Collins, a former

president of British Royal Institute of Town Planners. He defined Town Planning as the "organizing of building and land use in pursuance of an express scheme or urban and rural revolution." This definition appears inadequate and incomplete in accuracy because a plan may and indeed in some cases were prepared without there being any express scheme of evolution in existence. Lewis Keeble, a planner is generally referred to as the "doyen" of modern town planning because of his pioneering role in the production of textbooks on the principles and practice of Town and Country Planning. He defined planning as the art and science of ordering the use of land, the character and sitting of buildings and communication routes so as to secure the maximum practicable degree of economy, convenience and beauty. This definition was popular and continues to be popular. The question now becomes what made this definition perhaps the most popularly known and acceptable definition today?

The answer may reside in the complete accurateness of the definition. Let us briefly analyze the definition. First, it is an art and a science. Town planning is an art because it addresses issues of form, balance, scale, rhythm, symmetry, beauty or what may be referred to as functional aesthetics in the organization of land use. Secondly, it is also a science within the art framework because it incorporates functional efficiency in the location, relation and interrelationship between the various land uses on one hand, and between and among buildings, communication routes, social and economic activities, as well as the other forces that ultimately shape land uses in the society on the other. In this connection, it embodies the ability to comprehend market forces and measures, predict and control their effect through the application of scientific tools. Indeed, in the forecasting of land use activities, demands and changes, town planning uses scientific techniques like cost-benefit analysis, critical path analysis, planning programming and budgeting systems (PPBS), gravity models, linear programming, etc. in the evaluation of means of achieving policy and planned goals and objectives

Thirdly, town planning is concerned with the character and sitting of buildings and communication routes as to secure the maximum practicable degree of economy, convenience and beauty. This aspect of the definition underlines the many related

subject areas or fields and disciplines like landscape architecture, sociology and anthropology as well as demography, have today all contributed to the theory of town planning.

It is argued that disciplines like sociology and anthropology, economics and policy administration constitute the theoretical issues and concepts that make up the substantive theory of town planning, and to some extent, its procedural theory. It is not surprising therefore that Keeble's definition enjoys both popular appeal and contemporary relevance.

Another definition, which addresses another attribute of town planning, hitherto not mentioned by the two definitions, is the control dimension inherent in town planning activities. Mcloughlin (1969) see town planning "as an agent of foreseeing and guiding change." Town planning should not only foresee and provide for change to smoothly and effectively take place, it should also provide physical, social and economic framework for change(s) to occur. Ordinarily, change implies growth. So, town planning must provide for growth so as to sustain human growth. This is a cardinal function of town planning, particularly, traditional comprehensive planning. These definitions with their operational aspects and areas of influence underscore the need for an appropriate definition of the Scope of Town Planning. The subject areas identified by Friedmenn (1969) include the following:

- Economic expansion, full employment and efficiency of government operation.
- Social welfare and racial integration.
- Education programme and facilities.
- Housing construction, redevelopment and neighborhood conservation.
- Public transportation.
- Sanitation and public health
- Culture and recreational programmes and facilities
- Control over land uses, and
- Urban design values.

Although this was made about town planning practice in the United States of America, yet these underline the essential functions of the nature of interventions town planning activities encompass. In the context of scope, the nine (9) areas given above would apply for town planning in any developed country in Europe and America where every city has a mayor and a municipal council.

But in a developing country like Nigeria where prolonged military rule and poor cultivation of democratic values have inhibited the development of any meaningful political culture among the ruling class or elite political class, the scope of town planning is severely limited. In Nigeria, town planning (urban planning) is known only with the approval of master plans for cities, approval of plans for development, that is, approval of building plans and issuance of permits as may be appropriate, preparation of planning schemes for development control functions property as concerned with new housing estates, commercial centers or undertakings like new market development, redevelopment of central business districts (CBDs) and perhaps district planning, preservation of cultural and valued historical sites. It is only recently that town planning is beginning to see the need for intervention into environmental pollution and overall environmental management.

Therefore, town and country planning or what is known in this part of the world as urban and regional planning, involves the ordering and control of the sitting and erection of buildings, the location and redistribution of human and natural resources, and the provision of land as well as the improvement of the human environment.

In conclusion, the terminological issues of physical planning, land use planning; town planning and rural planning, as well as town/urban and country/regional planning were discussed. Also, town planning was defined as an art and science that foresees, guide and control growth in human settlement, be it in the area of transportation, housing provision and delivery, location of land uses, the provision of all ancillary facilities and services upon human settlement development. One should therefore note that the scope of town planning practice varies from one

geographical, cultural and political area to another, depending on the level of socio-economic development, technological progress, democratic and political development.

For the developed countries, town planning encompasses areas like land use planning, housing construction, redevelopment and rehabilitation to educational, health, commercial and political planning of all relevant institutions in the city metropolitan area. While in developing countries, town planning is an institutional action relating to land use preparation, development, control and administration, and to a lesser extent, environmental and health planning of residential and central business districts (CBDs).

6.2 GOALS/OBJECTIVES OF TOWN AND COUNTRY PLANNING

Town planning as practiced in Britain before 1971 was comprehensive in nature because it comprised of:

1. Rigorous analyses of data collected,
2. Formulation of goals and objectives,
3. Value identification and evaluation, all translated into qualitative terms and forms, and represented in detailed maps, sketches and drawings but with little emphasis on written reports. The Americans adopted the form of this process of traditional town planning but changed the title to comprehensive planning with minor modifications and this is what is reflected in most of their literature. This means that town planning and comprehensive planning will be used interchangeably to mean the same thing in this work.

The goals or objectives of town planning are embodied in its definitions and scope. It is revealed that the goal and objectives of town planning comprise a series of goals interrelating and interacting as a system, just like the system or nature of human societies. Goals are ends, which represent the desired conditions of both present and future conditions to the extent that objectives provide the means for the achievement of goals, to that extent, are their ends subject to existing prevailing information and human preferences. So, whether it is a goal or objective, both of them represent the ends that town planning as a process seeks to achieve. Since the planner always deal with values to discover which future conditions are

presently desired, whether goals are seen as an individual or system of ends, they have important analytic consequences in their contexts.

The spirit or rationale for modern town and country planning or what some refer to as comprehensive planning, is not too different from those identified by Foley (1960) as the ideology of the British Town Planning Profession. He identified the main tasks and functions of British Town Planning around three basic ideas. In theory, the ideology provides the spirit or rationale behind the activity (Foley, 1960). So, as a government function, town planning seeks the achievement of one or more of the following purposes (Foley, 1960):

a. To provide a good or better physical environment for the promotion of a healthy, civilized and meaningful life, and
b. To provide the physical bases for better Urban Community life through fostering of local community life and control of co-urban growth.

In a free market situation, land is allocated between the competing uses by price mechanism through the interaction of demand and supply. In such free market situation like those that prevailed during the 19th century industrial revolution period, land would be used for the purpose, which could extract the largest net return over a foreseeable period of time. But experience has shown that unfiltered market can consume resources in an ill-conceived and short-sighted way of creating almost insurmountable problems for generations to come (Ratcliffe, 1974). The very need for town planning arose out of the need to regulate the various conflicting needs and demands made upon limited land for various uses through appropriate preparation of master plans, development schemes and meaningfully-derived projects and programmes in an orderly and balanced manner. Incidentally, this is one of the important functions that Professor Altshuler identified that planners in the United States of America operationally seek to achieve, that is, the creation of a master plan to guide the deliberations of specialist planners.

The inequality, deprivation, squalor and the poor sanitary and social conditions that characterized 19th century urbanizations can be largely attributed to the

unlettered operation of the free market system in the allocation of land, where there was no agreed physical framework for the development of urban areas. In such situations, like that of the 19th century revolution periods, the private developer embarked on development at any location at will and also spontaneously as long as it meets his purpose without giving due regards to the necessary provision of social services and essential public utilities.

Town planning emerged as a necessary government function to prepare a comprehensive development plan that reflects and addresses the interest of the public. Such a development plan amongst other purposes chiefly served the government, as the basis for evaluation of development proposals for the purpose of granting approval and issuing permission or permits before actual development can begin. It is only by the existence of such a comprehensive plan that a physical environment that will promote healthy and meaningful social and economic life can be feasibly created for the citizens.

