ASSESMENT OF THE ADEQUACY OF INFRASTRUCTURAL FACILITIES PROVISION IN THE ABUJA MUNICIPAL AREA COUNCIL HOUSING ESTATE

BY

AMOS BULUS
PGD GEO 2001/2002/237

DEPARTMENT OF GEOGRAPHY
FEDERAL UNIVERSITY OF TECHNOLOGY.
MINNA, NIGER STATE

JULY 2003.

CERTIFICATION

This thesis entitled Assessment of the adequacy of infrastructural facilities Provision in the Abuja Municipal Area Council Estate, Lugbe, Abuja meets the requirements and regulation governing the award of Post Graduate Diploma (PGD) in Environmental Management, Federal University of Technology, Minna and is approved for its contribution to Scientific knowledge and presentation.

Amos Bulus ----------

Date

Dr. G.N Nsofor ----------

(Supervisor) Date 8/12/03

Dr. Odafen ---------- 8/12/03

(H.O.D Geog. Dept.) Date

Prof. J.O Adeniyi ----------

(Dean, Post graduate school) Date

External Examiner ----------

Date

DEDICATION

THIS project work is dedicated first of all to the Almighty God in Heaven and to my dear wife Mrs. Zumunta A. Bulus, Children Priscilla S.A Bulus and Malachi S.A Bulus and to all Christian brethren in the Lord.

AKNOWLEDGEMENT

Praises, honour and adoration are given to the almighty God who gave me the strength and courage to take up the challenge posed by this study. It was taken as a well desired step in the right direction, particularly when the gain accrued to it academically, the pride it will earn me and the benefits to the Abuja Municipal Area Council are duly considered.

My first appreciation goes to my supervisor Associate Professor Dr. G.N Nsofor whose untiring support and vigorous supervision saw the success of this research work. He had acted not just as a mentor but an elder who desire joyfully to impart knowledge in patience. I acknowledge his enormous effort.

While pursuing the course of this study appearing hectic and cumbersome this was put to rest by the encouragement of lecturers of the Geography department who are Professors J.M Baba, Adefolalu P.O, Dr.Abubakar Sadauki, Dr. Akinyeye , Dr. Halilu, Dr. M.T Usman, and the motherly and sisterly cares of the Head of Department Dr. (Mrs.) Odafen and Miss.(Dr.) Apollonia Okhimamhe. May God bless you all.

In the same vein the humble young hard working co-ordinator of the post graduate diploma Programme in Environmental Management Mr. Salihu who encouraged me greatly. I appreciate you.

In my place of work, my appreciation goes to Arc. J.S Kaura, the Head of Works Department Abuja Municipal Area Council for his elderly encouragement especially during UNESCO sponsored multi-stake holder national workshop on the application of remote sensing for the integrated management of ecosystems and water resources in Nigeria organized by the department of Geography of the University, Engineer Dimlong Sunday, Arc. Yusuf Ibrahim , Mrs. Asabe Mahannam who demonstrated their contribution not only as colleagues but as Brothers and sisters. May God's blessing be your portion.

My friends and well-wishers are not forgotten among whom are Mr. Solomon Oyekale , Mr. Shedrach Akila, Mr. Baba Gaius, Deacon Joel Auza, Mr. Emmanuel Ogu, Bro. Shedrach Tukura and AFCS G.S.S.S Pyakasa, Abuja. The Lord will not forget your labour of love.

My sincere appreciation goes to Mr.& Mrs. Philip Nuhu, my landlords in Minna. I' am expressing my profound gratitude to them for such love. God bless you.

Back to my home, my lovely wife Mrs. Zumunta A. Bulus desires unexpressed thanks for her continued support. Remain blessed. Chief Ibrahim Y. Gajatna, the chief of my Village Aleyita, Abuja and my core sponsor in this programme, Hon. Samson Nyada for his financial support God will reward you abundantly.

My mother, Brothers and Children are not left out in this appreciation. Brethren in the Lord have also been acknowledged for their prayers.

I thank you all. May GOD reward you all. AMEN.

ABSRACT

The enhancement of a quality living environment through control conservation, preservation and management principles is the principal focus and goal of this research work.

This area of prime interest is the AMAC Housing Estate Lugbe, Abuja.

This estate has been existing since four years ago with little or no infrastructures, thereby making the estate non functional and exerting some negative effects on the environment.

The study was aimed at assessing the adequacy of infrastructural facilities in the study area as a sub system of the urban environment.

The scope of the studies, as stated is focused on the part of the Abuja Environmental Protection, Abuja Development Control, which has an existing set up and a sub system of the general environment. An element (Abuja Municipal Area Council, Housing Estate, Lugbe.) of the Federal Capital Territory FCT was chosen for an indebt study.

The totality of the land area of the mentioned element was covered in the course of this study. Only infrastructures proposed and provided (if any) were assessed in relation to their functions and as they affect the residential development.

Primary and secondary data were given equal attention and vital issues not within the set scope and limitations were accorded required attention.

Two methods were used, reconnaissance and questionnaire survey. Data were gathered from primary and secondary sources.

In terms of the quantity of infrastructures, it was discovered that utilities like drainage, roads, electricity and water supply were grossly inadequate in the study area.

It was also discovered that in respect to quality of facilities like market, hospital, open space, Worship areas, hotel are not available/ provided.

With respect to control and regulation of the existing facilities in the estate it was revealed that there was no spelt controls and regulations of operation in the estate and no specific environmental law in force for the maintenance of the estate.

Recommendations resulting from the analysis were highlighted and the general conclusions brought about completion were carefully articulated.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Man is an important factor in the environment. He possesses domineering activities as to be able to modify the environment through his numerous activities to suit his desire. Giving no regard to these changes brought about by his cumulative activities, his inordinate desire to create more comfort for himself by further manipulation of the environment tell on the environment.

In other to flourish, rather than, merely survive, mankind needs more comfort, ease and leisure than on bare fisted and bare backed, single handed struggle to exist could permit.

A large part of that comfort, ease and leisure comes from the deployment of technical resources and social organisations. In order to control the immediate environment and prevent it from decaying and thereby becoming inhabitable. This termed the provision of infrastructural facilities.

From the above statement, one important desire of man, which he has tried over the ages to improve upon with advent of modern technology, is these infrastructural facilities.

Over the years, shelter as a means of accommodation for man has metamorphosed from unplanned accommodation to planned accommodation with supporting the physical and structure of urban settlement, the creation of functionally efficient physical environment for living, working, circulation and recreation.

The main elements of an urban plan are the residential, industrial, commercial, educational, health, public administration, transportation and infrastructure (facilities, utilities and services.). If any of the above element is not adequate or in deplorable condition or worse, the set up called urban environment may lose its quality and cease to perform the function it was created for. Thus, this forms basis for this project.

1.2 JUSTIFICATION

This research is set to reconcile physical or land use planning with environmental management as the related disciplines that centred around man's activities on the environment. This study will enable the deduction on the importance of maintaining developmental activities in environmental activities with the management of same so as to achieve sustainability in such development.

It is particularly possible if physical planning issues are not treated in isolation but under a broad programme of environmental management activities. In otherwords, planning activities should be treated under a well-articulated environmental management programme.

This study will be useful as it will be able to that Town or Regional Planning and the environmentalists are partners in practice. The have one clear aim i.e. creating comfort for humanity while careful manipulating the environment on the side of the planner. The environmentalist is of the opinion that man should manipulate the environment to create comfort for himself but he should not deprive himself of the future use same environment.

At the end of this study, one should have devised proper estate developmental strategies, which will be useful as academics record and or instrument for formulation of environmental policies and development.

1.3 PROBLEM STATEMENT, AIM AND OBJECTIVES

When Abuja Municipal Area Council Housing Estate was conceived, few yeas ago, it was to serve the function of residential accommodation for people coming into settle in Abuja, for both low and medium income earners at a cheaper rate and to create a deal commercial and social activities to support the residents. For the accomplishment of the above functions, the estate was stated

The objectives of the research also include:

1. To identify the existing infrastructual facilities in place, in terms of types, locations, and asses their adequacy, quality and conditions.

2. To identify and examine any existing planning standards, controls, regulations and environmental laws enforced at the study area.

3. To identify the socio-economic status of the people within the study area, their population and household sizes and characteristics.

