

**AN APPRAISAL STUDY ON THE EFFECT
OF BUILDING ON THE ENVIRONMENT
(A CASE STUDY OF NASARAWA, NASARAWA STATE)**

BY

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PGD/GEO/2000/2001/124

DEPARTMENT OF GEOGRAPHY

F.U.T

MINNA

NIGER STATE

MARCH, 2002.

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**TO THE
DEPARTMENT OF GEOGRAPHY
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ENVIRONMENTAL MANAGEMENT
TECHNOLOGY**

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Graduate Diploma (PGD) in Environmental Management
Technology.**

**FEDERAL UNIVERSITY OF TECHNOLOGY
MINNA
NIGER STATE.**

MARCH, 2002.

CERTIFICATION

This project has been read and approved by the undersigned as having satisfied the requirement for the award of post graduate diploma, at the Department of geography, school of social science education, Federal university of technology.

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Date

DECLARATION

This is to certify that this project is the original work undertaken by Rahinatu Ibrahim PGD/Geo/2000/2001/124 and prepared in accordance to the regulation on the project design by the department, Federal University of Technology, Minna, Niger State.

.....
RAHINATU IBRAHIM

.....
DATE

DEDICATION

This project is dedicated to God Almighty, Who saw me through during my study at the university, also to the sponsor the Federal polytechnic who brought me up with care and good training and also to my brother Isyaka Ibrahim for his financial support and moral caring for my training.

ACKNOWLEDGEMENT

To start with, I am indebted to my creator (Almighty Allah) Who made it possible for me to be alive and also for His blessing, guidance, love and protection without which my course would not have been completed.

My sincere and profound gratitude goes to my project supervisor, Dr. (Mrs) Odafan under whose guidance this project work was a success and reality. I am also grateful for her instruction, constant supervision and in fact immense help.

My immeasurable thanks goes to my brother Alhaji Isyaka Ibrahim and my mother Alh. Rabiatu Asende for giving me the chance and resources to attain this height and also my full appreciation goes to the federal polytechnic Nasarawa for their financial and moral support towards the achievement of my research and completion of my academic programme.

ABSTRACT

The project topic: "An Appraisal Study on Effect of building on the environment", is the main aim of this research work to analyse the problems in the building industries and materials used on the construction industries and know the various stages in building in this country with a particular references to Nasarawa, Nasarawa L.G.A of Nasarawa state.

It is a collection of my practical experience through personal interviews and observations.

It was found out that building consist of houses, offices etc, for people to use.

The researcher believes that by the end of the project attention will be drawn not only from constriction industries the government but every individual that makes up the society to know his role towards ensuring a smooth take off of technology advancement of this nation.

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CHAPTER ONE

INTRODUCTION

1.1 THE TRADITIONAL ACT OF BUILDING

In discussing the traditional of African architecture, emphasis must be placed on the word culture. Culture is the bane of African life and it is reflected in every single activity of the African society.

The importance of culture derives from the fact that it is cumulative. This is to say a culture would translate human experiences into an ever-expanding store of symbols that preserve meanings and relations in abstract and readily transmitted forms such as language.

In the same vein, the relationship of individuals, or groups of individuals to the environment can be analyzed. These relationships depend on the contribution of the individual or group to the construction and maintenance of the environment.

Secondly they depend on the contribution of the environment to the sustenance and protection of the individuals or group.

To find which properties of the environment are of significance to a particular process. One has to consider the process as a function of a system (which is a set of interrelated variables), and there are repercussions for its members when there is change.

In order to explore the basics of this system as related to the act of building, it is of prime importance to seek a meaningful explanation of the

purposes of building itself. Of interest is the dictionary definition, which describe building as the "act, process or business of construction houses."

However, one must seek the purposes of building, for one, it serves as shelter and afford protection from the elements, which some societies such as basic human rights. Secondly, it could serve as a means of profit, a situation that certain societies consider taboo.

Finally, it could serve as a symbol in the form of the builder's introverted needs or as an extroverted symbol of the owner's/community. It is symbol; conversely, in societies where buildings act as a means to an end (profit), there is usually no major consideration in terms of everyone's basic rights to shelters.

In traditional African architecture, the use of housing as a community symbol is rooted deep in the cultural origin of the particular society. The participation of the community in the building process is only possible because each member of the community is guaranteed some shelter. With this in mind, one can then seek a familiarity with the major means of achieving total participation in the building process. At this stage, one must mention the work of Abdelhalim .T. Abdelhalim. "The building ceremony". Produced as a doctoral dissertation. It is perhaps the only work to date that extensively explores the universe of traditional building ceremonies the world over.

The building ceremony uses myth; ritual and ceremony as a means of cultural integration and regeneration view the route of building. This is to say building is used as a tool to integrate people and the universe.

Moreover, the building process becomes a strong, liberating and enriching activity. Abdeihalim categorically mentions that this building ceremony regenerates identity, release creativity and helps unify communities. "This is facilitated by the utilization of acts which connect man to the cosmos or the universe.

In respect to other external communities building ceremonies in traditional Africa are usually termed as animistic and paganistic. "There would be no further controversy if everyone understood that the word pagon only means "different" as opposed to the general belief that it means something negative of course, this belief emanates from a cultural overview imposed by cultures whose intentions mandate on inimical assessment of the traditional culture under scrutiny.

For examples, Europeans Christian missionaries and adventurers, at the onset of slavery and colonization, forcefully stopped rituals and instigated the building of religious houses using a European prototype. On the other hand, Islam usually cooperated with indigenous building types in that the requirements for the practice of the religion are limited only to a clean space facing east. This is hardly surprising considering the origin of the religion itself. These origins have been documented in the chapter on religion.

The building ceremony ensures that a lot of cultural concepts are continued. These are constant reminders of community values. The participation of people is not symbiotic and therefore does not infer on accumulative

orientation. This is insured by the fact that there is strict control of both the process and product, which in turn allows for the definition of goals and methodology in this way the process of the building ceremony is ordered, regulated and shared.

The building ceremony anchors the activities of building in the regeneration process of the community by linking the ordering of the building to the identity of the people, the regulation of production to the release of creative energy of the people and the activities of exchange to the solidarity of the community.

Although cultural traditions promote continuity and permanence in building types and styles, time does bring change.

In part world areas of the Arab realm, for example- dwellings appear much as they did centuries ago. In parts of Africa, too, dwellings in rural areas and even in some cities are still built according to centuries- old principles.

You can walk some of the streets of Kano, Nigeria and imagine that you are in another age. On the other hand, the effects of modernization can be seen even in the African bush where many a house builder now substitutes corrugated metal sheeting for the thatch used on the roof. Now two floor plan of the house may remain the same, but the building materials are no longer those of the region. Perhaps we should recognize four groups of houses. Unchanged traditional modified traditional modernized/where both building materials and floor plans show changes and modern.

DEFINITION OF TERMS

BUILDING

By 'building' we generally understand houses, offices, shops, hotels, and restaurants, flats, schools, churches, and cathedrals, as well as factories. Railway station, hospitals, theatres, pagodes, public lavatories, town halls, museums, libraries, brothels and so on.

Building in short, covers most form of construction built on terra firm a with walls, floors, doors, windows, and roofs where people live, shop, worship, debator, amuse themselves or simply shelter from the weather. Traditionally they smack of bricks, mortar, timber and tiles with an earlier ancestry of stone, slate and some are of ver ancient vintage.

Most buildings today are designed by Architects who are the lineal descendants of the ancient master builders a mongrel breed of artist, engineer, businessman and sometime courtier and politician. Architecture, said Sir Henry Wolton, most fulfill three conditions, "commodities, firmness and delight".

The Architect is referred to in this project as the superintending officer, although for an engineering contract this man will usually be a civil or mechanical engineer.

A building must be stable, durable, sanitary and fire-resistant. These are the basic aspects of good building construction.

Environment

The Oxford Advanced learners English Dictionary defined "environment" as conditions, circumstances etc. affecting people's lives. It is the complex of physical, chemical and biotic factors that act upon an organism or an ecological community and ultimately determines its form and survival.