It is within such a comprehensive plan framework where individual, corporate and institutional development and programmes are regulated and engineered towards a mutually beneficial but culminated interest of the public that low, medium and high density residential neighborhoods with well organized open spaces and neighborhood centers, schools and health facilities could be provided for any meaningful well being of the urban "locale" would represent a valued geographical area with cultural, emotional and sociological investment by the residents. It is the professional duty of town planning to provide socially harmonious and balanced local residential communities in which good and safe internal accessibility is provided to serve central community facilities and facilitate movement to work, commercial and religious centres in the large city.

In conclusion, town planning in its traditional context must strive to provide a feasible framework to reconcile competing claims to limited land, provide a physical environment for the promotion of healthy and meaningful life of the citizenry, as well as provide a physical basis for the regulation of co-urban growth necessitated by the free-market price mechanism of supply and demand. The planner, whether as a government bureaucrat, career civil servant, political

technocrat and adviser, be it in the developed or developing country, functions in society to further these central but cardinal goals of town planning as may be identified to a larger or lesser extent, subsists within these purposes of traditional town planning.

Such other goals or putting it more appropriately objectives of town planning can be briefly outlined as follows:

a. To provide physical space(s) for all human activities to take place in the urban area,
b. To enhance orderly and functionally aesthetic physical environment of special areas or towns to avoid undue concentration of development and urban blight.
c. To promote the effective provision and management of infrastructural facilities, services and public utilities.
d. To provide a mix of social amenities in such a manner to promote social harmony and interaction.
e. To create a meaningful basis for the regulation and control of urban growth, as well as
f. To promote a development that is orderly, consistent, balanced and organised as a whole.

The aim of town and country planning is to establish a spatial order of land uses in both urban and rural areas for the purpose of creating a functionally efficient and aesthetically-pleasing physical environment for living, working, circulation (movement), and recreation.

Physical planning is a decision-making process that aims at achieving a specified goal in future. It involves the use of space for the improvement of human communities or settlements. In town and country planning, planners arbitrate between activities and space. The planners predict future time space needs and provides for them. He guides the development of cities, town and rural areas, as well as advising the government on sustainable ways to improve the communities or the development of new settlements.

The planner deals with physical layouts of communities, develops proposals and initiates policies designed to make life comfortable, enjoyable and profitable.

CHAPTER SEVEN

EMERGENCE OF PLANNING LEGISLATION AND CONTROL IN THE WORLD

7.1 PLANNING CONTROL

Control over layout and design of settlement has been exercised since time immemorial. The early civilizations of Tigress and Euphrates built comparatively large settlements with considerable order in their layout and organization. Similarly, the cultures of INCA and MAYA civilizations of Southern and Central America, as well as those of the Greek and Roman civilizations built towns and cities with considerable order, beauty and function. Invariably, those are areas of concern of modern town planning. Indeed, Hypodermis of Mellitus is generally given the accolade of being the first town planner with his "chequer board" or gridiron layout of Piraeus nearly 2500 years ago in Greece. The distinctive hallmark of Roman colonial expansion was the dispersion throughout their empire of standardized uniform town plans.

Perhaps, such towns were well planned because the smallest unit of such towns i.e. buildings were also planned. Early Roman cities not only have well-designed and located buildings but most importantly the buildings were characterized with well-ordered, organized and co-ordinated open spaces at residential neighborhoods, sectorial and city-wide levels. The Greeks displayed such attributes of open space architectural buildings with their condour and finesse. The individual buildings were well designed in terms of function, daylight, accessibility and convenience. Group of buildings were located to facilitate social interaction and fellowship, access to nature scenery and adequate vegetation, sunshine and breeze, as well as to maximize access to public places such as the "Agora," open spaces and worship centers; and to the earliest towns built by early civilization. Ratcliffe (1986) observed that the Egyptians expressed themselves monumentally but statistically; the Greeks created a more varied and dynamic urban style, which the Romans standardized in their functional manner. The Middle Ages achieved the unlikely

state of harmonious cacophony, the Renaissance contributed unsurpassed beauty and magnificence; the Baroque planned achievement as opposed to the ideal plan.

This tradition of monumentalism, dynamism, functionalism and idealism of town planning that permeated early cities during the medieval Victorian, Elizabethan, Gothic, and Baroque periods, crystallized into creation of modern cities with a conscience and in concept. The writings and works of Inea Jones, Christopher Wien, John Nash, Disraeli, Karl Max, Robert Owen, James Buckingham, George Cadbury, Tony Garnie, Soria Y., Mata, Le Corbusier, Harry Wright and Clarence Stein, Raymond Unwind and Lewis Munford to mention but a few, contributed to the growth and development of modern town planning. These social critics, philanthropists, architects, engineers, and politicians wrote of the need of cities with characteristic phrases like "cry with spirit and purpose," "city with human soul and purpose," "city with human scale," amongst others. Today, it is surprising that in modern town planning, their parallel also exist as demonstrated by the need for new approach, systems approach and advocacy approach.

The development of conceptual framework for planning thought as expressed by substantive and procedural theories of town planning was a recent development. The writings of Prof. Chadwick McLaughlin, Faludi, Etziowi, Davidoff, Richard Bolan, Max Weber, Foley Donald, John Friedman and others contributed significantly to focus and refocus town planning as a distinctive discipline and a profession whose skill or practice is based on theory. From historical background of engineers, architects, philanthropists, social crusaders, and the confusion and controversies that trailed its development, particularly those that concerned its actual subject matter, the concept of public interest that town planning and town planners seek to protect modern town planning, has emerged as a distinct subject is based on professional field whose practice is based on theory. Those were the issues that prompted Freidman, a foremost regional planner of his era, to assert in his reply to Prof. Altshuler (1965) on the goals of comprehensive planning that the town planning profession will need to deepen its interest in the methodology of policy and programme planning and to make room in its professional curricula for the development of specialized competences in fields where only rudimentary

instruction currently exist. But today, the development and growth of town planning theory has endowed the profession with clear definition, purpose, methodological tools and instruments, and with discipline and culture.

7.2 EMERGENCE OF PLANING LEGISLATION AND DEVELOPMENT CONTROL IN NIGERIA

The foundation of the Nigerian system of development control is traceable to the Nigerian Town and Country Planning Ordinance of 1946. The ordinance defines development in relation to any land to include "any building or rebuilding operations and any use of land or any building thereon for a purpose, which is different from the purpose for which the land or building was last being used."

However, the British Town and Country Planning Act of 1949, Section 12, subsection 2, defined "development" for planning as "the carrying out of building, engineering, mining or other operations in, on or under land, or the making of any material change in the use of buildings or other land. This comprehensive definition was then qualified so as to exclude normal building maintenance and internal alterations, highway maintenance and minor improvements; the maintenance of public utilities, activities within the cartilage of dwelling houses incidental to the enjoyment of the dwelling house such as agricultural and forestry activities, and change of use in buildings or land within the same class of use.

The subdivision of a single dwelling into two or more dwellings involves a material change in use as does the dumping of refuse or waste materials or the display of advertisements on a building. These regulations, enunciated by the British statutes became applicable in Nigeria since the Colonial era. The above definition of development is crucial in urban planning practice and it has governed the whole scope of planning practice in Nigeria since the 19th century. This scope comprises physical development operations, changes of use and changes in the intensity of use of land and buildings.

In Nigeria, development control activities have been entrenched in the country's physical planning administration in spite of the absence of any explicit provisions on development control in the 1946 Town and Country Planning Ordinance.

However, the 1992 Urban and Regional Planning Law (Decree No. 88) provided for development control in its parts 2 and 3.

7.3 TOWN PLANNING LEGISLATION USED FOR CONTROL

Prime amongst these laws is the one that currently forms the legal basis for planning in the country. The Nigerian Urban and Regional Planning Law (Decree No. 88) of 1992. This law, apart from embodying the main control measures for development, spells out the responsibilities of each tier of government in the planning and guidance of settlement growth and development in Nigeria.

Preceding this law were a number of other enactments. Earliest among these was the Town Improvement Ordinance of Lagos 1863. The law meant for Lagos only, was aimed at improving the sanitation of Lagos environment, hence, in planning circles, it is regarded as a mere public health act. In 1904, the Cantonment Proclamation was made which specified guidelines for the location of European Reservations and their segregation from native locations. Its aim was to guarantee the health of the British officials, their families and the European commercial community. This was to be ensured through provision of proper layouts, sanitation and administration of government stations. Though it was the first truly planning legislation, it lacked general applicability.