4. To identify any management policy that will be adopted in the study area as a neighbourhood.

1.4 THE SCOPE OF THE STUDY

The topic as stated is focused on a part of the Abuja Environmental Protection and Abuja Development Control Department, which has an existing set up and a sub system of the general environment. An element (Abuja Municipal Area Council Housing Estate, Lugbe) of the Federal Capital Territory has been chosen for an indebt study.

with two distinct elements namely, residential structures and infrastructures (utilities, facilities and services). While the residential buildings provide accommodation for the people, infrastructures ensure the efficient functioning of the estate. It is out to provide comfort while equally up-holding the spirit of sustainable development. The distortion of the environment brought about by the provision of residential neighbourhood has being reconciled by the corresponding provision of the infrastructure, which acts as a corrective measure towards maintaining a quality and habitable environment.

Due to reasons, which range from non-provision of these infrastructures, the estate has become inhabitable. The effect being the subject matter of this research.

A step has to be taken to provide these facilities to avert the consequences posed to the environment by the unkept estate. The research therefore is to asses the extent of damage done to the environment by the absence of proper infrastructures.

The general aim of the research is to asses the effect of non-provision of basic infrastructural facilities in the study area as a sub-system of the urban environment.

The totality of the land area of the mentioned element shall be covered in the course of this study. Only infrastructures proposed and provided (if any) shall be assessed in relation to their functions and as they affect the residential neighbourhood.

Primary and secondary data shall be given equal attention. As the exercise progresses and vital issue not within the set scope and limitation shall be accorded the required attention.

1.5.0 THE STUDY AREA

The Abuja Municipal Area Council (AMAC), a body responsible for the estate is a Local Government Area in the Federal Capital Territory that was established by decree No.6 in 1976.

The decision for the estate development was conceived by Mr. Ayuba Jacob Ngbako, a one time Chairman of the Abuja Municipal Area Council in 1996 with the sole aim of curbing residential accommodation problem in Abuja, the Federal Capital Territory, as part of the council's contribution to the Nation's Housing Development Programme.

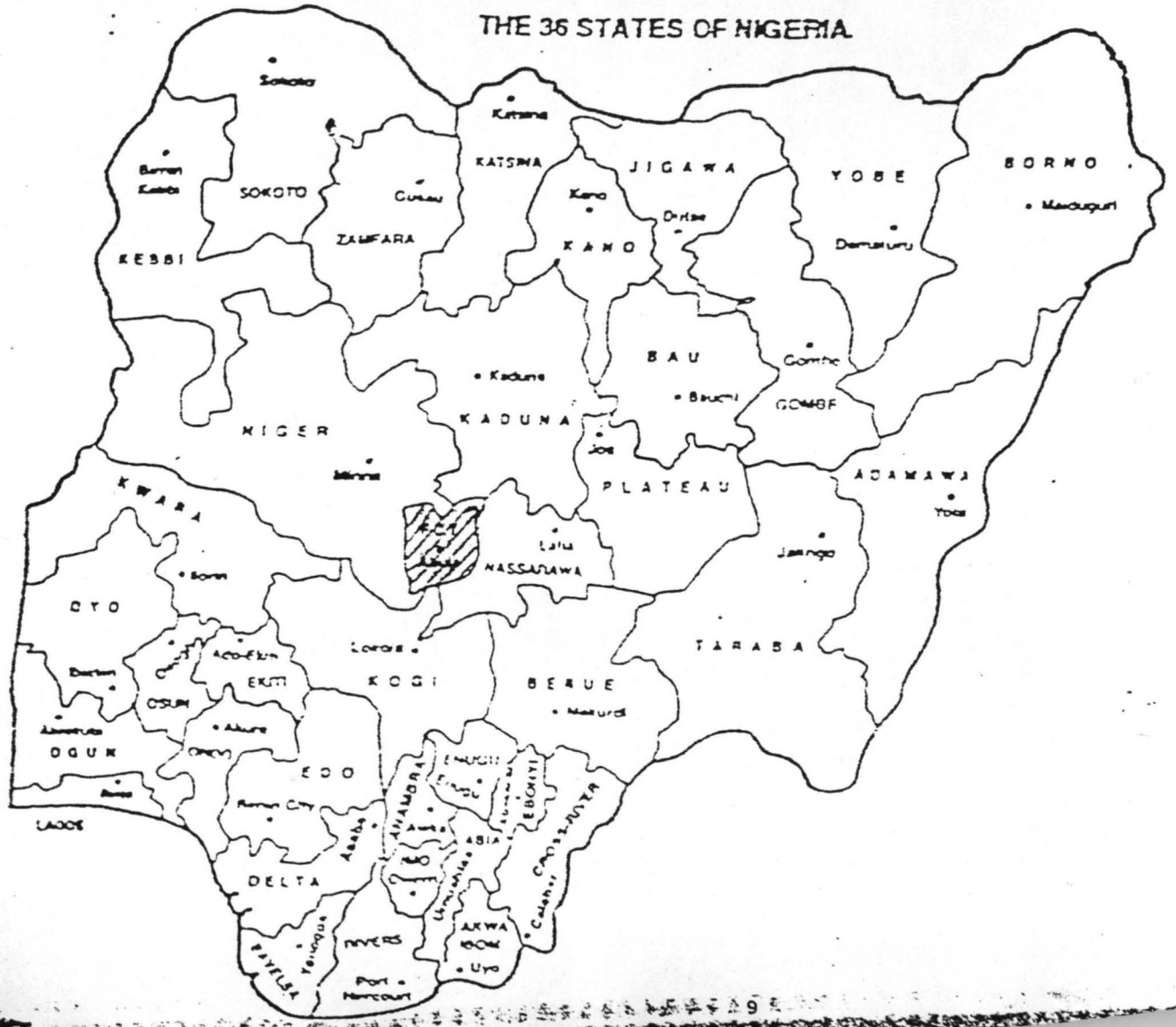
The estate was constructed in conjunction with one construction company, which was responsible for the physical construction of the houses, a

construction company called ACO- HITECK (Nig.) LIMITED. Individuals were allocated plots of about 600-900 Sq.m for any type of residential development of their choice and Abuja Municipal Area Council had the responsibility to provide the land and infastuctural facilities.

Interested members were made through public advertisement to subscribe for the various types of properties ranging from one bedroom to four bedroom duplexes with their respective values.

The site, which is, located along the Nnamdi Azikwe International Airport Road of the Federal Capital Territory coves an approximate area of 50.4 hectares. It is bounded to the south by Kuje Area Council, to the east by the expressway.

In the provision, the master plan allotted land spaces to ACO-HITECK NIG. LTD for building for subscribers, while the remaining site was subdivided for further residential development by individual developers as sites and services.