(Encyclopaedia Britannica, Vol. 4) Haggett (1975) defined Environment as the sum total of all conditions that surround man at any point in time on earth's surface.

Viewing human environment from the economic point, others described it as natural, capital and analogous to financial capital assets. In this case, any damages done to the environment runs down capital, which sooner or later reduces the value of its recurrent services for residential housing environment for instance, any damage or deviation from its residents at stake. The residents as well can be psychologically affected when any little damage (or disturbance from its ideal condition) is done to residential housing environment. This is why there is cry for sustainable developments. These are developments that will take cognisance of the meeting of future needs.

PHYSICAL ENVIRONMENT

Our physical environment is made up of air, water and land (Holderner and Lambert, 1987).

Air is essentially necessary for life to exist. This is the reason why adequate ventilation is a fundamental consideration in the design of residential

housing. Clean dry air is composed of some elements as shown in table below. Each of which has its proportion constant as long as the air remains clean. Any change from the constant composition of air indicates the presence of some pollutants in air.

Table 1: Components of Clean Dry Air

S/No	Gases	% Proportion
1	Nitrogen (N ₂)	78.10%
2	Oxygen (O ₂)	20.10%
3	Argon (Ar)	0.93%
4	Carbon IV Oxide (O ₂)	0.03%
5	Mixed gases of Neon hydrogen, various other molecules	0.84%

Source: Harper and Row, 1981

In essence, air pollution is the presence in air of substances in quantities, characteristics or duration, such that may affect healthy of human beings, animals, plants property and structures.

Water bodies form the home of fishes and some other aquatic life. Our water environment must be kept clean if these life form will function most effectively. The quality required of water varies with the uses to which it is to be put. Water is considered polluted whenever it is unsuitable for a specific purpose. Water also support our Navigation industry.

Land is a very vital mineral resources which is the home of our mineral resources, terrestrial animals, valuable forest resources base for our physical development etc. It is therefore very necessary that the land environment be protected. The institute of water and environmental management underscored the need to protect our land environment from pollution through effective waste management.

HOUSING DEFINITION

Shelter, that is physical protection from elements and intruders, is the major function of the dwelling no matter whether it is in an urban area or rural setting. That the dwelling renders a number of service holds as a universal proposition, but the mix of service and the importance attached to each of them vary widely among nations as well as within a nation, other services apart from shelter such as indoor, cooking. Sanitary and storage facilities or assurance of privacy and rest of the provision of space for recreation and children education depend on income, climate and traditions.

Still many people in developing countries regard housing as the equivalence of sleeping quarters; all other functions are negligible. For some however. This is the locus of intense daytimes activities. More still many migrants to the cities of developing countries use their house or rather shack as a base for business activities as well as for housing proper.

In the direct role, housing serves as the area where the individual becomes capable of experiencing community and privacy social well being,

shelter and protecting against hostile and physical forces and disturbances. In the direct role housing serves as the area abundant supply of social intercourse, education, recreation, sports social welfare and health protecting services.

Shopping and transportation.

Types of Environment

There are a number of ways of classifying environments but the most relevant ones are those considered to exist in the symbolic and mutually beneficial relationships. Thus environments are classified under natural environment, built environment and global environment.

The Natural Environment

(i) The Natural environmental factors include geology, landform, soils vegetation, water supply and climate these are considered as the major keys to the development of in space. The natural environment of an area is significant only in so far as it is either easier or more difficult to carry on a particular activity in a particular place. In this case it influences the cost of development desired by man.

Build Environment

Built environment is defined to comprise the houses we live in the office buildings, industrial houses and shops. It includes also the infrastructure and its contribution towards community and transport services and towards the unforeseeable costs of the cumulative growth and decline. These are man made.

Urbanization has implication on shelter employment, movement, water supply, energy consumption waste generate. Any increase in population means increase in the provision of houses, each additional 1000 inhabitants of urban conglomerations are likely to require an increase in supply of water of wads100,000 litres of water per day as well as environmental sound method of managing wastes to provide adequate treatment for an additional 500kg waste per day.

THE GLOBAL ENVIRONMENT

The global environment consists of the shared world. The transboundary resources, such as, the atmosphere, oceans and seas, and living marine resources are inclusive. The state of these resources is a major concern to the world.

Hence in 1989, at the Hague, a declaration was made which emphasized the need for co-operation to protect the global environment. In July 1989 a summit of the Heads of State of G7 was held in Paris emphasizing the need for an umbrella convention on climatic change. This was reaffirmed at the next summit of G7 in Houston, U.S.A in July 1990. A ministerial conference on atmosphere pollution and climatic change was held in Noordwijk in November 1989 and Bergen Ministerial Conference of May 1990 similar concerns were expressed. The main emphasis during the Earth Summit in Rio of June 1992, was the need to exercise balance in the way human beings use the earth resources.

WHAT IS PLANNING?

The term planning is highly difficult to define because of its extreme ambiguity. Therefore a thousand and one definition of the word. However, some of the meanings of are considered below:

In this most simplified form, planning means a decision-making process involving taking decision (s) about future. It thus future oriented. Planning is deliberate hence its concern is with consciously achieving some good (set targets) or objectives. It is geared towards problems solving, both existing and to prevent similar problems occurring in the future. It involves taking (sometimes, several) actions decisions which are check-listed (as it were) and proceeds by arranging these actions/decisions sequentially (Hall 1982) for purposes of step-by-step actualization. Planning of this orderly, sequentially or systematically in its operational characteristics.

The Construction Process

Generally, the owner is the person or entity who furnishes the site, the design and the money for the project. The owner may be a public entity, a private corporation, a business partnership or an individual building a home. Whether public entity or private party, the owner may be experienced or unsophisticated in the process of constructions. The experienced owner is likely to have develop procedures and contract forms which deal with every aspect of construction and provide skilled contract administration. The unsophisticated

owner is often unaware of the customs and practices of construction. The rules of the various participants and the terminology used.

To all owners, public or private the amount to be paid for the project and the predictability of the amount is of crucial importance. Some owners have limited financial resources and do not have the financing adequate to cover the risk of unforeseen events or of problem which can increase the ultimate cost of the project.

The volatility of the construction industry adds to the high probability of construction project disputes. Because the fixed price or lump-sum contract is so common, a few bad bids can mean financial disaster. Contractors are often underfinanced, they may not have adequate financial capability or equipment when they enter into the job or project. They spread their money over a number of projects. They expect to construct the project with finances furnished by the owner through process payments or through loans obtained from lending institutions.

Labor problems, especially jurisdictional disputes, are common. Many of the trade unions have restrictive labor practices that can control constructions methods.

Within the construction industry are contractors who do not have the technological skill necessary for a successful construction project. Often the technological skill, if there is any, rests with a few keys employees or offices.

The skill is often spread thinly over a number of projects, and can be effectively diminished by the departure of key employees or officers for better paying jobs.

The construction industry has attracted a few constructors of questionable integrity and honesty. These contractors will try to avoid their contractual obligations and cancel inefficient or defective performance. Such contractors are skillful for one project to a different project.

Design professionals, the third part of the construction triangle, find themselves in often uncomfortable position of working for the owner yet being expected to make the impartial decision during construction. They, like the constructors, have financial problems because these are more of them chasing less work.

All of the main actors, owners, contractors and design professionals, suffer because of a chronically sick building industry particularly affected by rapid movements of the economy and changes in public spending policies.

1.2 AIMS AND OBJECTIVES

The aim of this project is to discuss the causes and effects of building in the environment, and to suggest possible solutions on how to eliminate or eradicate problems in building.

OBJECTIVES

The aim of this study will be achieved through the following objectives:

- i) To examine the various stages building
- ii) To access the existing building

- iii) To examine the various building materials
- iv) To prepare a well building plan for a building
- v) To examine the role and duties of each construction industries

1.3 JUSTIFICATION / SIGNIFICANCE OF THE STUDY

Usually, no research study is conducted without a purpose, this study is intended to look at the various forms of building industries or construction industries and their effects on the environment.