There was the Township Ordinance of 1917 and its greatest merit was its attempt to classify cities according to their capabilities to bear responsibility. Lagos was the only first-class township, while Enugu, Kaduna, Ibadan, Kano, Aba, Abeokuta and twelve others were categorized as second class. While residents administered the second-class settlements as sole administrators, district officers administered the third-class settlements along with adjacent villages as rural districts. The resident assisted by the medical officer of health, the provincial engineer, a sanitary superintendent, an education officer, a few members from the European commercial community and one or two Africans appointed by the provincial resident on behalf of the governor, were in charge of the planning of the second-class cities (Obialo, 1982). On the other hand, a Town Planning Committee based at Lagos was to co-ordinate planning activities in third class settlements. This law, all the more, emphasized the segregative planning policies earlier on started, thereby

encouraging the growth of slums in the native while ensuring quality environment for the Whites through beautiful low density development. Early in the 1920s, Governor Hughe Clifford appointed two planning committees to control and co-ordinate urban development in the northern and southern provinces, respectively. Both were based in Lagos and were to scrutinize schemes prepared by the Local Planning Authorities. Sir Thompson abolished these two planning committees in 1927. He directed that town planning be undertaken in the various departments as normal methods of government machinery without any organized setup.

In 1928, the Lagos Executive Development Board (LEDB) was set up in response to the Bubonic Plague that had been ravaging Lagos since 1924. The Board's major assignment was the demolition of about 55 acres of slum in central Lagos and the laying out of the area to be a livable environment. It was also to undertake a comprehensive land use planning and development of Lagos. Then there was the Mineral Act of 1945. The Act was specifically for the drainage of the area of the mineral operation as well as the control of pollution such mining activity may generate.

By the end of the Second World War in 1945 and the swelling of the urban centers resulting from the return of discharged African soldiers with the then taste for urban life, the need for urban planning became evident. The Town and Country Planning Ordinance Cap 155/126, was promulgated in 1946. The ordinance was a reproduction from British Town and Country Planning Act 1932. It provided for the re-planning, improvement and development of different parts of Nigeria through planning schemes and planning authorities. The Planning Authorities could acquire and develop land, as well as pay compensation and collect betterments. It was the most significant and comprehensive planning law before the 1992 Urban and Regional Planning Law.

The Nigerian federal government promulgated the Town and Country Planning Ordinance Cap 155 of 1946 but had no institutional framework for implementing it at the national level, nor did the government enunciate any physical planning policy. Though the government set up Planning Authorities at the local levels, they too had no institutional framework for its implementation at the regional level. At the local level, the planning authorities concentrated efforts on development

control, that is, framing and/or approval of planning schemes and aspects of scrutiny of building plans, neglecting other aspects or urban planning.

Some other legislation, though not purely planning laws, was used for guiding the planning and development of the cities. There was the Building Line Regulations of 1948, which sought to provide for the positioning of buildings and other obstructions with reference to roads. According to Olugun (1993), this regulation was piecemeal, incomprehensive and neglected. In 1957, the Public Health Law was promulgated, which set out to control overcrowding, diseases and urban slum.

The Land Use Act No. 6 of 1978 was promulgated to curb speculation, ease the process of land acquisition by government, unify and formulate tenurial arrangements over land and remove impediments to agricultural modernization. Although the Act entrusted all land in the urban area in the governor and empowered him to designate urban areas. It made no provision to urge or compel state governments to produce or prepare master plans or even subdivision plan in the designated urban areas, so private sponsors of development proposed not on private land. Thus the Act was a setback in planning exercise in Nigeria. Private land was sold without being laid out. Development was not supervised or controlled by Town planning Authorities. The current Urban and Regional Planning Law of 1992 has, again, referred a number of issues to the relevant sections of the Land Use Act. These include land acquisition, payment of compensation, and revocation of rights matters. These references make successful implementation of a lot of the sections of the new law very much dependent on the workability of the Land Use Act 1978.

Other laws that relate to development control include the Building bye-laws operated by the works department of Local Government Councils, Industrial Location and Dispersal Guides of the Ministry of Commerce and Industry, and Agricultural Reservation Areas of the Ministry of Agriculture.

In conclusion, it is realized that it is not only town planning legislation that forms the mechanism for development control since bye-laws, building codes, and relevant government directives, guidelines and regulations are also important tools for this exercise.

CHAPER EIGHT

THE URBAN STRUCTURE

8.1 URBAN STRUCTURE

Apart from interesting legends on the evolution of clusters of people across the globe, there are formal historical accounts, which are modestly logical. These historical accounts are often backed up with legitimate archeological evidence. In all, the fundamental idea has remained that of the quest for formidable answer to these important questions on the origin of settlements, namely:

a. How did the first clusters of people come to be?
b. How have these clusters changed over time?
c. Where were these first clusters?

It is the main aim of this chapter to give a fair generalization of the diverse literature on the origin, place of origin and pattern of the change of the earliest settlements.

8.2 EMERGENCE OF THE EARLIEST SETTLEMENTS

The early man's first and most important need was food to overcome the ever-human weakness of being hungry. For centuries, man wandered from place to place in search of wild fruits, grains and small creatures on which he relied on for food. As soon as these items of food on which early man fed, have been consumed completely in an area; he would move on to another area. In other words, the early man was at first a food gatherer. All that he needed was how best to satisfy his natural cravings. At this stage, there was no form of restriction other than the much restriction placed by nature itself. This was the Paleolithic period of man's existence. Man's progress during this period, according to Brock and Webb (1973), was slow. The then types of man known as Homo sapiens developed from the earliest evidence of manlike beings called Hominids. The mastering of speech, tools and fire, which was called the tripod of culture, must have taken a long time. Language enabled him to communicate his thoughts to his companions, to

exchange and accumulate experiences, and to unite a group in a common world of meanings and values. Not only could man learn from others, but also his reflective generalizing thought made it possible for him to improve on what he has learned, to innovate, recognize and create. In this case, he became a habitual toolmaker, deliberately preparing implements for future use. Tools supplemented bands and teeth, thus generally increasing man's ability to use his environment. The first of such tools made were wooden clubs, pointed shafts for spears, and rough-shaped stones with sharp edges for cutting, scrapping and chopping.

Man must have used fire first by capturing it from natural conflagrations, that is, volcanic activity, lightning, burning coal or gas seepages or from spontaneous combustion. Keeping the hearth fire burning was probably the task of the woman who kept close to the home base because of the need to care for helpless infants. When it came to making fire, man depended on tools.

As for the type of life led by the Paleolithic man, Brock and Webb (1973) continued that women naturally assumed the task of protecting and nurturing children. They did also forage around the campsite for roots, seeds, berries and edible leaves, as well as grubs and other easily-caught creatures. The men were the hunters who roamed over much wider areas, banding together to overpower the prey, and sharing the kill among themselves and their families. The use of fire for food preparation widened the range of edibles and caused changes in nutrition. Fire also provided light, thereby elongating the workday and extending the living space into deep caves. The Paleolithic period therefore was the era of hunting and gathering with chipped stones and tools.

As the thinking powers of man increased, domestication of plants and animals began. This apparently began independently in several parts of the tropics and subtropics. Perhaps, the initial and unintentional steps came about by protecting useful wild plants and by adopting young animals as pets.

Gradually, the manipulation of the biotic environment became more purposeful and intensive. This was the Neolithic period of man's existence. It was the period of translation from collecting to a producing economy and must have taken a long

time. Evidence of domesticated crops and animals dates from 7000BC (Brock and Webb, 1973). It seems therefore that the first grouping towards agriculture dates back several thousand years more.

The pattern of human settlements therefore must have been a gradual process that spanned over a long period of time. Basorun (2003) in his discourse on "Trends in the formation of Urban Community" identifies three basic stages in the formation of these settlements prior to the urban area formation. These stages include Band, Village and Town.