POLITICAL MAP
NIGERIA

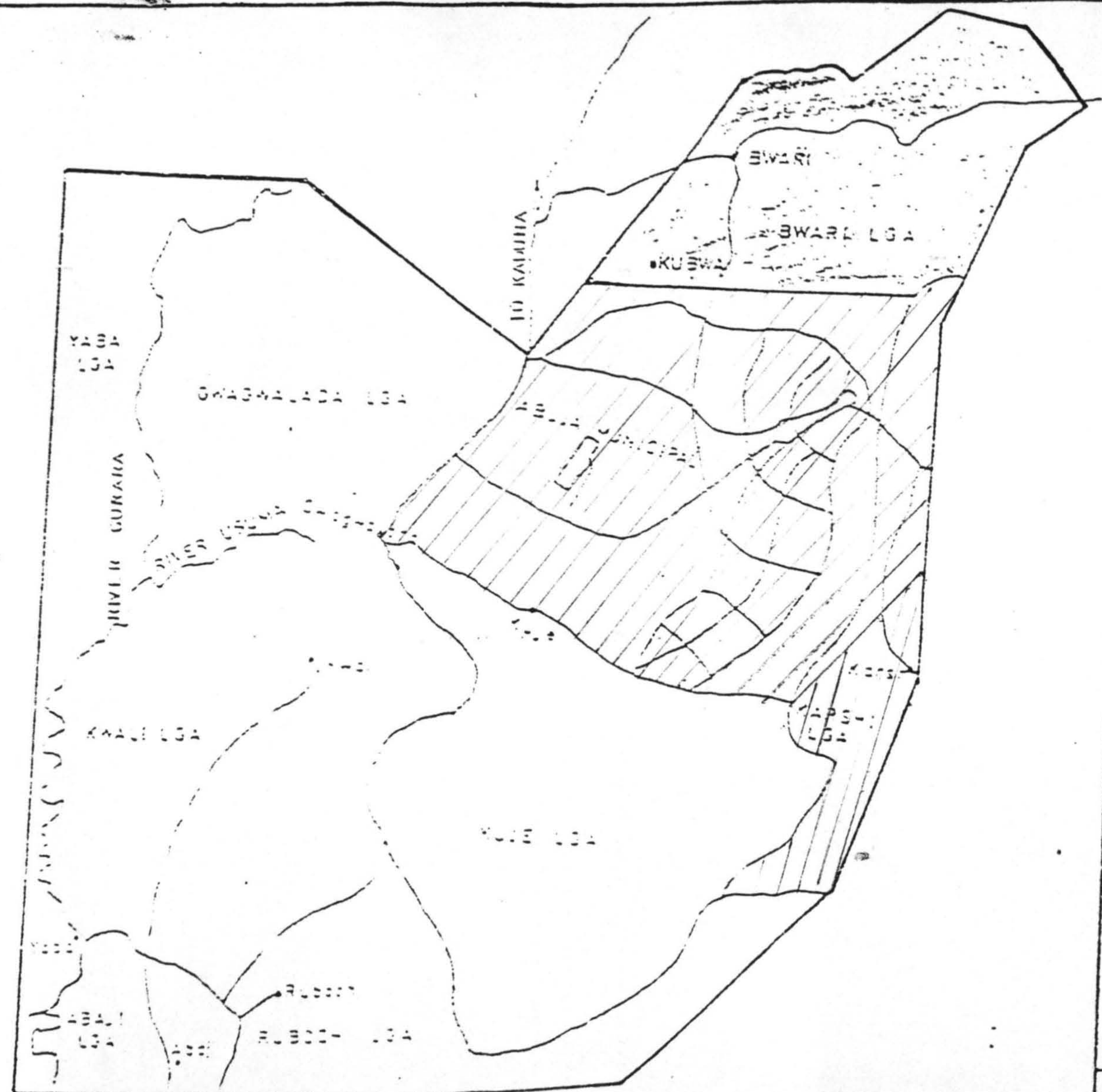
N

key

• SHOWING
F C T
ABUJA

produced by

PLANNING AND RESI
DEPARTMENT F.C.
F.C.T ABUJA



TITLE-

MAP OF FCT
ABUJA

KEY

SHOWING THE LOCATION OF AMAC COUNCIL

N

FIG 1.5b

DESIGNED FCDA

DATE 1988

Four or five levels of planning are desirable for the purpose of carrying out comprehensive process of planning. They are national, state, Regional, Urban and local physical planning. They constitute a system or phenomena made up of elements and links, which connect the elements to foster interactions. These levels of planning not only interrelate and interact but also form a spatial hierarchy in which a lower level of planning occurs as a constituent element of higher order levels of planning.

The focal area among the levels of planning is the urban physical planning level. This level of planning attempts to solve the problem of urban growth and decay. The ultimate aim which urban planning attempts to achieve through the only graded main access road. No other utilities like roads, water, electricity, etc were put in place. In other wards, only the layout designed was produced by the AMAC Zonal Lands and Survey department.

The general layout reflect a clustered pattern of neighbourhood ideologies, where road ends in closes or dead ends to create a sense of oneness and sense of belonging.

1.5.1 LAND SUBDIVISION PATTERN

A land subdivision planning is a planning process concerned with the orderly, economical, and aesthetic arrangement of buildings and services (roads, structures, recreation areas, as well as public utilities) for the purpose of creating functionally efficient and aesthetically pleasing physical environment.

It is through this subdivision plans that policies and proposals contained in urban plans are detailed out to guide public and private developers.

Before ACO-HITECK Nig. LTD took over the site for development, AMAC had uses and facilities. This is the emergence of physical or land use planning, which can be defined as "the art, and science of ordering the use of land character and siting of buildings and communication routes so as to secure the maximum practicable degree of economy, convenience and beauty."(Keeble, 1968).

Physical planning has both social and economic aims. Socially, successful planning tends to make people's lives happier because it results in a physical environment conducive to health, allows convenience and safe passage of from place to place, facilities for social interactions and visual attractiveness. The economic result of good environment also is conducive to increased happiness.

though not quite so directly. A proper spatial relationship between the communities in a region and the constituent parts of town compactness of development and an efficient arrangement of communication routes all results in human activities being carried out more effectively and less wastefully and these increase wealth.

There are four characteristics of successful planning which are of prime importance in this work.

1. The provision of accessibility from house to work, schools, shops etc.

2. The employment of resources as economically as possible, so as to achieve the greatest possible measure of improvement with necessary limited means.

3. The separation of incompatible land uses from each other and the association of compatible uses.

4. The carrying out of all development in as visually pleasant and manner as is practicable.

Having enumerated the characteristics of physical planning, it becomes pertinent to discuss briefly the various level of planning processes in any place. This will flow to our area of research properly.

1.5.2 POPULATION DISTRIBUTION

The AMAC Housing Estate was proposed to accommodate a little over 1000 people. This estimate was based on the number of house units proposed for the layout. The population is still sparse, as most of the houses have not yet been completed.

1.5.3 MANAGEMENT STRATEGIES

The AMAC Housing estate has no spelt out maintenance strategies, but that AMAC provides the infrastructures and maintains same as the need arises and when the council has funds to attend to such problems.

1.5.4 CLIMATE

The climate of the study area is not quite different from that of the general FCT as a whole. Annual temperature ranges between 21oC and 32oC. The annual rainfall is about 117 centimetres with the highest record in the months of July, August and September.

1.5.5 TOPOGRAPHY

The planning area or the estate land is generally plain and gently slopped south-east ward. The slope ranges form one to ten percent on the average.

1.5.6 SOIL AND VEGETATION

The soil here is found to contain much humus, which make it considerably fertile and hence suitable for farming. The vegetation can best be described as parkland savanna with scattered trees. There is a found behind the estate and also a swampy farmland. The available open spaces present a good landscape of average height grasses especially during the rainy season.

1.5.7 ORANISATION OF THE THESIS

The study has been divided into five chapters. Chapter one discussed the introduction of the topic, a brief historical background and physical state of the study area.

A wider discussion of the topic termed literature review is in chapter two. It dealt with an overview of what a planned environment is, the concept of infrastructural facilities in an environment.

Chapter three is the commencement of the actual assessment of infrastructural facilities an the effects of their absence in the estate. The process called Methodology.

The next major work in chapter four involved the organisation and presentation of data collected in a more comprehensive form for the purpose of establishment of results. The process called data analysis.

Chapter five formed the concluding of this thesis/project. Recommendations resulting from the analysis highlighted and general conclusion bringing about the completion of the project.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 TOWN AND COUNTRY PLANNING

This covers a wide range of activities such as the planning and development of urban infrastructures, provision of parks, and gardens, landscaping services, preparation of master plan for residential commercial and industrial estate development control services, solid waste collection and disposal development control services etc.

Town and regional planning is defined by Lewis Keeble as the " the art and science of ordering the use of land and siting of buildings and communication routes, so as to secure the maximum practicable degree of economy, convenience and beauty (John Ratcliffe, 1981).

Town and country planning as a profession performs the following functions:

-Ordering of land use to achieve maximum economy.

-Setting the different uses of and infrastructural facilities.

In any layout of housing development of town and cities, it is the function of the town planner to draft out on paper how orderliness and the beauty of a town or city can be achieved, bearing in mind the provision of infrastructures.

Production of layout to achieve maximum economy within both residential zones and commercial zones or areas strictly adherent to specification must be kept. Setting out different uses of land to achieve economy, convenience and physical beauty of a town, differences in land use (residential, commercial and industrial zones.)

Town planning works to see betterment of creating conducive atmosphere establishing vehicular traffic in both directions on the road at all hours of the day.

Infrastrutural development entails the provision of full range of facilities such as water, power distribution, sewage and drainage network, telecommunication duct ways and manholes. It is thus, a comprehensive package, which is costly in financial terms (Hamzat, 1991.)

2.2 URBAN PLANNING.

This is a social and governmental process whereby the spatial organisation and content of cities are evaluated, designed and regulated. Urban planning is more than the design of streets, residential areas, parks utilities and public buildings. It also involves less obvious but critical decisions related to the underlying social and economic well-being of cities.

Urban planning occurs at city metropolitan states, regional and national levels. Urban plans also are developed for smaller areas within cities. These include residential neighbourhoods, industrial complexes, such as hospitals, schools and public plazas and buildings.

2.2.1 Urban Planning Strategies

The diversity of city planning agencies and complexity of problems makes it difficult to plan effectively and efficiently.