Using Nasarawa Local Government Council as a case study is also intended as an academic exercise to be a partial fulfillment for the award of post graduate Diploma in Geography Department of Federal University of Technology, Minna.

Finally, this study will create an awareness at the construction industries on the fact that building has an effect on the environment.

1.4 STATEMENT OF PROBLEM

Building as a unit on the environment has an influence on the health, social, behaviour, satisfaction and general welfare of the community. it reflects the cultural, social and economic values of the society as it is the best physical and historical evidence of civilization in a country. The importance of proving adequate building in any country cannot be over-states. It is stimulant of the national economy.

The major problem encountered during the data gathering process is that of logistic, as lot of people were not willing to respond to questions. Not all the

Questionnaires were returned and even among the returned questionnaires not all the questions were answered., some respondents did not answer some vital questions and this affected the amount of information gathered through the process.

Some of the elderly man interview has already warming memories and could hardly remember dates or events as they were in the past. Some of the villagers were suspicious of the aims and objectives of the research work and it took long to explain these before their co-operation was enlisted. Some of the villagers and district heads were suspicious and afraid that information supplied might be used by government to deny them of the traditional benefit they get from the land.

There was also the problem of in-accessibility to some farms as the owners have fenced round their farms with witchcraft to protect them from evil of thieves.

Finance and transportation were among the major problems encountered in the course of data gathering process. The three districts covered a total area of about 5,743km. with untered and unmotorable roads leading to villages.

Transport fares were exorbitant and sometimes motorcycles were the only means of transportation to some remote villages. For instance in Gudigi villages of Nasarawa district, about ₦300 is charged as fare from the villages to to Ara town, a distance of about 18 – 20km.

1.5 SCOPE AND LIMITATION OF THE STUDY

This study is based on the effects of building on the environment with emphasis on Nasarawa Local Government Council of Nasarawa State.

The study is designed to cover the various types of buildings, material used, roles and duties of each construction part or industrial and the construction itself and general function of building which affect the environment.

During the research work, problems encountered include the un-cooperation attitude of some members of the staff of the Local Government especially the senior staff that belong to the local government. Also, some of the interview made to the construction worker there.

Furthermore, there were other constraints as a result of limited finance and time factor.

These apparent limitation notwithstanding the writer feels that he/she still had enough on which to build a good work.

1.6 STRUCTURE OF THE PROJECT

The structure of the project consist o six chapters, which include chapter one as the introduction, chapter two the background of the study area, chapter three literature review, chapter four the methodology, chapter five the solving on the data collected while chapter six contain the summary and conclusion of the research project.

CHAPTER TWO

THE STUDY AREA

2.1 HISTORICAL BACKGROUND

Nasarawa Local Government council was one of the twelve administrative divisions of the former Benue State of Nigeria and is presently one of the largest local government areas in the newly created Nasarawa State. In terms of land mass, it is situated on the south western fringe of the state

Nasarawa local government area is flanked by Karu local government area to the North, Doma local government area to the east, the Federal Capital Territory in the South and Benue state in the west (fig 2).

Nasarawa local government area has an area of about 5,743.84km². Rainfall is fairly distributed in the local government area with months of May to September recording periods of heavy annual rainfall. The months of November to April are usually observed as dry season period. The soil is fertile and good for agricultural activities.

There are plateaus of different heights in the area especially on the eastern part of these include Onda Hills, Kama Hills, and Dutsen Area. Rolling grasslands are commonly found on the central portion of Nasarawa local government area. Consequently favouring good pasturage of stock around, the Fukani Nomads bring down their herds annually in the dry season and camp along the whole of the Northern half of the local government area.

In the southern slopes of Nasarawa down the River Benue are heavily wooded and carry along with them fine specimen of African Mahogany trees as well as large numbers of oil palm often time these patches of forest country produce some economic trees with such vegetation naturally big game if plentiful especially between Bakwano, Tunga and Daza area.

Generally, the soil in the study area is loamy and therefore rich in humus required less fertilizer for growing both root and cereal crops.

The area has a total population of one million people who are mostly rural base peasant farmers. Agriculture is the most vital sector of the economy in the local government area, it constitutes the principal source of income to the local government areas. About 2/3 of the population of the local government is employed in agriculture, which is still characterized by a primitive shifting cultivation system. Rural base farmers are faced with lack of financial means for even the simplest farming equipment and therefore the technology and techniques of production are backward, consequently levels of production are also low.

The major food crops produced in the area are cowpea (beans), rice, other are yam, cassava, millet, beniseed, guineas corn and maize.

Roots crops like cassava are of great economic importance as they are exported in commercial quantity to the state like Katsina (Jibya), yam are also produce and taken to the southern parts of Nigeria in commercial quantity.

Increase in social – economic activities in Nasarawa district has resulted to many farmers leaving agriculture for others economic activities. Consequently, the number of farmer in Nasarawa district is less when compared to other district.

Nasarawa local government area is administratively broken up into 3 districts Nasarawa, Loko and Udege, (fig 2). The main tribes in the area include Hausa and Fulani, Afro, Gaden Ara, Gwari, Agetu and Ganana who all speaks different dialects and here different historical and cultural background. Stronger elements include Tiv, Mada, Ibos, Yoruba and Eggon people .

Historically, one Umeru Makama Dogo founded Nasarawa in 1835 as one the vessel states of the Fulani dynasty from Zaria. During the holy war (Jihad) Makama Dogo spearheaded the conquest of Kwalto in the present Toto local government area. Umaru Makama Dogo the son of Usman Rabawawa held from Katsina amd had seven children and after conquering all the areas presently known as Nasarawa and Toto local government areas, he then appointed from members of his family and posted to each district to administer the area on behalf of the Emir. As agents of the emir, the District heads were directly responsible to the emir and they collected all dues and titles in all landed matters from the peasants for the emir.

Nasarawa is situated at the confluence of river Kurafe and River Hadari which are the main tributaries of River Benue.

A by-pass has been constructed to the North-west between the town and river Kurafe which has earlier a national barriers towards the west.

The main access to Nasarawa is from Keffi-Nasarawa-Toto road which continue to Koton Karfe. Two kilometers of the traditional town center, a road towards the south branches off and continues through Nasarawa towards east-west going road through the core area connects the two main roads. Together the three from the main road network in Nasarawa.