8.3 BAND

This is the first, and in fact, the starting point of community formation. It represents the original form of the local group at the lowest level of social organization. At this elementary stage, a group of persons, sometimes of the same social or economic background, combine to live together under a leader and for a common purpose. These could be migratory hunters, farmers, fishermen and nomads, whose primary objective was to carry out the same duty around a single location. For the mere fact that this group lacked organized set of habits that would enable them meet the challenges of their new environment more effectively, the community was characterized by temporary structures, created to provide tentative shelter. As activities of members became regular, the decision to settle permanently was held to enable them raise a family and put an end to wandering.

8.4 VILLAGE

The village was a transitional community that marked the beginning of a permanent settlement. It was different from the band in many respects, looking at the developmental stage at any one time. The community can best be described as a cluster of local people within a small geographical confine, sharing a feeling of togetherness, interacting in an organized context, and enjoying similar style of living with a limited range of occupation. One significant fact about the village is that people have come to accept their environment, and take over responsibility, particularly farming, for their own survival. Because of the constancy in their

practice of agriculture, therefore, there is farming skills and erection of permanent structures.

8.5 TOWN

The town is an offshoot of the village, and indeed an intermediate point of transition between the village and the city (Basorun, 2003). In other words, it is a spatial unit that is less in size than that of a city, constituted by people who are culturally conditioned through home and spatial relationship and with a sub-urban outlook.

In planning, the importance of town is not underestimated. It has remained the home of every man to which he claims a strong tie. As the basis of all human life, it produces quite a complex pattern of activities, which approximates more and more closely to that which is desired for planning purposes. It is an area of specific location, which is, in some ways, distinctive from other areas. First, it is often regarded as a quasi-political entity because it is independent on its own in part, and dependent on metropolitan jurisdiction in the other. Secondly, it is a community of relatively larger space, holding larger population that has come through a gradual development in agricultural technology, transport and communication, as well as exchange of goods among village communities.

In the discussion of the structure of existing African towns, Basorun (2003) noted that planners have been able to distinguish the traditional town from the modern town, typical of the traditional towns in Nigeria, for example, which had existed before the advent of colonial rule. Many of these towns were founded in response to security needs, while others were in response to geographical and historical factors. These communities were unplanned. At the main core is usually the location of the central market and the King's palace. In other parts, such towns are residential quarters of various sizes and shapes, all in a cluster form without reference to any road network.

The modern towns on the other hand include the new or satellite towns and those founded by the European powers during colonial rule, which were planned from

the onset with sufficient space for streets to accommodate modern vehicular traffic. In any case, wherever a town exists, different economic bases are exhibited with a mixture of different social groups and classes, which stimulate its growth.
A number of conditions, however, were necessary for a substantial pull of a threshold population for the emergence of settlements that would stand the test of time.

1. The presence of a relatively favourable physical environment that is capable of supporting plant and animal life. A typical example of such favourable physical environment is one that is characterized by all-year-round supply of water.
2. The area should be able to accommodate and support a reasonable population on a relatively little land area.
3. The environment should be able to encourage certain level of permanence of settlement in terms of food production that is, through domestication of plants and animals.

Areas that meet the conditions as outlined above, experience the emergence of a network of settlements during the early period of man's existence. These early settlements had a number of peculiar characteristics that hinged on some forms of common culture, which helped them grow in unison. For example, religion lay at the centre of people's lives. Every human activity-political, military, social, legal, and literary, etc. are generally subordinated to an overriding religious purpose. Religion therefore, was the frame of reference for understanding nature as it dominated and inspired all other human activities. More importantly, there existed some form of social structure in which the elders had responsibility of coordinating the distribution of the outcome of production activities, as well as ensuring morality and social justice.

8.6 EMERGENCE OF THE FIRST CITIES

The transition of the earliest settlement from what one can refer to as "Crude Clusters," to the early cities, was an act of human creativity. This human creativity over time revolutionalized human life. This human activity manifested first in agriculture and domestication of animals.

Farmers lived near their farms and were able to store food for the future. The development of plow and ox made tilling the soil easier for them. Hunters polished their implements, as against the use of whatever nature had provided by the Paleolithic man. In fact, Neolithic man made giant strides in many desirable achievements in such a manner that could be termed the Neolithic revolution. By shaping and baking clay, for instance, they made pottery containers for cooking and for storage of food and water. The invention of the potter's wheel enabled them to form bowls and plates more quickly and precisely.

The Neolithic period also marked the beginning of the use of metals (Perry *et al.*, 1989). According to them, first to be used was copper, which was easily fashioned into tools and weapons. Implements made from copper, lasted longer than those made of stone and flint, and they could be recast and reshaped if broken.

With all the achievements during the Neolithic era, the pattern of life of the earliest bands, villages and towns changed. More importantly, the invention of the wheeled cart and sailing boat during the period improved transportation. Food supply was modestly reliable. This freed some people from farming to other activities as tools making and weaving of all kinds. Demand for raw materials and the establishment of transportation modes fostered trade. The trade activities led to the formation of trading settlements and subsequently into cities and/or urban areas.

In conclusion, there was growing realization of the need to pay more attention to these emerging trends of settlement especially as it bordered on the spatial implication of the urban economy. Its study helps us to appreciate the pattern of changes in the status of these settlements. The trends in the formation of urban communities, as we have them today, began with men in the Neolithic era. It is evident that each of the stages identified in order of precedence, has its own peculiar characteristics, which changes through the transition period. Unless we have adequate knowledge for classifying these communities, we will not be able to understand the differences in their structural systems, which is strategic to planning. The manner in which a planner undertakes his planning depends

decisively on the size of the community, the people concerned, their attitudes and the anticipated reactions to the approaches adopted in planning for them.

8.7 AREAS OF FIRST SETTLEMENT/CIVILIZATIONS

A good number of scholars have argued whether there had been a central settlement from where the earliest settlements subsequently dispersed to the other areas, or whether these settlements have their independent origins. However, there has not been a consensus agreement on the diverse arguments. This lack of agreement is due to the fact that the origin and dispersal of urban institutions are not precisely known and much of what is derived from speculations, conjectures and extrapolations (Onokerhoraye & Omuta, 1994).

According to Onokerhoraye,(1994), two points of view exist with respect to initial cities in the history of mankind. The first view is that the fertile crescent of Mesopotamia was where city formation took off and diffused to such areas as the Nile Valley, the Indus Valley, the Hwango Ho Valley and Meso-America. Some specific traits were observed to be common to these areas. Such traits include a number of deities, an exalted ruler and a central authority; great temples, divisions of castes and division of labour, as well as the beginning of writing of calendar. This view maintained that these traits could not have been developed independently among these areas since they were too specific to them. Any difference in the trait might have resulted from particular modifications to suit each area to which they were diffused. The second view argues that cities originated independently in different regions without external influence. The reason for arguing along this line is low level of communication and transportation that existed during the period of cities' formation. That is to say that migration between them and among these areas could not have been possible.

The two views as to the areas of the first settlements are germane to efforts made at grasping what have transpired in the past even though no conclusion has been reached in the opinion of many historians, however, the origin of first settlements ould be traced to Mesopotamia.

In those days, demographic developments across space forced people to civilization. Some centuries after the Neolithic period, certain centres of civilization appeared on earth. The invention of writing techniques helped to bring about and enlarge these early civilizations.

This was by helping to preserve, organize and expand knowledge. It also led to organized government that issued laws and defined area boundaries. Trade, construction and the use of specialized labour were on a scale much larger than what obtained during the Neolithic period. Religion, as discussed earlier was the central force underlying these elementary civilizations. It provided among other things satisfying explanations to the operations of nature.

As for the areas of first civilizations, there is a significant relationship between these areas and those of the first settlements. According to Perry *et al.*(1998), what we call civilization arose 5,000 years ago in the near East (in Mesopotamia and Egypt) and later in the far east (in India and China). These areas were believed to be larger, more populated and more complex in their political, economic and social structure than other Neolithic communities. By 3,000BC, Egypt and Chaldea were in the forefront of civilization. These areas were of strong relevance to the Biblical people. Chaldea, the land from which Abraham, the father of Israelite, would come centuries later, preferred irrigation, constructed houses with baked clay walls, invented writing system, had laws and centralized administration. Egypt has also progressed during this period. They constructed magnificent temples for their gods and built the pyramids for the tombs of their Pharaohs. Similarly, in China and India, approximately 20 centuries BC and in Central America, 10 centuries BC, other civilizations were born (Harault and Grogan, 1994).