Consequently, planning methods and processes are often given special attention. Planners need techniques to analyse a city, to predict its future course of development and to recommend alternative courses of action. The planning techniques involved:

1. Planning techniques: Techniques for analysing urban patterns have become increasingly sophisticated. Planners make land-use surveys to study the conditions of different parcels of property.

Doing a detail analysis of urban patterns, however, is only one part of planning process. Techniques for delineation of goals and for defining and clarifying complex problems are equally important.

Given a set of goals and a description of existing conditions, planners also need techniques for predicting future situations.

Finally, planners need techniques for generating and recommending alternative courses of action (Mc Graw, 1979).

2. Implementation of Planning: Planners are also concern with how proposals can be implemented. A proposal may appear to be excellent but may be unfeasible for a variety of political, economic and technical reasons. (Van Nostrand, 1980).

3. Community Participation: This includes public education and communication. In fact, interaction with the public is fundamental to a planner's ability to influence public financing and legislative decisions. Consequently, the ability of planners to educate and learn from the community or its representative is an important attribute of a successful urban planning process.

2.2.2 Urban services

The city has the responsibility to provide for inhabitants with certain basic facilities and services such as water, electricity, transportation, sewage and drainage. But a major problem of rapid growth of cities in then developing world is the provision of these basic facilities and services(Jimoh & Ifabiyi, 2000).

According to Oduwaiye,(1988) the pressure on urban services become acute due to in efficient management system in the developing world ; thereby making the cites in efficient, unworkable, and simply unliveable. Effective urban management is necessary to support policies and practices for the efficient and adequate provision of urban services. For example, according to Mabogunje,(1993) the" acid" test of efficiency in the management cities in the developing countries is the state of infrastructural provision.

2.2.3 Urban decay and Renewal

The increasing urbanisation of our cities, the inability of these cities to cope with the demands of urbanisation in term of physical facilities and orderly growth usually lead to growth of slum neighbourhoods and physical decay or deterioration of urban environment. These condition lead to the low level of liveability of many cities in the developing world and the quality of their management (Mabogunje, 1968).

Urban renewal is the traditional method used by city planners for replanning predominantly built up areas of the city where there is evidence of deterioration. Urban renewal is recuperative in the physical city by which the output or outmoded structures and facilities and in time, whole areas are altered and

replanned in responses to pressures of economic and social change (Chain, 1972).the objectives of urban renewal are to eliminate and prevent substandard structures which may be residential, industrial etc. and to create a healthy, pleasing and convenient environment. Though such an approach, the environmentally degraded areas of the city can be rehabilitated.

Urban renewal is usually carried out in three approaches; they are conservation, rehabilitation and redevelopment.

2.2.4 Urban Sprawl

The unguided growth of urban centres usually leads to disorderly development (Sada, 1970). This phenomenon affects the development of residential, industrial, commercial and recreational uses in the cities. Sada, (1970) also said that rapid growth of urban population results in expansion of the physical components of towns leading to urban sprawls. This is because, there are no premeditate plans to accommodate these growths. Further, in many urban centres, the in ability of urban governments to adequately provide urban services lead to outstretching of the services and urban sprawls are accompanied by the development of shanty settlements at the urban fringe.

Attempts have been made to limit urban sprawls especially un the more developed world by the establishment of new towns designed to house over spilled populations (Onokerhoraye, 1982). The workability of these measures depends on effective urban management.

2.2.4 MANAGEMENT OF URBAN ENVIRONMENTAL PROBLEMS.

Urban management is an intergovernmental process involving different organisations for planning and management at all levels and for conducting public services (Gwani & Ameh, 1991). The essence of effective urban management is to ensure a sustainable and liveable environment for the city inhabitants.

According to Cheema (1998), managing urban environment problems is not a small-scaled affair. Indeed, environmental problems cannot be tackled without appropriate urban management institutions properly structured, organized, funded and staffed.

THE CONCEPT OF RESIDENTIAL NEIGHBOUR HOOD

The concept of the neighbourhood has been referred to as a town enter which does not supply services of a higher order to the whole of the town and to service one of the town but also supply service of a lower order to its in habitants to the whole of them from the neighbourhood centre and to some of them from whatever sub-centres may be established within the neighbourhood (obateru, 1986).

With a neighbourhood of a population of about 10,000 the services supplied in the neigh hood centre would be analogous to those of the town centre of a small town of 10,000 population and those supplied by a sub-centre perhaps analogous to those supplied by a village.

One says, analogous rather than similar, because the nearer physically a centre is to a centre of higher importance, the less independent can it be. The country town of about 10,000 people would be able to support second solicitors, but it is very doubtful whether the neighbourhood centre of a neighbourhood of 10,000 people would be able to support any, because the town enter is relatively so close of hand and is certain to house many solicitors that it would hardly be worth any ones while to set up practice in a position which though very close to a limited number of people, is much less accessible to the public generally. Similarly, a neighbourhood sub-centre cannot hope to support services comparable to those supported by a village because of the physical closeness of the neighbourhood centre.

A neighbourhood as described above is virtually identical with an environment area. An environment area is not necessarily a residential area.

2.3.1 ELEMENTS ON THE NEIGHBOUR HOOD.

On the basis of providing within the residential neighbourhood, not only dwelling for the people concerned, but all the every day needs which can be supported by a population less than that of the town as a whole, we have to consider what the neighbourhood should contain. The element as other dwellings, which are

likely to be required, are, schools open space, large establishments, shops and similar user, place of assembly of modest scope, service industries, etc. The typical example of a residential neighbourhood is this study area.

2.3.2 NEIGHBOURHOOD INFRASTRUCTURES

Neighbourhood infrastructures are those facilities and services that are basic to the functional efficiency of the modern Neighbourhood (obateru, 1986)

Infrastructure within a typical residential neighbourhood can be divided in to two major categories namely, physical and social infrastructures (obateru, 1986). Physical infrastructures comprise public utilities and transport utilities. Public utilities comprise the followings; electricity supply, water supply, Gas supply, sewerage, storm water drainage and telephone service. While transport services of facilities are road, railway, Airport etc.

Social infrastructures are the community facilities and service. Community facilities on the other hand are basic necessities required in a neighbourhood.
They include, post office, shopping areas, recreational facilities, Religious facilities, cultural facilities etc.

Community services comprise the followings: Police protection, Fire protection, street dealing and maintenance, street lighting, garbage and refuse collection and disposal etc.

The type, size, quantity and quality of utilities, and services to be provided depend on a number of physical, social, cultural and economic factors.

Within the neighbourhood, these facilities and service should not be located haphazardly. They require specific locations for easy accessibility and adequate space (land) allocation. At least forty (40%) percent of the total land area of a neighbourhood should be set aside for roads facilities and services. They remaining sixty (60) percent is for exclusive (net) residential use. The specific land areas required for the facilities and services should, by and large, depend on the following factors, the side of the available land, the number of people to reside in the neighbourhood. A typical neighbourhood population ranges between 2000 and 8000 persons, the age structure of the population, the standard of living of the families to reside there, a factor which is an important index of space need and the capacity to provide private facilities; the cultural background of the population and climate which influences the relationship between indoor and outdoor activities. The American public Health Association Committee on Hygiene of housing has this to say on the above mentioned factor; " to a limited extent, the type of facility to be provided will depend on the degree to which needs can be met in the dwellings or by private facilities. For instance, in sub-urban neighbourhood where living space within the dwelling is ample, there is little need for small community recreation rooms. On the other hand, in low-income, high-density areas where living space within the dwelling is at a premium, such community rooms become extremely important.

Cultural background, age composition and economic status of families housed will condition their needs for adult education, church facilities and recreation" (obateru, 1986). The living habits of the locality should be carefully studied to determine whether modification of the usual standards is desirable. Facilities have too often been wasted because local customs and preferences were not given sufficient consideration. Basically, the number of the facilities and services mentioned above that are needed in a neighbourhood will primarily depend on its population size.

According to keeble, (1986) looking at the distribution pattern of the facilities and services in the neighbourhood, accessibility is given most priority. The grouping together of the facilities and service at the centre will faster their multiple uses and also encourage their frequent use by a large number of residents. Particularly, desirable is a grouping together of the nursery schools, primary schools, the neighbourhood centre, the neighbourhood play ground and if possible the neighbourhood park and shopping area within the group or complex. Each facility should be appropriately located to serve its particular purpose. For instance, the shopping centre or market should be form the distributor road, the major traffic artery, because of traffic, while a buffer strip should either surround it or be between it and the residence.