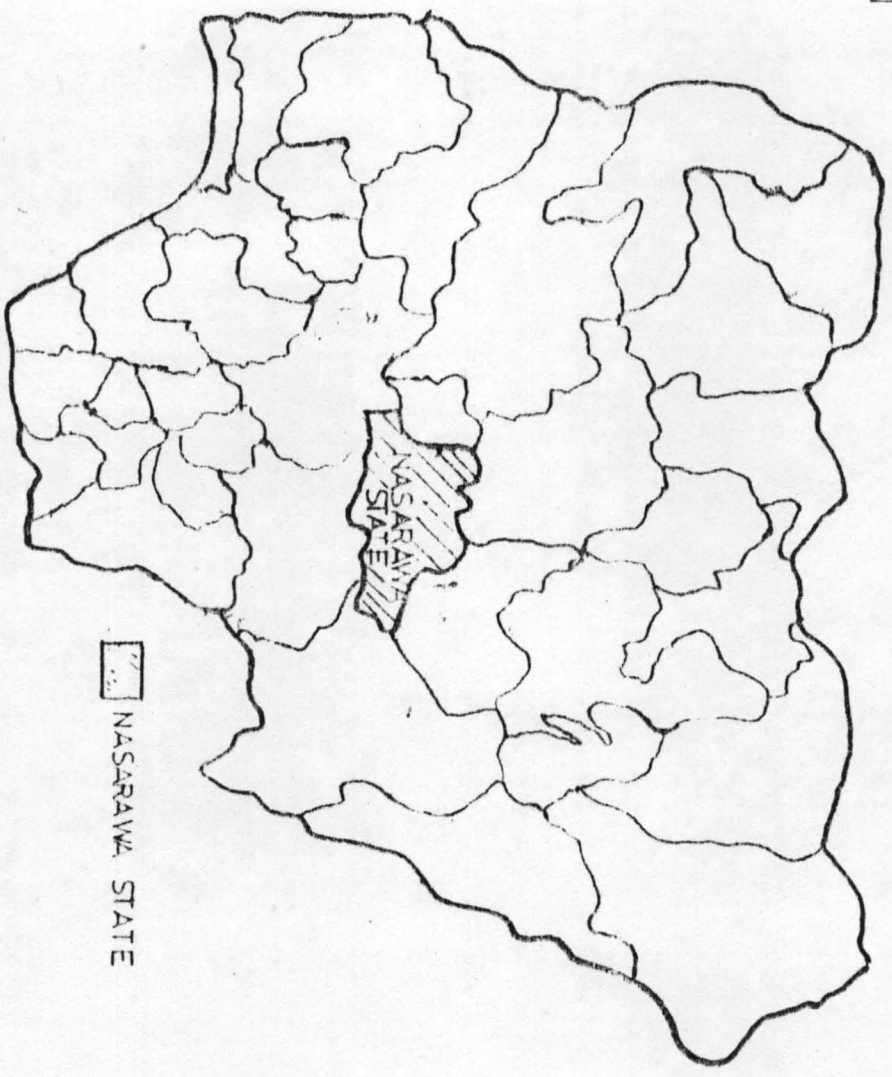
A motor park and a market are alone the Keffi – Toto – road adjacent to post office and Natal. In the area and another road linked to other villages pf the Nasarawa local government is existence such as Loko road.

The geographical location of Nasarawa is approximately on longitude 50°E and latitude 8.5°North . Nasarawa town is located 40 kilometer (forty) South of the Keffi on the main Keffi Abaji – Lokoja which is one of the main crossing points at River Niger for traffic towards the south western part of the country.

The town is located forty kilometers (40km) from Keffi and about ninety two kilometers (92km) from the new Federal Capital Territory – Abuja. The vegetation cover of Nasarawa is the Savannah types, characterized by discontinuous trees, shrubs and grasses. The economic status of the town is sound because it serves as a services center in the surrounding town, villages etc. presently there is a boom in the business arena in Nasarawa.

MAP OF NIGERIA SHOWING NASARAWA STATE

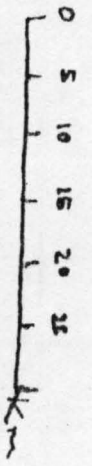
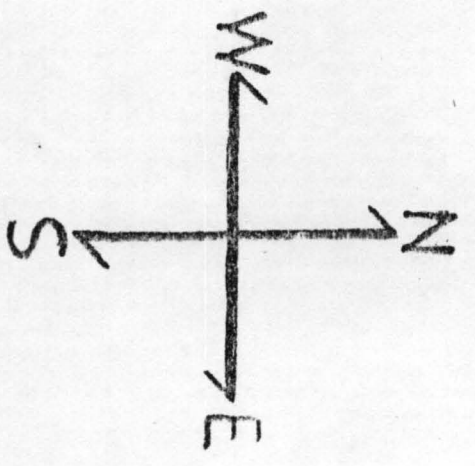
Fig 2.1