8.8 URBAN LAND USE STRUCTURE

The term "internal structure" of cities refers to the location, arrangement and interrelationship between social and physical elements in the city. Thus, the focus of this part of this chapter of the book is on the nature of spatial distributions and the interaction between these distributions.

One major issue involved in the study of the internal structure of urban areas is the delimitation of the limits of the city. This, as in the case with defining urban areas, is a major problem. The delimitation of the limit of an urban is dependent on how urban areas are defined. In an environment in which urban areas are defined on legal or administrative basis, the limits of the city will reflect the specifications outlined in the law defining urban areas. However, one common method suggested in the literature especially in situations in which there is no legal or administrative definition of urban areas, relates to the idea that the distinctive feature of an urban area is its higher population density than elsewhere (Mills, 1972). This suggests that the density gradient might be used as a method of delimiting cities. Boundary may be drawn where the height of the gradient approximates to rule densities (Richardson, 1973). Although this approach is useful from the conceptual point of view, it has serious practical limitations. First, in some densely populated urbanized regions, there may be no true measure of rural density, though the extent of urbanization is unlikely to be so continuous as to justify the designation of the whole region as one urban area. Secondly, the urban areas defined in population density terms will not conform to the urban area definition that forms the data base.

Despite these drawbacks, urban population densities are a useful measure of rural/urban dichotomy. One major outcome of the problems involved in delimiting the limit of the city is the existence of a zone of interaction between urban and rural life, known as rural-urban fringe. This is discussed in the next section of this chapter.

8.9 RURAL-URBAN FRINGE

The concept of the urban fringe was first used by T.L. Smith (1937:293) in connection with Louisiana. In that original presentation, the urban fringe was defined as "the built-up area outside the corporate limits of the city". As currently being used, the rural-urban fringe applies to the zone on the outer boarder of the city between the areas of complete urban and complete rural land uses. It is an intermediate zone that shares the characteristics of both (Dickinson, 1964). This

zone is variously called the metropolitan fringe (Needham, 1977) and the rural-urban fringe (Andrews, 1942).

The rural-urban fringe is the product of the process of invasion. Structurally, it is a zone of heterogeneity, although as Pryor (1976) has argued, the characteristics of the fringe need not necessarily be intermediate or a continuum between rural and urban. However, distinctive location and interval heterogeneity and transition to make possible a unitary, if not uniform definition. The land uses at the rural-urban fringe may be represented as in figure 1, which combines the concept of urban invasion with the heterogeneity structure typical of the fringe (Pryor, 1976). As schematically shown, the rural-urban fringe may indeed be seen as a composite of an urban and a rural fringe.

Rural-Urban fringe

X-Urban-fringe Rural-Fringe Y

Percentage Distance urban to Rural Land

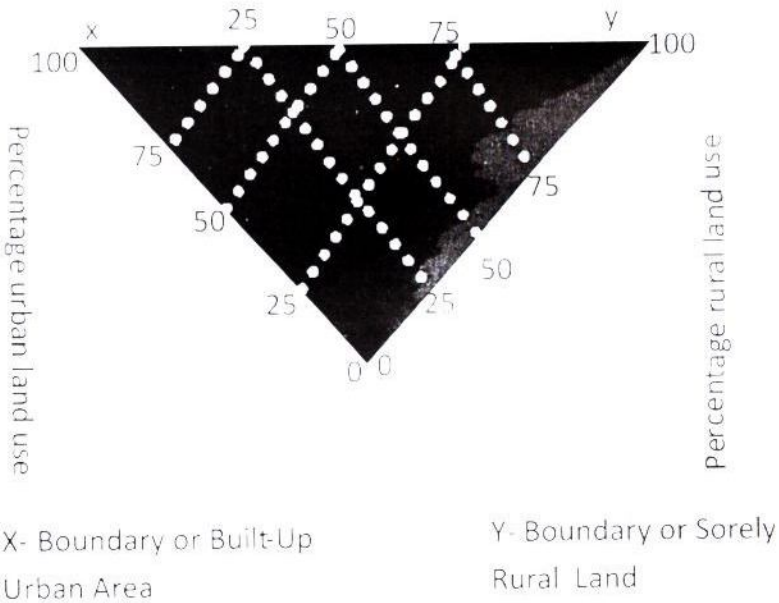

Fig.8.1: Schematic diagram of land-use in the rural-urban fringe

A definition that embraces the processes and structural properties of the rural-urban fringe has been suggested for testing by Pryor (1976). Accordingly, the rural-urban fringe may be defined operationally as the zone of transition in land use as well as social and demographic characteristics, which lies between the continuously built-up urban and built-up sub-urban areas of the central city, on the one hand, and the rural hinterland, on the other hand. It is characterized by the almost complete absence of non- farm dwellings, occupations and land use, and urban and rural social orientation. It is characterized by an incomplete range and penetration of urban utility services, uncoordinated zoning or planning regulations and extension beyond, although continuous with the political boundary of the central city. It is also characterized by a current population density that is above that of surrounding purely rural districts, but lower than that of the central city. These characteristics will often differ both zonally and sectorally, and will also be modified through time (Pryor, 1972: P. 62).

Thus, the rural-urban fringe is the product of the very process of city growth. As Carter (1981) and Murphy (1966) have argued, the city does not grow outwards in well-defined, advancing rings of rapidly completed development. Rather, it extends haphazardly, making rapid advances at one point, and hardly moving at all at another. This process occasions the incoherent and interpenetrating transient land use patterns, characteristics of the rural-urban fringe. This is why Wissink (1962) calls such zones, areas of great differentiation.

The rural-urban fringe is an environment because it attracts various and sometimes incompatible land uses which though necessary for, and indeed, generated by the urban centre, would be less desirable within the built-up area (Bastie, 1964 and Johnson, 1969).

A number of factors account for the environmental problems of the rural-urban fringe. These include the concept of the fringe as a geographic no man's land (Golledge, 1960). The heterogeneity and instability of the zone create a feeling of apathy and a sense of alienation in people and activities (Omuta, 1985). These, in turn result in a loss of responsible relationship between and among people and

activities on the one hand, and between them and the environment on the other. As Dickinson (1964) has concluded, the complexity of the urban fringe impedes the development of communal living and community consciousness since the rural-urban fringe is a no-man's business.

A related factor of environmental neglect in the rural-urban fringe is its conception as an institutional desert (Wehrwin, 1942). The bulk of the land in the zone is idle. The land is also not under rigorous development controls because it is, for the most part, extraterritorial and unincorporated as it is outside the declared planning area of the central city. Consequently, there is an uncontrolled location of unpleasant and noxious establishments (Carter 1981). These are invariably those activities that are excluded from the city by institutional and legal factors, such as zoning ordinances, and must be dumped onto its outskirts.

Some of the obnoxious industries, establishments and land uses inadequately imposed on the urban fringe by institutional factors include wholesale and storage depots, junk yards, cemeteries, airports, refuse dumps, sanitary landfills, quarries and slaughter houses. In their operations, these activities assault the unprotected environment, causing many disamenities at the fringe, either through the generation and/or inadequate disposal of solid waste products; through the generation of noise, smoke, dust or odour; through the dereliction of agricultural lands; through direct disfiguration or through some combination of the above. In the final analysis, because the fringe is an institutional desert, it has become a haven for storing pollutants and degraders of the environment.

A third factor in the environmental problems of rural-urban fringe is land speculation. Indeed, the idleness of much of the land in the zone is the direct result of speculation. Speculation generally results in the subdivision of fringe lands in excess of effective use (Frey, 1964), and far in advance of its absorption for urban use (Fellman, 1957).

The large tracts of idle land in the speculative zones on the urban fringe often constitute a direct invitation and a real temptation to environment-population

activities. This factor is enhanced by the simultaneous and dual conception of the zone as a free zone to which no one is committed and in which most regulatory strategies are inapplicable. Under such conditions, parcels of land, which lie unused, are converted into spots of environmental despoliation. Speculative idle fringe lands are poorly managed and haphazardly developed also because of the constant threat of eviction. In Dickson's (1964) view, this explains the frequent spectacle of derelict land on the boarder of our cities.