Lugbe Housing estate is a residential neighbourhood that is expected to have utilities like tarred roads, complete drainage network, electricity supply, and water supply. And also complete facilities and services like shopping centres, hospital/clinic,

worship places, hotels, Schools, police station, proper refuse dumping centres, open spaces, playground and recreational facilities to make the neighbourhood habitable and also protect the environment from decaying.

CHAPTER THREE

3.0 METHODOLOGY

Two methods of survey were used in the process of gathering data in relation to assessing the adequacy of existing utilities, facilities and service of the story area. They are reconnaissance and questionnaire survey methods.

These method were both used to collect primary and secondary data; through primary and secondary data respectively. The whole processes were tailored towards the objective of the study, which are.

1. To identify the existing infrustructural facilities in place, in terms of types, locations and assess their adequacy, quality and conditions.
2. To identify and examine any existing planning standards, controls, regulation and environmental laws enforce at the study area.
3. To identify the socio- economic status of people within the study area, their population and household sizes and characteristics.
4. To identify any Mgt. Policy that will be adopted in the study area as a neighbourhood.

3.01 RECONNAISSANCE SURVEY METHOD

The process of reconnaissance involve direct Personal assessment of these infrastructural physically and gathering of data which included photographs of structural condition of the existing physical utilities, facilities and services; physical measurements were taken and also enumeration of their infrastructures.

The secondary data gathered include, the base map and other related plans obtained of the study area, which guided the assessment of infrastructures existing.

3.02 QUESTIONAIE SURVEY METHOD.

This method of survey involved data collection by the use of prepared questions, which were distributed and administered through personal interview to the respondents.

Data gathered through this method included, the residents perception about the existing infrastructures in terms of adequate, quality and structural conditions and characteristic, the population and house hold distribution and characteristics, or population determined the type and quantity of infrastructures required in the neighbourhood. The socio-economic status of the residents were measured using the part of the questionnaire which enquired

about heir economic and social background as there would determine the type and quality of infrastructures requirement and the ability to value and maintained them. As the field, data were collected randomly.

3.03 RANDOM SAMPLING

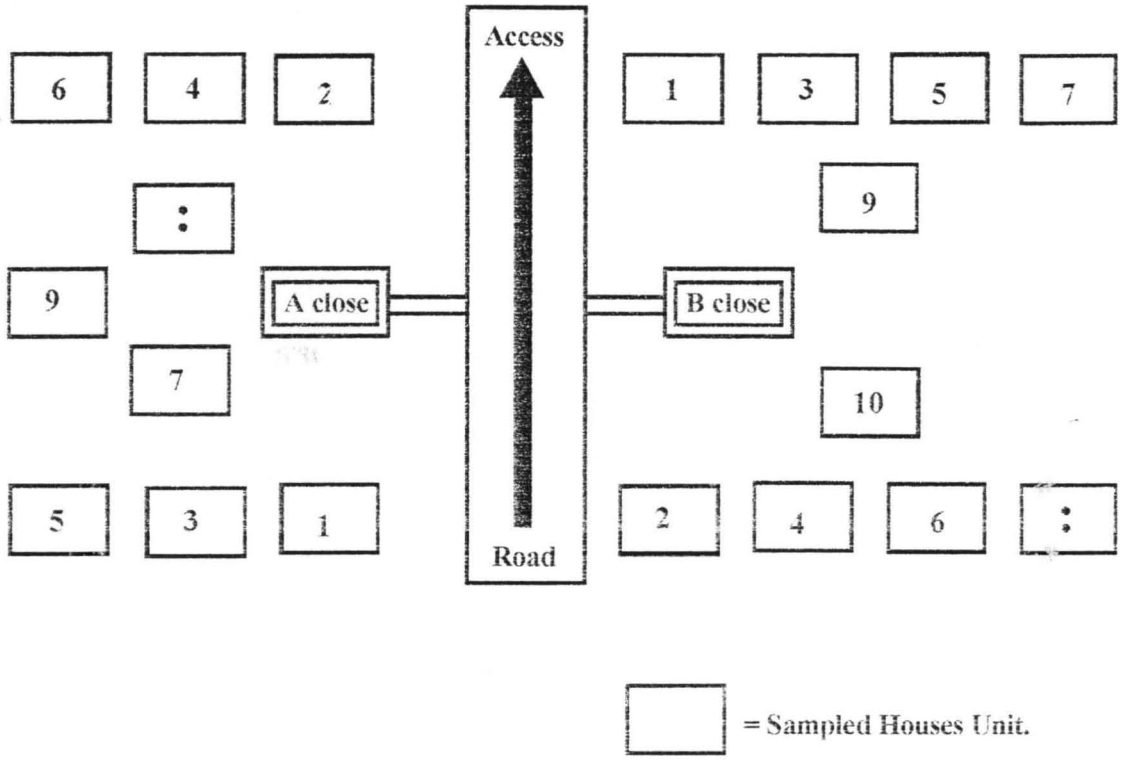
This method was adopted at the field to collect the data required, as time and the size of the study area could not permit total coverage during questionnaire administration.

Random sampling involves a systematic way of choosing a set of variable from a total to represent the total. In the application of the method, the study area was held in its clustered pattern of road network system with the assess road ending in close.

The estate made up of 24 numbers close had each of the closes containing an average of four blocks of two and three bedrooms semi – detached bungalows. On the average there are eight (8) families per close.

A system of closing one family per block entrance left or right of each close and right or left of the access road laying perpendicular to the close was used.

Figure 3.1: A typical sectional plan showing cluster settlement pattern of study area.



From fig. 3.1 houses 2&8 "A" close and houses 1&6 "B" close were chosen and interviewed according to the system of sampling. At the field a total of 30 legal families were interview while a total of 15 Illegal occupants were interviewed.

3.1ASSESSMENT OF THE EXISTING UTILITIES, FACILITIES AND SERVICES.

This assessment was done using the two method of survey earlier discussed to gather the data required. The reconnaissance method was used to collect all the physical data. The primary data involved, included print photography taken of the existing utilities, facilities and services, which revealed their physical measurements were taken of some of these infrastructures.

As sources of secondary data, establishments such as AMAC, NEPA etc made available the following data: the base map of the study area; road categories; volume and quantity of water available, amount of electricity supplied and the type, quantity and quality of facilities that were existing at the study area.

Information on land used allocation standards were gathered to guide the assessment in terms of adequate and structural condition.

Section "D" of the questionnaire was used to gather information about the quantity, quality, and structural condition of existing infrastructures and the resident's perception of these infrastructures. Values or weight or source were assigned to each mentioned conditions as a measurement of the perception of the existing infrastructure held by the residents. The perception is graduated in arithmetic order. Upward graduation means above average or favourable

condition downward graduation means decline in the condition of the infrastructure.

3.2 POPULATION DISTRIBUTION AND HOUSEHOLD SIZE SURVEY.

Data relating to the population characteristics and household size were gathered through questionnaire administration. Section "B" was also administered on the residents within the estate in a sampling manner.

The residents were asked about their household sizes and the numbers of years they have lived in this part of FCT. Two types of people were found living in this study area: the legal and the Illegal occupants.

As mentioned earlier, 15 numbers of illegal occupants were sampled. This exercise formed the primary data sources.

Secondary data in these regards were gathered from the department of works, housing, land and survey, Abuja municipal area council (AMAC).

3.2 SOCIO ECONOMIC SURVEY

Data relating to social interaction among the resident gathering such as Co-operative social, religious, ethnic meeting were collected through section "C"

of the questionnaire forms administered. Also relating to economic well being activities as it affected the economic well being of the resident were collected concerning the quantity, type and quality of social facilities and service influencing the economic and social well being or purchasing power of residents.

In conclusion, the information gathered through the methodology discussed in this chapter were analysed. The findings, results are detailed in chapter 4.

CHAPTER FOUR

3.3DATA ANALYSIS

In this chapter, the discussion involved the organisation and presentation of data collected in a more comprehensive form.

The reconnaissance survey conducted focused on the followings:

(a) The quantity, quality and condition of the existing utilities, facilities and services.

(b). The nature and terms of the existing control and regulations.

The questionnaire survey conducted focused on: -

(a) Resident's perception of the existing infrastructure.

(b) Population distribution and household size and characteristics.

(c) Socio-economic status of the residents.

4.1 *ASSESSMENT OF THE EXISTING FACILITIES AND INFRASTRUCTURAL DISTRIBUTION.*

Based on the physical measurement taken of existing utilities, facilities and service, table 4.1 was prepared.