 NASARAWA STATE

TRACED BY — RAHINATU IBRAHIM

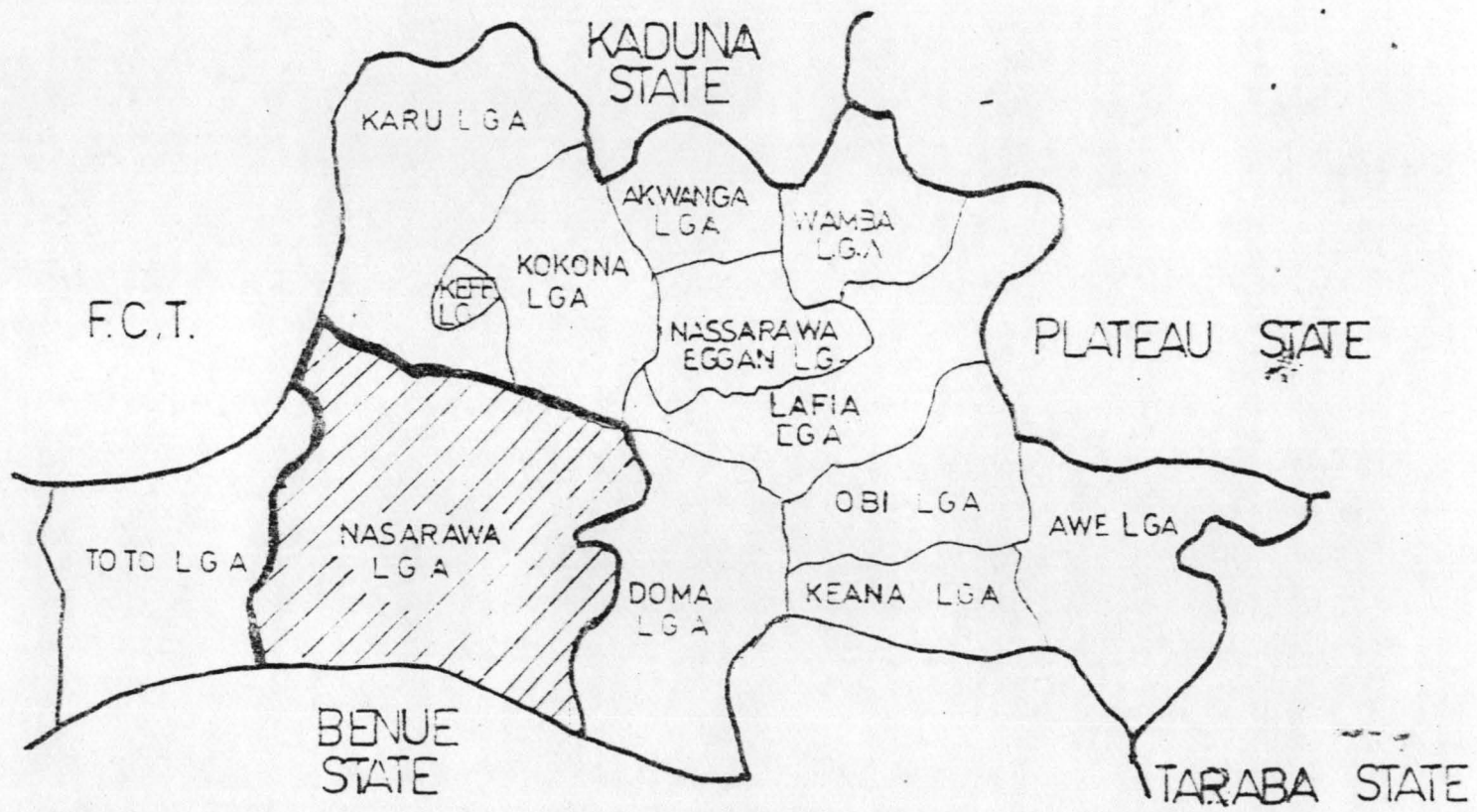
FROM THE WORLD MAP WITH MODIFICATION



SCALE: 1:750,000

MAP OF NASARAWA STATE SHOWING THE LOCAL GOVERNMENT AREAS

Fig 2.2

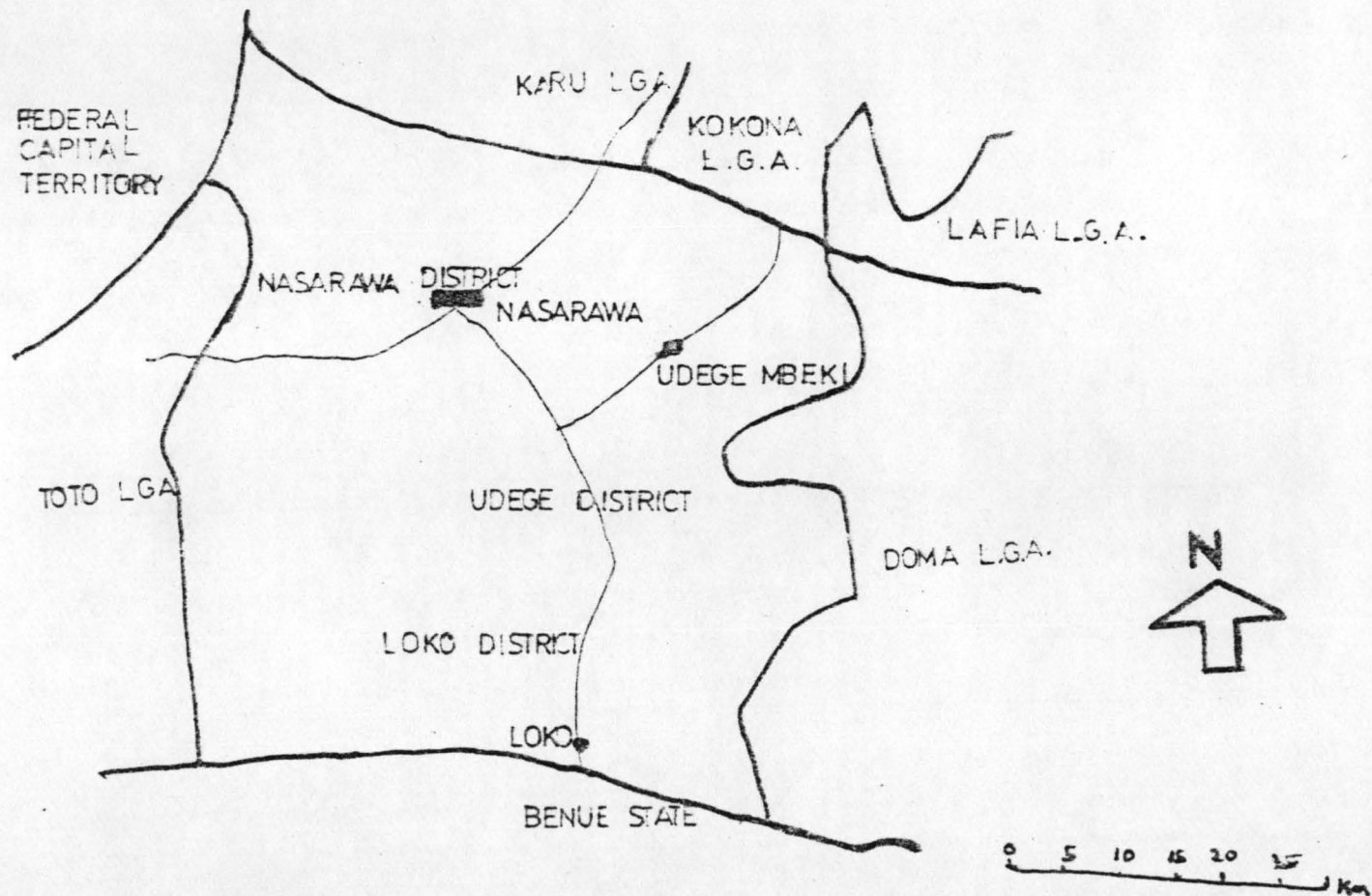


FROM NASARAWA MASTER PLAN

TRACED BY - IBRAHIM RAHINATU

0 5 10 15 20 25
SCALE: 1:750,000

NASARAWA LOCAL GOVERNMENT AREA SHOWING
THE DISTRICTS
Fig 2.3



TRACED BY — IBRAHIM RAHINATU

FROM THE MAP

SCALE — 1 : 750 000

Socially, the related facilities found in Nasarawa includes all the necessary social amenities such as electricity power supply, portable water supply, services stations, health centers and hospital, primary schools, secondary schools, a higher school of learning (that is Federal Polytechnic) accessibility to all of these mentioned areas is easily facilitated by the by the means of good services roads, accessible through the year. On the whole, the aforementioned factors are contributing in no small measure to seeing the town weak a new look, socially politically, economically and otherwise.

2.2 POPULATION AND THE ENVIRONMENT

A further implication of the worrisome growth of our population is the snow – balling effect and the consequence it has on the environment. The increase demand for food has, infact, dictated on intensification of land cultivation. The dire need to increase yields and output lead to the use and misuse of chemical fertilizers with deleterious effects on the already fragile topsoil thereby decreasing land fertility and productive capability. It meant, in effect in farmers would be forced to seek fresh land for cultivation where a new of cycle environmental deterioration would be re-enacted,

In addition to this are the physical implications of a high population pressure on the environment. Rapid population increase eventually increases the temps of urbanization. The need for cities continuously to expand involves activities that lead to the destruction of forests and vegetation. Participants noted that the reduction of plant cover means that the emission of carbon

dioxide by man and his activities has no easy way of being absorbed naturally and its increase in the atmospheric can be expected to have dire consequences for human beings in the green house effect.

2.3 POPULATION OF NASARAWA

The 1991 population census of Nigeria estimated Nasarawa town to be 23,284 made up of 12,233 males and 11,054 females and projected to the year 1996 to be 26,876 people by the national population commission.

2.4 PHYSICAL DATA

(a) TOPOGRAPHY

The Jos Plateau is the highest of the central Plateau and is the highest geographical and hydrographical center of Nigeria, forming a central of Nigeria, forming a central water divide from an elevation of about 1,500 to 1,800m to the plateau descends in a series of steep slopes in the wide Benue trough.

The Northern part of the Benue through the Northern lowlands, form a continuous plain about 100 kilometers wide which gradually slopes from the foot of the plateau towards the Benue river. The Northern part of the plain show a slightly steeper slope, descending from the foot of the plateau escarpment, south of the Northern low-land, follows the Benue river flood plain.

The western part of the northern low-land is an of transaction only part of it can be regarded as belonging to the Benue plains. The northern half, consist of a number of different landscape. The northern most section is a broken country of steps hills reacting an elevation of up to 840 meters and narrow

valleys. At the foot of those hills lies the Keffi plain at an elevation of 250-300 meters.

The southern half belongs to the Benue plain. It is generally some what higher in the most and has sleeper slopes towards the river. Its outstanding features and the hills to the east of Nasarawa which presents the southern most outlines of the plateau.

Nasarawa is situated between the Kurafe river which forms the western boarder of the town and the Tuderu river in the east. The rivers have their confluence about 3 kilometers south-west of the town.

b. VEGETATION

Nasarawa is situated in the Benue valley between the Benue River and the Jos Plateau. This area lies within that part of the Guinea Savannah.

The vegetation has, to a large extent resulted from extensive agricultural use of land.

The predominant vegetation type is park savannah which is characterized by a discontinuous canopy's shrubs and grasses. Many areas are affected by men through bush burning during the dry season. Among the common trees are oil bean, shear butter tree, the locust bean trees and isobertine tree. A large part of the vegetation is made up of different crops and pasture.

2.5 CLIMATIC DATA

2.5.1 Rainfall:

Nasarawa like any other part of the country experiences two seasons:

- i) A dry season without or with very little rain from November to March.
- ii) A wet season from April to October.

The mean annual rainfall is about 1,300 millimeters (mm). The months of December, January and February are particularly cold due to the cold dry wind of the harmattan.

2.5.2 Temperature

The highest temperature always tends to occur at the end of the dry season, close to the spring equinox. Thus, March has the highest temperature. The lowest temperature occurs in the middle of the season in December or January, when the outgoing radiation is encouraged by low humidities, clear sky and longer nights. The lowest monthly mean temperature for the year occurs in the middle of the raining season, when the daily minimum temperature is low. The main monthly temperature varies between 25°C in December and 36°C in March, see diagram below.

2.5.3 Humidity

In the dry season, there is a decrease in relative humidity from the south to the North in Nasarawa state considered by the higher elevation in the North. In the raining season these variations disappear. The relative humidity shows a marked decrease from the early morning to the afternoon throughout the year.