Another fact of the developmental and environmental problems of the rural-urban fringe is the lack of an adequate urban foundation. By urban foundation, we mean the collection of all those amenities, facilities and infrastructures, which together provide for proper development. Urban foundation is made up of the advance provision of water, light, drainage and sewage, as well as good network of roads. For instance, the provision of water, within easy access of developers and residents in the urban fringe, makes possible the installation of flush toilets. The amenity along could eliminate the need for pit and bucket latrines, as well as the need to dispose human waste in open, undeveloped spaces or even partially developed property as has been found to be true of the urban-rural fringe of Benin City (Omuta, 1985).

In the final analysis, the solution to the problems of the rural-urban fringe, especially in developing countries, must start with a redefinition of the city for planning purposes. The city must be defined and delineated so as to transcend the city proper, and to include all the areas identified as the fringe. Such a definition or redefinition could change the status and prospects of the urban fringe. For instance, since it will therefore become one and the same with the city proper, the rural-urban fringe will no longer be a geographic no-man's land neither will it be an institutional desert. By such a change of status, development controls that used to be applicable only to the incorporated city, or city proper, will henceforth be applicable to the urban fringe as well. The zone will cease to be a haven for obnoxious activities. Similarly, the urban fringe will have prima facie qualified amenities, facilities and services, the lack of which has occasioned environmental

dereliction. It must however, be added that the planning area of the city must regularly be redefined as the rural-urban fringe recedes and the undeveloped areas are invaded and colonized.

8.10 URBAN LAND USE TYPES

The major problem with urban land use is its classification. The problem of classification arises because of the flexibility of the elements that may be considered. Among these elements are whether the land uses should relate to the central city, or should include the rural-urban fringe, or should relate to a neighbourhood, and so on. Another dimension of the problem of classification relates to the objectives of the exercise. Are these the delineation of broad land use or identification of the specific uses into which individual parcels are put? Finally, the decision must be made as to the use of measurement to adopt. According to Northern (1979), the most basic unit of measurement of urban land use is the land parcel. For this purpose, a land parcel is defined as a unit of real property under a single ownership or control, surveyed and plotted as a separate unit of real estate (Northern, 1979).

In spite of the many problems associated with it, classification is still regarded as vital to the study of urban land use. It is possible to deal with the large number of land uses in the city without some grouping of similar uses. Although, it has been rather widely argued that there are no universal schemes for urban land use classification (Northern, 1979, Weiss, 1968 & Chapin, 1972), the groupings of class of land uses should not be arbitrary. They should have some basis for their aggregation and should also have some measures of extended applicability. A classification is not much of use if it is suited to only a single city. Indeed, if each city develops its own system of and use classification, it would be virtually impossible to compare one city with another or others. This is, however, not to say that there would ever be a single system of classification that would suit all needs and all cities. The overall objective of urban land use classification therefore, is to design a basic structure that should be applicable to many, if not most cities (Northern, 1979).

One of the earliest attempts to formalize land use classification in the United States was made by Bartholomew (1955). The major defect of Bartholomew's scheme was that by making the distinction between "privately" and "publicly" developed areas; it strayed from the matter of land use per se to the matter of land ownership and the form of development. This greatly confused the classification of such land uses as primary schools. The use to which the land on which a school is built is put as education, regardless of whether the school is public or private. The scheme is further complicated by the identification of semi-public areas, such as cemeteries and fraternal organizations.

More recently, the American Institute of Planners (AIP, 1960), attempted to improve on the Bartholomew's scheme. Rather than emphasize ownership and form of development, the AIP scheme emphasizes the characteristics of land use. Among the functional scheme are the type of activity, the product of activity and facilities of the activity. Others are the intensity of the land use, the nuisance character of the land use, traffic characteristics, economic characteristics, structural characteristics and so on. This may be represented as in figure 2.

Thus for instance, transportation can be identified as a land use based on the criterion of "type of activity." However, transportation land-use can be further broken down into "vehicular,"

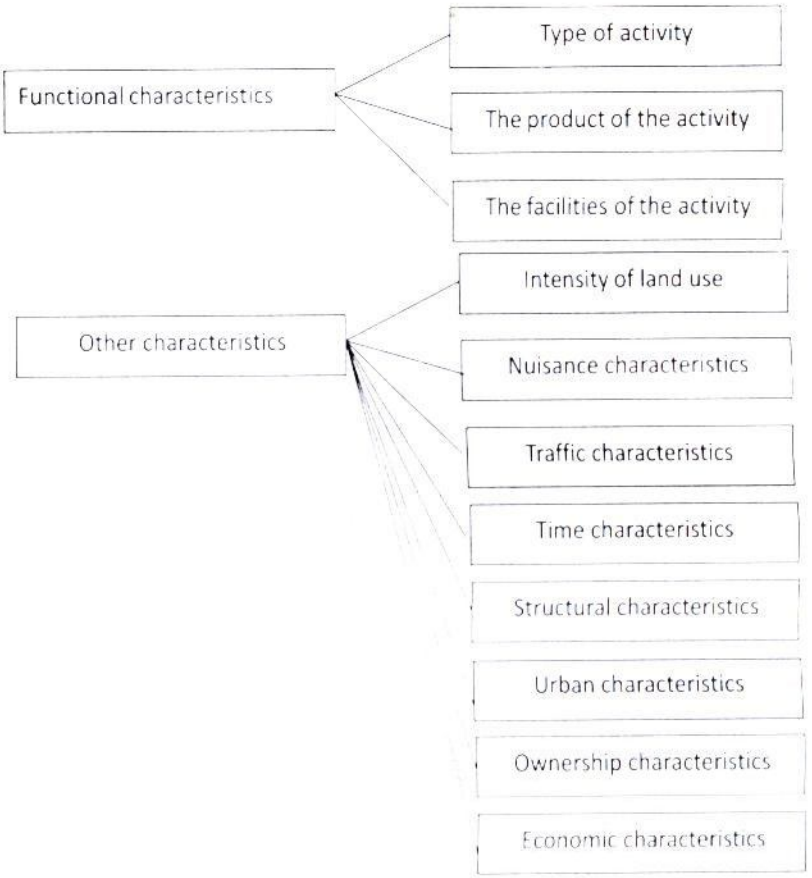

Fig. 8.2 Structure of a land use classification system based on land use characteristics (after AIP Southeast chapter)

and "non-vehicular" based on the criterion of "traffic characteristics." Finally, "vehicular transportation" land use can be further divided into "routes" and "terminals" based on the criterion of "the facilities of the activities." The important thing is that all these land use designations are based primarily on the land use characteristics of a specific land parcel.

The flexibility in land use classification and coding can be illustrated by comparing the scheme recommended by the Southeast chapter of the American Institute of Planers (1962) and the scheme recommended by the US Renewed Administration and Bureau of Public Roads, in its Standard Land Use Coding (1965).

The actual content of a land use classification will be determined by the requirement of the specific study. Thus, if with respect to residential land use, beyond indicating the type of use, it was considered necessary to also indicate the "intensity" of the use, then the various types may be further divided into low, medium and high density development. Similarly, in developing countries with some of their rather peculiar organizations, beyond the separation of trade activities into retail and wholesale and so on, there is the need to identify, codify and classify traditional markets, as well as scattered developments (Ikhuoria, 1983).

However, as Northern (1979) has argued, no matter how refined and systematized the land use classification, there will always be situation that cannot be accounted for. For instance, land uses that are ancillary to the major use of a land parcel are troublesome to classify. An example is an outdoor storage facility, which is associated with a major use of the land parcel, such as a large industry, or a parking area associated with a large commercial establishment.

CHAPTER NINE

THEORIES OF URBAN STRUCTURE

9.1 URBAN THEORY

Analysis of urban land use structure has attracted the attention of researchers in different parts of the world for a long time. One outcome of the various studies conducted on the nature of urban land use structure has been the emergence of models based on the internal structure of cities, particularly Chicago. Three descriptive and classical theories- the concentric zone, sector and multiple nuclei, have been suggested in explanation of actual land-use patterns. All the above theories emanated from a common source as compiled in a study captioned "URBAN RESEARCH" undertaken by the university of Chicago Illinois. Development and incorporation theory was developed by J.U. Ogbuefi in 1988.