Table 4.1a: Physical measurement of available infrastructures

S/NO	INFRASTRUCTURES	QUANTITY	AVERAGE AREA S.qm	% OF TOTAL LAND AREA
1	Road	-	75,247.3	15
2	Open space	2	9,652	1.92
3	Shopping centre	1	12,487.2	2.55
4	Clinic	-	-	-
5	Church/mosque	-	-	-
6	Hotel	-	-	-
7	School	2	21,426.32	4.25
8	Police post	1	1,241.3	0.246
	Total		120,052.32	23.96

Source: Field survey, July,2003.

The table revealed that from the measurement taken, the percentage of total average column that the land area covered by road is put at about 15% which is within the physical planning standard while other facilities and services were also within the standard even through there are slight differences. Table 4.1b gives a logical guide of this analysis.

Services like hotel, town hall, hospital, refuse dumps etc were not in place and there is lack of refuse bin resulting in dumping of refuse all over the road see plate (4.1a and 4.1b).The conclusion here is that the facilities and services were not properly provided which lead to the abuse of environment. The under provision of infrastructure tends to lead to over utilisation of these facilities. These result in pressure emanating from excessive use. Deterioration and decay are seen to be setting in.

From the findings and based on pressure and demands, recreational lands and some residential lands have been converted to worship centres. The pressure has also led to illegal structures being built in the estate.

4.2 TYPES, CAPCITY AND CONDITION OF AVAILABLE INFRASTRUCTURES

Table 4.1b shows data available within the estate in year 2003. Under the utility, the road existing road remains what it was both in size and quality since the time of construction till the present time of this study. It has witnessed decay, as there are not even drainage to drain sediments from run-off during rainy season. This resulted in the occurrence of gully erosion and some flooding from some of the major road and this has spread into the neighbourhood.

Since 1998, AMAC only supplied the estate with 1NO. 500KVA transformer, which has not the capacity of carrying the whole estate (NEPA, 2003). This resulted in load shedding.

Development of subscribed houses is still very much on a higher rate. This will require an additional 2No. 500KVA transformers bring it to a total of 1.5MVA or 1500KVA required to serve the present and future population of the estate (NEPA, 2003). Presently power is not stable because the population size is on the increase.

Water supply is another problem. The present water borehole is not in use. Residents have resorted to the use of hand-dug wells and to buy water from water tankers and take water from the town in jerry cans.

The amount of water for present and future use in the estate cannot be estimated due to non-availability of the required data. The estate needs in place of pipe borne water supply an 12,000 Cu.m motorized borehole to be reticulated within the estate.

Among the facilities and services that are as important as others provided are refuse dumps, hospitals, markets, Hotels. These are not available since the inception. This was why people go out of the estate for treatment, shopping,

recreation, etc. The non availability of refuse dumps has brought about indiscriminate dumping of refuse along some of the major streets in the estate.

3.4ASSESMENT OF THE EXISTING CONTROLS AND REGULATIONS.

As earlier discussed, efforts were made to be conversant with the existing controls and regulations in force at the estate.

Appendix 4.2.1 and 4.2.2 are the two types of allocation letters for site and services scheme by AMAC/ ACO-HITECK joint Ventures respectively. The two letters did not spell out controls and regulations for allottees. This may be because the authority constructs the houses for subscribers, which should have not been applicable for allottees on site and site and services scheme.

Further investigations revealed that allottees are expected to submit for approval four copies of Architectural and Engineering drawings before commencement of construction on site.

ANNALYSIS OF RESIDENTS PERCEPTION OF THE QUALITY OF THE INFRASTRUCTURE

Table 4.1a – Physical measurement of available infrastructures.

S/No	Infrastructures	Quantity	Average Area (M^2)	% of Total Land Area
1.	Road	-	75,247.3 M^2	15%
2.	Open Space	2	9,652 M^2	1.92%
3.	Shopping Centre	1	12,487.4 M^2	2.55%
4.	Clinic	-	---	---
5.	Church/Mosque	-	---	---
6.	Hotel	-	---	---
7.	School	2	21,426.32	4.25%
8.	Police Post	1	1,241.30	0.246%
	Total		120,052.32(12.00H)	23.96Ha

Table 4.1b

Infrastructure		Quantity Available	Quality of Materials	Condition/ Maintenance Body
Utilities	1. Road	12m width of road (main & collectors)	Graded only.	AMAC twice a year
	2. Electricity	0.5MVA	NEPA	
	3. Water		specialized AMAC borehole	NEPA, often AMAC, often
Facilities services	1. Open space	2 locations	AMAC	Underdeveloped
	2. Shopping Centre	1 location	AMAC/open space	Underdeveloped
	3. Clinic	-	-	-
	4. Church/Mosque	-	-	-
		-	-	
		2 locations	-	Proprietors
	5. Hotel	1 location	Block finishing	Police Force
	6. School	No provision	Block finishing	-
	7. Police Post		-	
	8. Refuse dumps			
Housing Unit	1. Houses		Block Finishing	Allottees

Source: field Survey, August 2003.

Table 4.1c – Represents land use structures of the study area: 2003.

S/No	Land Use	Nos. Available	Size	% of Coverage
1.	Residential	260	27.41m	45.39%
2.	Roads	-	7.52	15.00%
3.	Open Space	2	0.96	1.92%
4.	Shopping Centre	1	1.245	2.55%
5.	Hotel	-	-	-
6.	School	2	2.14	4.25%
7.	Police Post	1	0.12	0.246%
8.	Clinic	-	-	-
9.	Church/Mosque	-	-	-
	Total		39.39Ha	78.35%

Source: Author's Field Survey, 2003 August.

Information on Land Use allocation standards gathered to guide the assessment in terms of adequacy, and structural condition.

Table 4.1d – Land use allocation standards of residential neighbourhood.

S/No	Land Use	Percentage
1.	Residential (Housing Plots)	50 – 60
2.	Road and Streets	15 – 25
3.	Commercial	3– 5
4.	Recreation	6 – 8
5.	Utilities, Facilities & Services	10 – 15

Source: Land use subdivision guide Obateru, 1986.

Table 4.1e – Neighbourhood area & its services Radices

Services Radices (Metres)	Approximate Area (Heathers)
800	-200
700	-155
600	-115
500	-80
400	-50
300	-28
200	-13
100	-3

Source: Land subdivision guide, Obateru,1986.

Plate 4.3 showing muddy road and open market in the estate

Plate 4.4 showing AMAC earth moving machines for road maintenance work in the estate.

Plate 4.1a showing eroded street in the estate and environmental degradation activities by labourers

Plate 4.2 showing completed staff housing scheme in the estate.

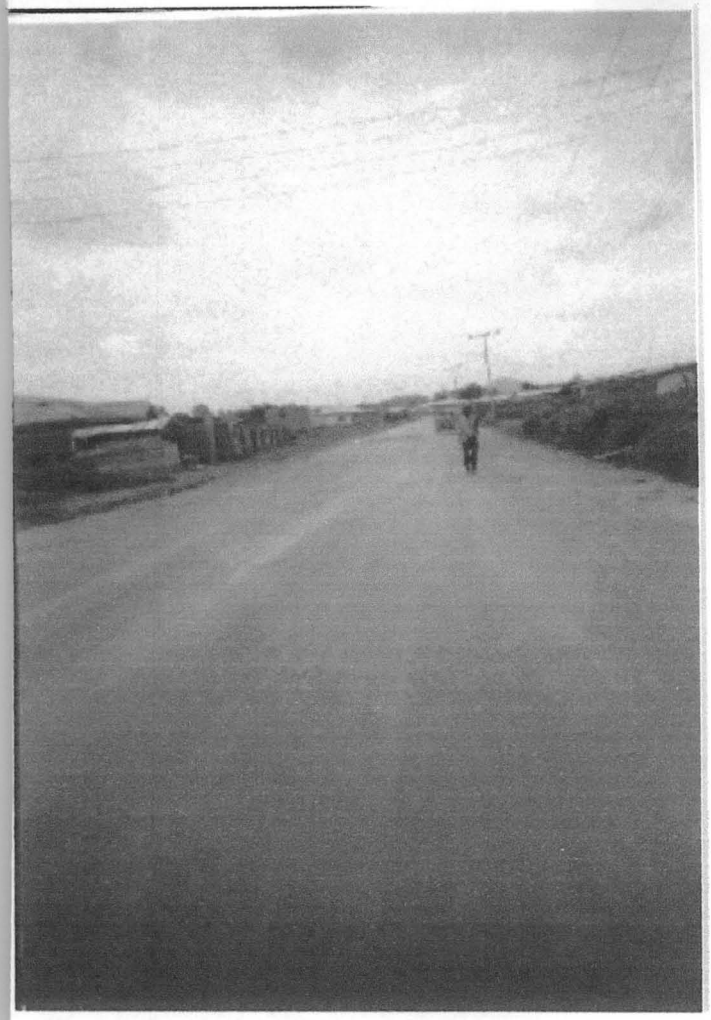


Plate 4.7 Showing recently graded main access road in the

4.8 showing men
ork constructing
lvert sponsored
e Estate Residence Association

Plate 4.5 showing recently m
constructed drainage line.