2.5.4 Wind

The direction of wind is dominated by the seasonal movement of the inter tropical convegance zone, which represents the moving frontier between moist Atlantic air from the south and dry air from the North. In the dry season from November to March, the North-Eastern wind are dominant, for the remaining of the year, the south western wind are prevailing. Generally the wind velocity is relatively low.

CHAPTER THREE

3.0 LITERATURE REVIEW

Housing is one of the basic needs of men. It goes beyond simple shelter to include utilities and community services such as water supply, sewage disposal, electricity, good drainages etc. When viewed in such broad terms, the place of housing in the complex of factors determining the general well being of society become apparent, ensuring these qualities and sustaining them in the face of rapid urbanization and city growth have become necessary.

Housing both the urban and the rural populace have been a strong issued in development agenda. The gap between the supply of and the demand for housing widens with every passing day. This is partly because of the rate of growth in population requiring shelter is faster than the rate of development in shelter provision. The slow increase in housing provision is strongly adduced to high cost of building materials. Apart from the increasing stock, renewing the old and existing stock is also affected by this prohibitive cost. This has made the problem of housing not only that of quantitative but also qualitative. It is at this point that it has become essential that human aspects which could negatively affect the durability and consequently, the performance of existing houses be studied and tackled to compliment the efforts toward mass housing delivery.

The level and standard of housing may be based on the physical conditions of the dwellings (structure and maintenance) existence of internal facilities and be general standard of the environment particularly, the amount of

space available to each individual (occupancy ratio) Joseph (1978) maintained that the housing situation in Nigeria is that of acute deficiency both in quality and quantity leading to overcrowding formation of slums and an alarming rate of growth of squatters. There was further emphasis on the attributed of poor housing quality in Benin city to the lack of internal facilities and conveniences as well as environmental conditions rather than structural conditions.

3.1 THE ENVIRONMENTAL SYSTEMS

3.1.1 The Environment:

The term environment literally means surrounding, circumstance or influences, However, different human groups with different technology view the same environment in different ways Strahler and Strahler (1977). This is perhaps because of the differences in interest. For instance, the interest of a "pure" or earth scientist such as geophysicist will be quite different from that of a Geographer. It therefore becomes pertinent to attach interest to the term if full meaning is sought in this view, geographers has defined the term environment in relation to man. It is seen as a sum total of conditions which surround men at any point in time on the earth surface. The emphasis is on the influence of these conditions exerted on man as well as the influence, of these conditions on man Jeje and Adesina (1996). These conditions according to Hagutt (1972) and Strahler, and Strahler (1977) were originally largely natural especially for early man, these include climate, terrain, vegetation and soils.

Man become civilized and therefore surrounded himself with artifacts which become part of his environment. Consequently, it is now possible to talk of physical and human environment. The environment of man is however conceived by Billington (1977) to include plants and animals (living things) and non-living things such as rocks, air sunlight and water bodies.

3.1.2 Systems

A system can be defined as a structured set of objects and/or attribute which according to Wilson (1981) is made up of a collection of components or variables that show discernible relationships with one another and operate together as a complex whole based on certain observed pattern. Accordingly, there is an input which through a regulator, flows in and out the store. For instance, the earth may be regarded as a single energy system, which receives solar energy as an input, reflects light energy and radiations heat energy as an output.

System is further understood through the submission of Okafor (1988) who defines the term in the context of interaction, which simply means the process by which two or more objects having mutual action, act on one another. For example, individual system has its own domain of operation such that its interactions with another system such that its interactions with another system make it a subsystem to that particular whole system. A good example is that given in the Encyclopedia America Volume 4 where human body is considered as a whole system which is composed of some other systems such as

musculoskeletal system, circulation blood system, reproductive system among others. Each of these also has certain subsystem, which makes them to operate and function.

Generally, there is exist no unique technique of classifying system, Wilson (1981). However, different scholars have adopted different classificatory techniques depending on the purpose of use. A quick classification may concern the root of the system such that there exist those that have roots (Solar system) as well as those that are results of men's activities (transport and communication system). However, a system can be classified into two main classes of functional and system's internal complexity. The functional system of classification included the isolated systems, closed system and open systems. But, the other classification technique comprises of morphological system cascading systems, process response system and control systems.

Our understanding of the leading concepts presupposes, literally that which surrounds men's act in an interactive manner, either within themselves or with man. Interaction here according to Okafor (1983) means the process whereby two or more objects act on one another. This forms the basis of Billington (1977) submission that all parts of the environment work together, giving to and receiving from one another, the things necessary for life. These part of the environment are what Okafor (1988) grouped into five categories including climate (temperature, humidity, and precipitation), Terrain (mountain, hills, valley etc), vegetation soils and artifacts (man made components).

Perhaps an understanding of the composition of the earth may assist at this juncture, in identifying the systems in man's environment especially with reference to the interactions which exist within, the earth is considered by Monkhouse (1975) as the life bearing layer which lies at or close to the vital interface between the earth realms including the gaseous realm (atmosphere), liquid realms (hydrosphere) and the solid mineral realms (lithosphere). To Jeje and Adesina (1966), these are physical components of the earth. The human component is man and his social economic and cultural activities such as shelter, settlement, communication, routes etc.

Our earth environment can therefore be said to be composed of the atmosphere (gaseous portion) which envelops the earth, the hydrosphere or world water (liquid portion), the lithosphere on rocky crust of the earth (Solid portions), and the biosphere which contains organic or living matter. Each of these components constitutes a system and again, there also exist numerous subsystems.

3.2 APPROACH TO THE STUDY OF ENVIRONMENTAL SYSTEM

Geographical studies can be undertaken through several approaches, many authors have discussed various approaches. See Harvey (1968) He identified six different approaches. accordingly, he stressed that there has been a general move in the development of geography from cognitive description, morphometric analysis, cause and effect analysis, through temporal mode of

explanation to functional and ecological analysis and more recently, to system analysis.

The choice of any of these approaches depends strongly on objectives of a particular study. A consideration of the focus of "environmental science" may therefore probably identify the most appropriate approach.

Generally, the art of seeking knowledge about man and his environment is termed environmental science. It is specifically the understanding of the natural systems and processes of the earth surface as they affect and are affected by men, following Harvey's explanation of system analysis that it provides a framework for studying the whole structure of a society or an organism as a systems of interlocking and interacting parts, the concept of interaction between men and the natural systems can therefore be said to be best understood using the system analysis.

System analysis is the study of the structure and behaviour of sets of interacting elements. (Encyclopedia Americana). In fact, it focuses on the understanding of how parts of system work together. However, Wilson (1981) has stressed that there are a number of standard methods available to the system analyst, this includes elementary mathematics computer, simulation and statistical methods. According to the world book Encyclopedia. System analysts also use advanced mathematics (mathematical equation) to describe the different parts of the system. For example, the first system analysis was accomplished by Newton in his mathematical analysis of solar system in 1687

Encyclopedia, America). In fact, system problems have led significantly to the development of many new mathematical optimization techniques such as linear non-linear and dynamic programming.

3.3 MAN AND THE ENVIRONMENTAL SYSTEMS

Man's continual removal of vegetation should be expected to affect cycles as well as energy flow since vegetation plays significant roles in the cycles unguided mining activities especially when it involves openest system lend to destruction of vast lands over use of soil, overgrazing, damming of rivers, poaching, pollution from solid wastes, high ways industries etc. are also capable of distributing the natural operation of the environmental systems. Although, all part of the environment need to work together for survival. Increasing resource extraction, industrialization, urbanization etc. which result from increasing population will be no doubt makes this impossible in future especially when it involves non-renewable resources. These activities of man in the environment have for long been resulting to environmental degradation such as soil erosion, pollution, desertification, floods etc.