9.2 BURGESS' CONCENTRIC ZONE THEORY

This theory emerged from a study of Chicago by Burgess (1925) and was essentially in application to urban land use of Von Thune's earlier theory relating to rural land around a city. The theory suggest that the pattern of growth in the city can best be understood in terms of five concentric zones and a sixth lying beyond the immediate confines of the urban area. The six concentric zones are (Yeates and Garner 1971:244):

1. **The Central Business District (CBD)**, which is considered to be the focus of commercial, social and civil life, and of transportation. This area contains the department stores, smart shops, huge office buildings, clubs, banks, hotels, theatres, museums and so on, which are of importance to the whole urban area.

2. **The Fringe of the CBT**: This second zone surrounds the CBD and is an area of wholesaling, truck and railroad depots.

3. **The Zone in Transition**: This is a zone of residential deterioration that used to be quite wealthy but as the city expanded and immigration occurred from rural areas and from overseas, this area became filled with low income families and individuals. As a consequence, it contains the slums and rooming houses that are so common on the peripheral areas of the CBD. Business and light manufacturing encroach into this area because of the intensive demand for services and supply of cheap labour.

4. **The Zone of Independent workingman's Homes:** This zone consists primarily of industrial workers, who have escaped from the zone of transition. It might be regarded, therefore, as an area of second generation immigrants and families who have had enough time to accumulate wealth to be able to purchase their own homes.

5. **High-class Residences**: This is a zone of better residence containing single-family dwellings and exclusive restricted districts. There are few high income apartment buildings.

6. **Commuters' Zone:** This is the outmost zone containing a broad communizing area. These are the sub-urban areas containing satellite cities and middle and upper class residencies along rail or rapid transit.

Ogbuefi in his study stated that in most urban areas in west Africa none of the above land use patterns apply in its entirety instead he posited a pattern called "Development and incorporation pattern of urban land use" for most of the urban areas in west Africa. In this pattern you find a low density area like the Government Reservation Area (GRA) in Enugu Closer to the CBD than the high density area.

In recent studies Kelvin Lynch suggested the following type of urban growth pattern:

(a) Dispersed sheet
(b) Galaxy of Settlement
(c) Urban Star

(a) DISPERSED SHEET:- This assumes that there may be much spreading out of urban activities in other words, the old centre and most sub-urban centers could dissolve allowing city wide activities to disperse throughout the region with a fine grain. In other words factories offices, schools, hospitals etc would appear everywhere in sub-urban landscape in such a way that you in sub-urban landscape cannot pin-point where the city centre is.

(b). GALAXY OF SETTLEMENT:- Here growth would not be dispersed evenly over a wide area as in the case of "dispersed sheet" at the centre but will be bunched in a relatively small area each with a high density at the centre and low density or non density at the periphery. By contrast "core city" will park all urban activities in a small space with high density area. Here part of the city might become "solid" with a continuous occupation of space in three (3) dimension and cubical grid of transportation

(c) URBAN STAR:- This would retain the dominant core of the city but centre with open spaces between such settled area.

Many of the principles used by Burgess were derived from the work in plant technology being conducted at the University of Chicago at that time. The analogies made with these processes include invasion of natural areas by competing groups; competition between the invaders and invaded dominance of the area by the invaders causing their succession to the area. When applied to relationship between groups of people and areas in cities, these were called urban ecological process.

The main process operating in Business theory was the tendency for the people living in an inner zone to invade and eventually succeed to the next outer zone. The energy to maintain this dynamic system was the continuing growth of the city's population by means of immigration to the centre (Bradford and Kent, 1978:7). Two other factors operated to induce rapid changes in urban land use according to this theory. The first is the big growth, which took place in service employment in the 1920s in American cities. Although, this made it possible to build steel-framed skyscrapers, there had been strong outward pressure from the central business

districts to expand the advancement zone of mixed land use. Secondly, the car, bus, and train way were providing mobility on a scale which now made it possible not only for the rich to live in the outer suburbs, but for the poorer sections of the population to attain to the inner ones.

9.3 HOYT'S SECTOR THEORY

Hoyt's sector theory is another well-known model of urban structure. The theory is essentially complementary to that of Burgess rather than mutually exclusive. Burgess and Hoyt approached their study of the city from different viewpoints. For Burgess, the sociologist, the city was a laboratory for observing social behavior, whereas Hoyt's, an economist, was concerned with discovering how the housing market operated in order to advice the American government on mortgage policy (Scargill, 1979:41). Although Hoyt is primarily concerned with the movement in high-rent neighbourhoods, it has implications for other types of housing as well. Using rental value as a surrogate of housing quality, Hoyt demonstrated how residential land uses tended to be arranged in sectoral fashion, radiating outwards from the city centre along transport routes. Among the most important conclusions which Hoyt outlines are:

1. The highest rental area is located in one side of the city. Generally, these high-rent areas are in peripheral locations; though there are instances when a high-rent sector extends continuously out from the centre of the city.
2. High-rent areas often take the form of wedges, extending in certain sectors along radial lines leading outward from the centre to the periphery of the city.
3. Middle-range rental areas tend to be located either side of the highest rental areas.
4. There are some cities in which large areas of middle-range rental units tend to be found on the periphery of low-rent residential areas as well as high-rent areas.
5. All cities have low-rent areas, and these are frequently found opposite to the location of the high-rent areas, and usually in the more central locations.

Hoyt criticized the concentric circle of city structure proposed by Burgess for implying that there is a progression from run-down property occupied by the poor near the city centre to expensive new housing for the wealthy on the fringe. Thus, Hoyt arranges the rent areas of 30 American cities in an ideal pattern of concentric circles in order to show that the greatest variation is not between concentric circles but between sectors. Hoyt argued that sectoral lines of travel especially along routes of fastest transport for case of movement into the Central Business District (CBD) to waterfronts not used by industry and to high ground, open country and the houses of community leaders. He observed that high and low rental areas repelled one another.

9.4 HARRIS AND ULLMAN'S MULTIPLE-NUCLEI THEORY

On the basis of the shortcomings of the concentric zone theory and the sector theory, Harris and Ullman suggested that the city has developed a number of areas that group around separate nuclei. The emergence of these separate nuclei is a response to four major factors:

1. Certain activities require specialized facilities, for example, a poor district needs a suitable waterfront.
2. Similar functions group together because they profit from juxtaposition, for example, office districts.
3. Certain unlike activities are detrimental to each other, for example, heavy industry and high-class residential development, repel one another as suggested by Hoyt.
4. Certain activities cannot afford the high rents of the most desirable sites, for example, a modern one-storey factory cannot afford the high rents that office functions are prepared to pay for certain sites.

The theory articulates that as a city grows, it absorbs existing nuclei and others are created to increase the number of nuclei usually involving greater specializations.

9.5 POPULATION DENSITY GRADIENTS

Another very simple descriptive model of city structure has been constructed from observations of the population densities of many cities. One of the most

stimulating attempts at postulating a general mathematical statement concerning the distribution of population densities within urban areas has been presented by Collin Clark (1951). On the basis of data, which he collected from many urban centers throughout the world, he concluded that urban population densities decrease in a negative exponential fashion (that is decrease at a decreasing rate) with distances from the CDB. The formation of this model is presented in equation form as follows:

$D_x = D_o e^{-b x}$

Where D_x is the population at distance x from the city centre

D_o is the interpolated (estimated) population density at the city centre

$-b$ is a parameter indicating the rate of decrease of population with distance, i.e. the slope of the curve

x is the variable distance

e is the base of the natural logarithms.

Generally therefore, the model indicates that population densities decrease rapidly at first with distance from the CDB and then tend to flatten out.

Another feature of the data presented by Clark relates to the fact that densities not only decline with distances from the city centre but that the lines are generally steeper in the earlier period of urban development than in the later period, apparently as a result of improved transport facilities. Newling (1966) regards this as one of the most interesting features of Clark's data, and after examining information from other urban areas, he concluded that the population density gradient decreases through time in a constant, systematic fashion. In fact, he suggests that the mathematical form of this relationship is the same as that suggested by Clark relating population densities to distance from the centre of the city.