Table 4.2a: results or scores of infrastructures.

S/NO	INFRAS-TRUCTURE	QUANTITY	QTY	STRUCTURAL CONDITION	TOTAL SCORE PER TYPE OF INFRASTRUCTU
1	Utilities	2	3	4	9
2	Facilities	3	3	4	10
3	Services	3	3	4	10
	Total scores	8	9	12	29

Source: Questionnaire survey and field survey.

Table 4.2a shows inferences drawn from table 4.1g, and has scored the different types of infrastructures in terms of their quality, quantity and structural condition as responded by the interviewed respondents.

Any infrastructure that scored below 6 is considered as quite in good shape and any one with a score below 6 is considered as in bad shape since the total score to write off any of the infrastructure is put at 12, which has been tagged the maximum score.

From the table, utilities scored 9; facilities scored 10 and services scored 10 in the individual assessment. And from the total scores of utilities, facilities and services under quantity they scored 8, quality they scored 9 and structural condition they scored 12,

From the above analysis no infrastructure scored below 6 either in general or in individual term and since any score above 6 is considered not quite favourable, it can be concluded that infrastructure generally at the study area are not adequate fair in quality and are in deplorable condition. The resultant effect of their condition was found to be erosion, flooding and land pollution in the study area.

4.4 SOCIO ECONOMIC DATA ANALYSIS

Data extracted from the questionnaire survey relating to the socio-economic status were analysed.

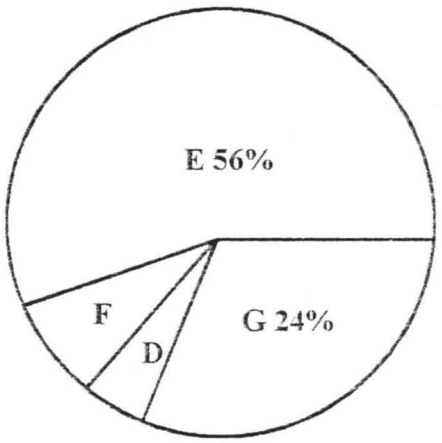
Table 4.4a: Social activities.

S/No.	Activities	% of total respondent
1	Co-operative Society (D)	12 %
2	Religious (E)	56%
3	Ethnic (F)	24%
4	Recreation (G)	8%
	Total	100 %

Table 4.4a is showing the situation of social activities within the study area, that is, the level of involvement of the residents in the various social activities.

Figure 4.4a is pie chart representing the level of involvement of the residents in the available social activities within the study area.

Fig.4.4a: Pie Chart showing residents level of involvement in social activities.



Source: Field survey, Aug., 2003.

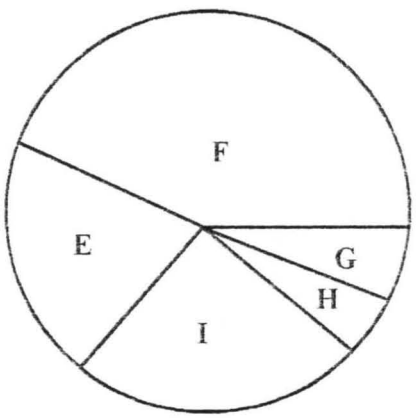
Religious activities is in the lead or the major social activities engaged in by the residents, followed by Ethnic activities with 24%, recreational activities is significantly low with about 8%, reflecting the absence of recreational facilities in the study area.

Table 4.4b: Economic activities

S/No.	Occupation	% of respondents
1	Civil Servants (E)	21.6
2	Private business (F)	42.5
3	Company workers (G)	7
4	Applicants (H)	6
5	Civil servants/ Business(I)	23
	Total	100

Source : field survey,2003.

Figure 4.4b also show resident's occupational distribution



Source: Field survey,2003.

Figure 4.4b shows that the majority of the residents are private business people or they are the only ones that can afford to subscribe to the houses and even pay rent. Civil servants that participate in business followed for the same reason.

From the observation, most of illegal occupants of the estate are living in temporary structures. These illegal structures are not encouraged and not many but most of the squatters live temporarily in uncompleted buildings of the estate.

SUMMARY AND FINDINGS

The following are findings in this study.

1. The study area is under-provided with facilities resulting from inadequacy of the utilities, facilities and services. This has resulted in land degradation due to erosion, flooding and pollution.

2. The analyses of the physical facilities available at the study area are inadequate and in deplorable conditions which are not healthy to the environment.

3. Social activities have been hampered. Social facilities were duly assessed to be inadequate. Recreation and playground are not developed. The economic base has shown no preparedness to put in place any community help programme towards assisting the Authority to maintain and provide the infrastructures.

4. Basic services like Hospital, Schools etc are not in place which make the residents to go for treatment in Garki city centre and also take children for schools outside the Estate.

5. Planning standards were not strictly adhered to in the development of the estate and there were no spelt out controls and regulations for allottees in the estate.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study was well conceived and carried out with a clear goal of assessing the quality of the environment of the study area.

Town and country planning has been described in one of the chapters as that which covers a wide range of activities such as the planning and development of urban infrastructures, provision and parks, and gardens, landscaping services, master plan preparation for residential, commercial and industrial estate development control services, solid waste collection and disposal development control services etc.

Also discussed earlier, a large part of comforts, ease and leisure comes from the development of technical resources and social organization. In order to control an environment and prevent it from decaying and thereby becoming inhabitable, there is the need to provide infrastructural facilities.

Physical planners in his understanding of the complexity of man unending desire for land for development has put this desire emanating under purpose, convenience, beauty and economy purposes.

As a justification, the research was set out to reconcile physical or land-use planning with environmental management as two related disciplines that centre around man's activities on the environment. The study enabled the deduction on importance of matching developmental activities in the environment with the management of same so as to achieve sustainability in such development.

It was also discovered that the study area was conceived with the aim of providing residential accommodation for people coming into the Federal Capital City, but because of non-provision of the infrastructures, the estate is gradually becoming inhabitable.

5.02 FINDINGS

The existing planning standards, controls, regulation and laws enforced were discovered not to be effectively followed.

All these standards, and controls of the estate management are geared to keep any estate habitable. To keep up the quality of the environment, there should be continued re-development, re-placement, recreation and re-allocation of infrastructure as frequently as there is the need.

The non-provision of the infrastructures as assessed during the research is leading to the degrading of the environment directly or indirectly. The analysis of data gathered, revealed the degree of degradation, which now forms the summary of issue to be noted as problems that required solutions.

Jus as highlighted in the recommendation, solving the problem is not all that is required here but reconciling the planner's perception of the environment with that of the environmental manager. Both are expected to be pursuing the same or common goal.

Urban environment should be well planned and managed to be environmentally possible and pleasing.

The effect of the non-provision of adequate infrastructures on the environment of the study area as been assessed, analysed and presented in form of findings, result of which brought about inadequacy. The major concern is how to solve this problem of the effects of their non-provision.

1). In terms of the quantity of infrastructures, it was discovered that utilities like drainage, roads, electricity and water supply were grossly inadequate in the study area.

2). It was also discovered that in respect to quality of facilities like market, hospital, open space, Worship areas, hotel are not available/ provided.

3). With respect to control and regulation of the existing facilities in the estate it was revealed that there was no spelt controls and regulations of operation in the estate and no specific environmental law in force for the maintenance of the estate.

5.0.3 RECOMMENDATIONS

Various steps shall be advanced as recommendations towards achieving the set goals of ensuring the effects are minimised and put under control.

The first step is the introduction of a more and well-articulated long-term policy measure to replace the unguided existing control and regulation of the estate. This will help greatly in keeping the estate clean and habitable. The new policy will also assist in strengthening the demolition of illegal structures in the estate.

A well articulated environmental sanitation programme is required to ensure a more healthy way of disposing of refuse generated within the study area.

A fresh development programme is required to provide good roads and drainages. Management strategies are to be put in place to ensure the provision of these basic utilities and facilities.