For the attainment of sustainable development which is the main focus of the development policies of the developing countries, it is necessary to find means of addressing the issue of overuse of the environmental resources as well as the consequences. Man is able to dominate in man-environment relationship because of the numerous possibilities available to man within a particular environment. Man's choices in these possibilities are guided according to

Behavioural School of thought by his perception and cultural behaviour (1998). It thus becomes pertinent to assume that man is not aware of the consequences of his actions and as such need be informed irrespective of perception and culture. It is perhaps on this note that Sada and Odemerho (1988) argued that the first step in the effective control and management of the environment is in the development of public environmental awareness in the area of conception, interpretation and perception of environment issues. The control and management of industrial. Pollution and deforestation for example, have been discussed in Ajibade (1997, 1998).

3.4 THE BUILDING TEAM

The building introductory is organized (though not by design) into two major groups viz: the professional adviser and the constructor of the end products. The constructors are the main contractors with a wide range of sub-contractors and suppliers which may be domestic or nominated.

Some argument had been advocated to include manufacturers of building products under the group.

The professional adviser are Architects, Engineers, Quantity Surveyors and Service Consultants. The role each has to play and their water-relationship will not be discussed briefly.

3.4.1 Architect:

Traditionally, he is regarded as the leader of the design team such role is gradually being eroded with the emergence of project managers and

management contractors. The Architect translates the clients dream (brief) into reality in geometrical terms. The quantity surveyor relates with the architect by advising him on the financial implications of his designs.

Once the architect completes his design, he passes on the document to structural engineer.

3.4.2 Structural Engineer

By virtue of his training will design a structure, in line with the architectural lay-out, that will carry all the live and dead loads without failing. Armed with his design codes, the structural engineers determines geometric dimensions of the cross sections of the flexural member in such a way that, without any waste of materials, it will be able to withstand the stresses generated by the applied load(s).

3.4.3 Quantity Surveyor

He is the cost expert, regulating and advising the architect and engineers on cost implications of their designs. He also performs function earlier outlined.

3.4.4 Services Consultants

Are generic name for all the Engineers involved in the designs of various aspects of services incorporated in a project. The services consultants or engineers may include the electrical consultants, the mechanical and plumbing consultant, the sanitary consultants and host of other specialized function that fall within the services.

The Services consultants particularly the Electrical and mechanical consultants use to prepare the bills of quantities for Electrical, and mechanical (and also plumbing installations). Such bills of quantities are not based on the standard method of measurement of building works. However, the situation has being finally resolved and the quantity surveyors are now being charged with the total responsibility of preparing all the bills of quantities for the entire project.

3.5 STAKE-OUT OF THE BUILDING

Stake-out refer to the process of transferring the information contained on the plot plan to the ground. It is one of the first and most critical operations of the entire building process. Often there is very little room for error between the location of the house and the required set backs. Stacking out is usually performed by a surveyor. The home builder also may perform the task.

Traditional stake-out begins by establishing the outside corners of the foundation with small stakes. Then, since these stakes will be disturbed when excavation, larger stakes are typically driven 4ft beyond the foundation lines, three of each corner. Batter boards are nailed to these stakes so that their tops are at the same elevation, by using a plumb bob and stretching twine across the batter boards at the correct locations, foundation lines can be established when necessary. It is extremely important when staking out that the corners of the house are squared. This may be assured by using surveying instruments, measuring diagonals or utilizing the principle of the 3-4-5 triangle.

House are designed and built to meet the needs of the home buyers who live in them. Although the need of each consumer group may be different. All homebuyers go through a similar process leading to the selection of a house that meets their needs, some man organized systematic fashion and others in a serious of random and often experiences.

3.6 ENVIRONMENT AND THE ACTIVITIES

The natural environmental setting covers the atmosphere, hydrosphere, lithosphere and biosphere. Within these spheres are a number of interactions that propelled the different types of human related activities. While, the Atmosphere consist of a mixture of various, that are of paramount importance to both animate and inanimate things Strahler and Strahler, (1973) the hydrosphere is the home of large natural hydrological sphere (Oyebande 1995). The lithosphere encompasses all the solid materials between the earth's surface and its core, Faniran and Ojo, (1980). The materials with in the lithosphere, i.e. the accessed ones are of tremendous importance to man. According to Oyegbande (1995) the biosphere which includes man and his society is real life layer where a number of activities thrive. It is indeed the socioeconomic sphere. In generally, the mode of man-environment interactions had been in terms of what can be abstracted from the environment. Thus, man often fails to consider the accompanying consequences of money of his actions. As a result, interactions easily translate into a number of environmental related problems. This indeed constitutes the focus of discussion in this project.

The issue becomes a contemporary one because of the present unprecedented rapid rate of population growth, from about one billion. Rapid population is today a little over 2 billions. With present rate of population increase, the effects of human activities cannot be over emphasized.

3.6.1 Human Activities

The various activities embarked upon by man in his environment often lead to a number of problems whose consequences are severe on the environmental system, such activities include the following,

- (a) Activities leading to deforestation and the alteration into land use system.
- (b) Activities aimed at improving the agricultural lands, usually in the form of addition or removal of water or addition of nutrients.
- (c) Activities leading to changes in the configuration of topography and the drainage systems such as the construction of dams, barrages etc.
- (d) Embankment, plodders, terraces and contour ploughing among others.
- (e) Activities leading to urban growth, expansion and development.

For examples, such uses often include irrigation, transportation artificial ground, water recharges, restructuring of landscape, effluent discharges among others.

These human based activities with the environment system can lead and indeed have led to a number of problems, for these purpose, such problems shall be discussed under climatic, land use and urbanization.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.0 Introduction

This chapter will specifically state how the researcher went about collecting data during the research. This includes the design, population, sample, instrument, method of distribution and how data was administered and analysed to arrive at the expected result.

4.1 Design

The method used for the necessary information was the questionnaires. This procedure was adopted in order to obtain genuine information relating to the study.

4.2 Population

The population of this study comprised all the people or community of the area study.

This enabled the researcher to obtain wide range of information, views, facts and opinions of the respondents as regards to the "appraise study of the effect of building on the environment".

4.3 The Sample

The sample size was large to cover a reasonable numbers of population under study.

Samples were drawn from about iso questionnaire, and about 70 people non-educated and so people educated were selected by means of simple random

sampling in the community. The people were chosen because in a society we have educated and non-educated people.

4.4 Research Instrument

The main research instrument used in gathering the necessary information for this study is the questionnaire. They were well designed in such a way that the respondents understood them and were able to give the required answers.

The questionnaire items required to answer this appropriate from the questions given.

4.5 Administration of Instrument

The questionnaires were distributed to those involved directly by hand, in order to ensure a hundred per cent of returns. The researcher collected the completed questionnaires personally from the respondents.

4.6 Analysis of Instrument

The researcher adopted a tabulated form of analysis with the use of percentages. This was to ensure that accurate results were obtained. This percentage score formula helped in finding out the degree of positive and negative responses.

CHAPTER FIVE

5.0 INTRODUCTION

The purpose of this chapter is to analysis the data obtained from the study with reference to the research questions formulated. The results were accordingly computed in percentages and presented ins tabular form.

5.1 DATA ANALYSIS

This section analysed the data collected based on the following research question.

Research Question 1

Is the appraisal study on the effect of building on the environment affected our vegetations

Table 5.1: Represent response from individual building in the town. (i.e Nasarawa L.G.A. of Nasarawa State.

Responses	Number of Respondents	%
Yes	80	53.3%
No	45	30%
Not Yes/No	25	16.7%
Total	150	100%

Source: Field Survey, December, 2001

It can be seen from table 5.1 that 80 persons representing 53.3% of the respondents. These indicate that affect of building on the environment affect our vegetation or natural resources.

Research Question 2

Is building play an important role on the environment.

Table 5.2: Represent response from individual

Responses	Number of Respondents	%
Yes	70	53.3%
No	35	29.16%
Not Yes/No	15	12.56%
Total	120	100%

Source: Field Survey, December, 2001

It can be seen from the above table that 70 persons representing 58.3% of the respondents which indicated that building play an important role on the environment because of the larger respondents from the table and it provides shelter from the element of cold, sunshine, rain etc. as well as protection from his enemies, wild beast, thieves etc.