Explanations of the negative exponential decline of density with distance and time usually involve a balance of two desires, one for access to the city centre for

employment, the other for abundance of living space. Those who can afford to pay commuting costs can therefore live on large areas of land (that is lower densities) on the periphery of the city. A change in density curve over time depicts the growth of cities. The area of maximum density moves outwards from the city centre as the commercial core expands and redevelopment of old central housing occurs. This leaves a density crater in the city centre, which the model does predict. The peak density also typically declines as it moves outwards while densities rise on the periphery as the city population increases. This model describes only the night-time distribution of population and like Burgess and Hoyt, assumes a single centre of employment. Most modern cities now have more complex patterns of population density around nuclei of employment similar to those suggested by Harris and Ullman (Bradford and Kent, 1979:79).

9.6 LAND VALUE THEORY:

A further model of urban structure involves land values. The earliest variant of this theory is Alonso's theory of land rent (Alonso, 1960, 1964). His general model follows Von Thunen's model of agricultural land use to the spatial structure of the city. In the urban case, he develops an abstract model applicable to both firms and individual households as consumers of space (Ley, 1983:33). The theory assumes that the centre of the city is a highly desirable location, that land here is in short supply, and that users of urban land will make competitive bids for a site here. The user willing to pay most will be the one who will obtain the greatest returns from the site. Since the central parts of cities command high prize, it is occupied by high order retail functions like department stores, which need to be central to their market, and offices, which need to be easily accessible from the labour pool. The market and labour pool are most accessible from the centre because public-private transport systems are focused here. Industrial and residential uses place less value on centrality. Just as in Von Thunen's initial model, rings emerge that are characterized by certain land uses.

Thus, the concentric zone model of Burgess derives support from the theory of urban land rent as outlined above. The model shows the basic patterns of commercial and residential land use suggested by Burgess. It also helps to explain

the population density model. Those who can afford commuting cost can buy a larger area of land on the periphery.

9.7 APPRAISAL OF THEORIES' OF URBAN STRUCTURE

The concentric zone, multiple nuclei and sectoral theories of urban land use, as well as the land value and population density models, have been subjected to much empirical analysis in the literature. Consequently, a number of criticisms have been put forward against these theories. Some of these are outlined below: simultaneously.

i. Burgess has been criticized for ignoring the effects of topography and a geographic inertia; although he shows that he is not unaware of the unique elements of a city structure such as the complications introduced by the lake front, railroad lines and historical factors.

ii. Burgess has also been criticized for assuring equal access to the city centre from all directions. This criticism is significant because under normal conditions of route way radiating from the centre, the accessibility in terms of time or cost extends outwards along these routes.

i. Burgess was further criticized for implying that there is a progression from run-down property occupied by the poor near the city centre to expensive new housings for the wealthy on the fringe. Although it is usual for housing to filter down the social scale as people move further out, there are areas of old housing maintained in good repair by the wealthy close to the city centre as there are lower income group living in new housing of the fringe. Some central high-class areas have persisted through time, neither being invaded nor filtered down. Beacon Hill in Boston is an often quoted example. The prestige of living in the area continues to attract high-class people; although eventually invasion or downward filtering usually takes place.

ii. Burgess' and Hoyt's processes are typical of growing western cities. Such processes, especially invasion, are not so prevalent in cities with static or declining populations.

iii. With respect to the land value theory, it has been criticized because many modern cities have lost some of the accessibility they formally possessed as a result of traffic congestion, as well as restriction on vehicular access and parking.

iv. Accessibility to the urban resident is not limited to journey to work but also access to schools, shops and neighborhood facilities such as parks, recreation centers and places of worship. For many people, the physical and social characteristics of neighborhoods influence their choice of residential areas more than accessibility to work place.

v. The concentric land use value model assumes competition for central sites, but changes in the nature of manufacturing or retailing make sub-urban or urban fringe locations more congested urban centres. Such decentralization, with its further implications for the other forms of accessibility considered above, distorts still further the theoretical smooth curve of land values.

CHAPTER TEN

AN ASSESSMENT OF NIGERIA'S URBAN LAND-USE PLANNING STRATEGY

10.1 URBAN LAND USE PLANNING

There is no doubt that the urban land use planning strategy of Nigeria during the last six decades has contributed remarkably to the current pattern of urban land use in Nigerian cities. However, the negative impacts of the land use planning experience in Nigeria's urban areas appear to outweigh the positive impacts.

One of Nigeria's major experiences in urban land use planning relates to the emphasis on the physical component to the neglect of the socio-economic and political components. Urban centers in all parts of the world are important socio-cultural and economic centers. Consequently, urban development planning must strive to integrate the non-physical aspects into the urban planning function so that a comprehensive view of the urban area and its problems can be achieved. In Nigeria, the implication of the lack of a comprehensive policy and strategy on urban development has been the emergence of uncoordinated urban planning programmes, most of which are internally conflicting with stated objectives. As at now, a national urban policy which should guide urban development planning in all parts of the country is just nascent.

There are also limitations associated with the existing planning law in the country and these have imposed constraints on the effectiveness of the law. As has been noted earlier, the Town and Country Planning Act of Nigeria, is an adaptation of the British Law of 1932 and has been for all practical purposes, left unchanged till today. In Britain, the law has undergone profound changes in order to adapt it to changing requirements. Furthermore, one may question whether it is reasonable to transfer legal concepts that have been devised in a highly industrialized society to a developing country, with entirely different problems and potentials, without

substantial modifications. In order to demonstrate some of the limitations of the existing law, some of its problem areas may be noted.

The Town and Country Planning Act mentioned only schemes. It does not make mention of either a master plan or a development programme for a new town. There is no exact definition of the meaning of a scheme; there is no hierarchy of schemes, there is no provision for minimum requirements for such planning scheme and widely different plans could legally be declared as planning schemes.

The purpose of a planning scheme as defined in Section 3 of the Act is based on a rather narrow concept of planning. The main purpose is the control of development of the resources of the area. This concern is understandable in the context of the British Act of 1930s, but in the meantime, the role of the government in development has changed. In a developing country like Nigeria, the state plays a very active role in development. The definition of land use of various types is left to the planning authority. There are no standards in the planning law or in the bye-laws. Even if a planning scheme designates an area for a specific use, the planning authority does not have to approve the use of a plot in this manner if it considers the proposed development undesirable. This discretion gives the planning authority far-reaching powers over the use of land and provides it with flexibility for carrying out a planning scheme. This may be positive as long as there is commonly understood standard, even if only formal, and as long as the planning authority has enough experienced staff to make a thorough investigation of every case. On the other hand, since the way a certain plot can be used involves financial gains or losses, such discretion may lead to political pressure on officials who have to decide the type and intensity of use of land.

The law permits persons affected by a planning scheme to raise objections and to demand a change in the scheme. Since planning scheme affect the lives of many people and have long-lasting impact on the environs, there should be some way of securing citizens' participation in preparation and implementations of the planning scheme. Despite the fact that the law provides the legal basis for

development in built-up areas, in practice, it does not have the legal instruments necessary for the redevelopment of inner-city areas or for slum clearance.

Another problem associated with land use planning strategy in Nigerian cities relates to the implementation procedures involved in land use control. Owing to the fact that many Nigerian towns and cities do not have master plans until recently, when a few had such plans, the development of many cities has been sporadic and unplanned for. Zoning has not been predetermined but rather, based on the dominant type of development that has already taken place in a given area. The existing land-use patterns were not planned. In fact, the planning authorities tended to adopt and follow the pattern of land use development that had grown up spontaneously within the city. The process of zoning in the plan approval process illustrates this lack of master planning in many Nigerian cities. When a building is presented to the planning authority for approval, among other things, the authority undertakes site inspection. If, for example, the building height deviates significantly from the dominant development in that area, it is rejected on the grounds of incompatibility. This suggest that it is not the planning authority that determines the zoning but the previous sporadic development. Even then, these inadequate land-use controls are strictly restricted to the formal city limits. Thus, areas, which fall outside the city proper, are left out of any land-use control.

Even in those cities where master plans have been proposed, land use has not been effectively put under control. This is due to the fact that the link between the foreign experts who design the plans and the local policy makers who execute them are weak. Once the plans are designed, these experts return to their countries and the planning process loses the dynamic touch that should be reflected in feedbacks and interactions between policy, design and execution of plans. Besides, master plans are by nature too rigid and in a period of urbanization, such rigid plans do not appear to be particularly useful. As soon as they are prepared, they are out of context because of the rapid growth of the cities.

One factor, which has confronted land use planning in Nigerian cities, is the pattern of land ownership. The system, which is a reflection of the customary land