Some of the undeveloped plots mostly of the site and services should be revoked and converted to provide hospital, refuse dumps, religious institutions and recreational services. Introducing a residents association that will create room for social interaction among people of both religions and ethnic differences can enhance the social environment.

To control the population growth of the residents, the authority concerned should introduce in the conditions of ownership of houses in the estate that not more than 8 persons per unit is required as the ideal and standard household size within the estate.

A well-formulated tree-planting programme is important in the estate. Residents should be forced to plant and maintain trees within their premises.

Environmental education is a tool for creating awareness; it will be of great importance if a brief knowledge of the environment is impacted to the residents to emulate the spirit of environmental quality ideology.

REFERENCES

Chapin, F.S (1972) Urban Land use Planning

Cheema, G.S (1998) Innovative Urban Management Practices.

Hamzat Abdullahi, 1988. An address to inhabitants of FCT: 1988 Budget speech.

Gwani J. & Ameh P. (1998) Contemporary Urban Environmental Management Crisis in Nigeria and Future Opportunities.

Jimoh H.I & I.P Ifabiyi, 2000 Contemporary Issues in Environmental Studies.

John Ratcliffe, 1981 An Introduction to Town and Regional Planning 2nd Edition

Lewis Keeble, (1986) Principles and Practice of Town and Country Planning.

Mabogunje A.L, (1974) Urban Land use Problems in Nigeria: Long man Press London

Mc Graw, (1979) Introduction to Planning.

Obateru I.R, (1986) Land use Subdivision guides.

Sada P.O, (1970)Urban Housing and spatial pattern or modernization in Benin City.

Nigeria geographical journal Vol. 18.

Van Nostrand, (1980) The Urban pattern: City Planning and Design Fifth Edition.

ABUJA MUNICIPAL AREA COUNCIL

P.M.B. 64, Abuja.
Phone: 09-2347758, 2343875, 2344037.

In Collaboration with

ACO-HITECK LIMITED

Aco-Hiteck Road, House 26, Off Angle 90 Road, Off Univesity Road,
Phase One, Gwagwalada, Abuja.
Phone: 09-8821791, 8821091.

Our Ref: AMAC/ACO/JHE/PAY1/140/2000

Your Ref: _____

Date 30TH OCTOBER, 2000

HALIDU IBRAHIM
MINISTRY OF DEFENCE
ABUJA.

Dear Sir,

AMAC HOUSING ESTATE: PROVISIONAL LETTER OF ALLOCATION

I am pleased to inform you that the chairman, Abuja Municipal Area Council (AMAC) has on behalf of her joint venture with ACO-HITECK LTD. approved the allocation of ONE WING OF EXECUTIVE THREE BEDROOM SEMI-DETACHED BUNGALOW **********
to you at a total cost ONE MILLION FIVE HUNDRED THOUSAND NAIRA (N1.5M) ONLY EXCLUDING VAT

I am further directed to request you to pay the initial deposit of SEVEN HUNDRED AND FIFTY THOUSAND NAIRA ONLY for your building in Bank draft or Certified Bank cheque from any of the following Banks only:

(a)	Union Bank Plc	(b)	First Bank Plc
(c)	United Bank for Africa	(d)	Afric Bank Plc
(e)	Wema Bank Plc	(f)	NAL Merchant Bank Plc

Your draft which should be made payable to AMAC/ACO-HITECK LTD. Housing Estate Account, Union Bank of Nigeria Plc Abuja is expected to reach our office on or before 30TH NOVEMBER, 2000

In the absence of any response from you within the given period, we shall assume you are not interested and may proceed to give your allocation to other interested applicants.

The Certificate of occupancy would be issued to you by Abuja Municipal Area Council (AMAC) immediately on final settlement.

Please cash payment is not acceptable in all circumstances.

Congratulations.

Uzogara

MARY UZOGARA (SECRETARY, ACO-HITECK LTD)
for: AMAC/ACO-HITECK HOUSING ESTATE COMMITTEE, ABUJA.

ASSESMENT OF INFRASTRUCTURAL FACILITIES IN THE ABUJA MUNICIPAL AREA COUNCIL HOSING ESTATE, LUGBE ABUJA

QUESTIONNAIRE

SECTION A

PERSONAL INFORMATION

1.Name of allotee /Occupier ----------

2. Occupation----------

3. Marital Status----------

4. State of origin----------

5. Local Government Area----------

6. Religion----------

SECTION B

INFORMATION ON POPULATION AND HOUSEHOLD SIZE

7. Type of structure occupied (Brick, Plank, Or concrete building)----------

8 Are you the Head of your family? ----------

9. Family Size----------

10. How long have you live in the Estate (0-2 years , 2-4 years 4-6 years)----------

---

SECTION C

11.Is there any market close to you? (Yes or No)----------

12. If yes, what type(Legal or illegal)----------

13. If illegal what type of shop? (Open or Close door)----------

14. Who built them? (AMAC or FCDA)----------

15. What form of union do you belong? (Cooperative, religious, ethnic etc.)----------

16. What tribe are you?----------

17. Is there any community help organisation in this estate ? (Yes or No) ----------

18. If yes, mention any one you know ----------

SECTION D

RECCONNAISSANCE – AID INFORMATION AN THE AVAILABLE INFRASTRUCTURAL CONDITIONS

19. Do you own a Car ? (Yes or No) ----------

20. If No , what form of transport facility takes you round the estate ? (Taxi, Cab or motor bike)----------

21. How do you rate the utilities (Road, Electricity, Water supply) I terms of availability (Quite adequate, adequate, inadequate, grossly in adequate)----------

---

22. How do you asses condition of their use? (Quite fair, fair, quite deplorable)----------

23. Are you connected to any of these facilities? ----------

(NEPA & WATER only, NEPA only, WATER only, ROAD only, NEPA, WATER & ROAD)

24. Have you witness any maintenance of these utilities? (Yes or No)----------

25. If yes by which Organisation? (AMAC or AEPB)----------

26. If yes how often (Daily, Weekly, Monthly, Quarterly)----------

27. If No how have you been copping with the condition of these facilities (through self help, etc.)----------

28. How do you asses the quality of the facilities ? (High, Low, Very low quality)----------

29. What type facility or services are you close to ? ----------

(Refuse dump site, Children play ground , School, Post office, Recreation area etc.)

30. What condition are these facilities? ----------

(quite fair, fair, quite deplorable)

31. From your own assessment are the utilities, facilities, and services generally

adequate ? (Yes or No)----------

32. Have you experienced any form of environmental hazard ? (erosion,

flooding, pollution.) (Yes or No) ----------

33. If yes mention the ty ----------

34. What kind of utilities are you lacking ----------

35. What kind of facilities and services are you lacking ----------

36. Which Government organisation that usually comes around for maintenance

of these infrastructures ?----------
(FHA, FCDA, AMAC, AEPB, FEPA).

37. COMMENT GENERALL ON THE QUALITY OF THE ENVIRONMENT AS IT IS PRESENTLY ASSOCIATED WITH THE STUDY AREA----------
---

Thank you for your cooperation.

Table 4.1f : Site and access standards for services and facilities.

Neighbourhood	(Site area Ha)	Maximum service radius (m)
Nursery School	0.8-1.6	400
Nursery Primary school	1.6-3.2	400-600
Neighbourhood centre	0.8-1.2	800
Shopping Centre & market	1.6-4.0	800
Retail Shops	0.05-0.1	100-150
Neighbourhood Playground	1.6-2.4	400-800
Neighbourhood Park	0.8-2.4	400-800
Children Play ground	0.2-0.5	100-150
Healthcare	0.4-0.6	800
Places of worship	0.3-0.4	800
Postal agency	0.1-0.2	800
Police post	0.2-0.4	800
Commercial Bank	0.3-0.4	800
Petrol filling Station	0.3-0.4	800

Source: Ekistic, March-April, 1980.

Table 4.1g: The score table.

S/NO	CONDITION OF INFRASTRUCTURE	ASSESMENT	SCORES
1.	Quantity	Quite deplorable	1
		Not adequate	2
		Grossly inadequate	3
			4
2.	Quality	High quality	1
		Medium quality	2
		Low quality	3
		Very low quality	4
3.	Structural condition.	Quite fair	1
		Fair	2
		Not fair	3
		Deplorable condition	4

Table4.1g has tried to assign weight or scores in form of values in relation to the response of the respondents to section D of the questionnaire formed during the field survey describing the quantity, quality and structural condition of the infrastructure provided at the study area.