Research Question 3

Is the style of building really contributed to the effect of building in the environment.

Table 5.3: Response from individual with in the Local Government Area.

Responses	Number of Respondents	%
Yes	60	52%
No	35	30.4%
Not Yes/No	20	17.3%
Total	115	100%

Source: Field Survey, December, 2001

It can be seen from the above table that 60 persons representing 52.1% of the respondents these indicate that the style of building also contributed to effect of building on the environment. It also emphasis that some building material reflect and exchanging with the elements or gases at the atmospheric which bring about Global warming.

Research Question 4

How was land use allocation was distributed on the environment by using land use analysis.

The land use analysis of various land uses were identified on the environment. The following shows the different land use allocation on the environment with their area coverage in hectares and percentages.

Table 5.4: Existing Land Use

Land Uses	HECTARES	%
Residential	29.5	65.50
Commercial	0.8	1.80
Industrial	0.4	1.20
Educational	0.3	0.90
Civil / Cultural	2.7	5.80
Open Spaces	5.3	11.80
Roads	5.9	13.00
Total	45.00	100.00

Sources: Field Survey , April, 1990

From the above table, it could be seen that the residential land use pre-dominants in the environment with a bout 66% coverage. The table also shows

that the commercial, educational, civil/cultural uses have lower percentages when compared to minimum standard requirement. The commercial use is only 1.8% of the total land coverage while standard requirements is between 2.5% and 3%. The only market that exist is the only market which serves only about 60% of the respondents. The remaining 40% revealed that they dos their day-to-day shopping in the town centre.

Research Question 5

Which method used in acquiring land?

The method used in acquiring land are to method of land acquisition.

An analysis of the land tenure systems in the three districts of Nasarawa Local Government Area confirms that tenure is highly variable and alters constantly in response to socio-economic changes, it shows a clear trend toward individualization of land rights.

In determining right of individual and household and the exercised of these rights in the three districts, response and information on origin and history of acquisition of their farms can be categorized into two (a) Method of use / access to land (b) Method of ownership.

Table 5.5: Method of Land Ownership and use.

Districts	No. of Response	Use / Access			Ownership		Inheritance
		Loan	Rent	Pledges	Gift	Purchase	
Nasarawa	234	15	40	8	30	60	79
Udeje	150	10	12	5	38	15	60
Loko	120	10	6	3	29	20	52

Source: Field Survey, December, 2001

From the table above show that most land were inheritance among different tribes in the Local Government, while others purchases their land, from the table how some respondents have their land through gift.

While these who rent, pledge and loan are the minority of the land acquisition.

Research Question 6

Do you have any expansion for your building in future

Responses	Number of Respondents	%
Yes	60	46.1%
No	30	23%
Not Yes / No	40	30.7%
Total	130	100%

Source: Field Survey, December, 2001

From the table above it can be seen that 60 persons representing 46.1% of the respondents. These indicate that there is an expansion for future development either for landscaping element that is planting trees and grasses for enough ventilation on the environment which made the land stable and 40 person representing 30.7% of those who uses all their land for building.

Therefore the effect of building on the environment are many and little can only be emphasis which include population, deforestation, desertification, overgrazing, over cultivation, etc.

CHAPTER SIX

6.0 FINDING, RECOMMENDATION AND CONCLUSION

6.1 SUMMARY OF FINDING

From the data collected and analysed, the following summary of finding have evolved.

Increase in Building: This is due to the fact that available property is not sufficient to go around because of increases in demand for it various uses. The cost of construction also contributed because of the increase in the price of material used. It has not makes it possible for enough property to be develop. This resulted to few available to equate demand and supply for accommodation property. Now the available property command higher building style as a result of the factor that militate against it development.

6.2 DEVALUATION OF NAIRA

Has in totality discourage the import capacity of our businessman, as our naira is now lose is worth to dollars and pounds. This has grounded the importation of raw materials for our building industries where the one imported. It cost in the market scale away the average Nigerians and this decreasing building material in Nasarawa Local Government.

6.3 RECOMMENDATIONS

Having looked generally at the problem and its effect on the environment it is now appropriate to examine certain critical elements of situation with a

view to suggest solutions and providing guidelines for the formulation and implementation.

6.3.1 Building Materials and Cost

Probably, the one single factors which has contributed most to the building problem is the in availability and the high cost of building materials. This is due to the improper exploitation of local raw materials and resources.

If they have to overcome these, handicaps, most direct research and other relevant institutions to initiate studies aimed at finding alternative for material to reduce the dependence in imported materials where it is found that local materials are inadequate on technologically different to exploit.

6.3.2 Building Technology and Maintenance

More attention should be give to current maintenaince and building team to ensure a departure from the present in efficient traditional maintenance patters and preventive maintenance should be properly looked upon as a functions of cost.

- That further damage to the physical environment should be minimized and some problems created by mining activities can be converted to opportunities for developing the areas through comprehensive planning to be carried out by physical planners.

- That the existing institutional arrangement for management of the environment should be expanded to involve community leaders in environmental education awareness and monitoring.

- That all levels of government should established mechanisms for protection and restoration of land in mining area of Nigeria.

6.3.3 Finance and Housing Development

Government should therefore encourage the establishment of financial institution to offer credit for housing development and also to adopt such fiscal policies as well to ensure that a large position of the national wealth is made available for housing.

6.3.4 Land Allocation

The system of acquiring land for real property development in the ministry of land and surveys should be review in order to make it less cumbersome.

The planning Authority should as a matter of fact evolve a new and adequate planning policies that would encourage spread of development with in the town.

6.4 CONCLUSION

From the foregoing therefore, it can be seen that the effect of building on the environment. Both positive by and negatively affect the building on the environment in Nasarawa in the following ways:

The agriculturalist have benefited through he opening of roads by DFRRRI, and other laudable projects. Financial institutions such as mortgage and National banks help developers to look inward for cheaper and local substitutes

of building materials to imported ones obtainable prior to the introduction of SAP.

Furthermore, it has increased the awareness to reduce cost on the part of developers through proper management of funds and evaluation of the feasibility and viability of such development.

The policy equally stressed the need adopt the services of competent professional such as Architect, planners and estate surveyors to the management of properties for proper rent collection and reduce the incidence of defaults so as to reap benefit of a regular and secured income.

The panacea to some of the environmental problems discussed above is the adoption of the policy of sustainable development. Sustainable development is defined as the development that meets the needs of the present without compromising the ability of future generations to meet their needs (UN 1990). According to Odiete (1996), to achieve sustainable development involves a judicious use of natural resources such that the carrying capacity and the productive capacity are not exploited.

In Nigeria, the policy of sustainable development has been developed by the Federal Environmental Protection Agency (FEPA). In order to achieve this sustainable development, the body has advocated the establishment of environmental agencies in the state and local government levels in order to improve, extend and enforce environmental laws, regulations and standard.

The concerned, Nationally and the world over, about the state of environment is timely especially when viewed against the background that environmental considerations are built intrinsically and increasingly into all process of resource decision and development.

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Department of Geography
Post Graduate School
Federal University of Technology
Akoka, Abeokuta
Ogun State
Nigeria.

30TH November, 2004.

Dear Respondent,

RESEARCH PROJECT QUESTIONNAIRES

I am a Student of the above Institution carrying out a research work on the appraisal study on the effect of building on the environment. In fulfilment of the requirement for the award of post graduate diploma (PGD) in Environmental Management.

The aim is to obtain a useful information supplied as CONFIDENTIAL and should be use purely for academic purposes only.

Thank you.

Yours faithfully,

Rahinatu Ibrahim(Mrs)

Department of Geography
Post Graduate School
Federal University of Technology
P. M. B. 65
Minna.

30TH November, 2001.

To whom it may concern

Dear Sir,

LETTER OF INTRODUCTION

We have the pleasure of introducing Mrs Rahinatu Ibrahim, she is a post graduate diploma (PGD) graduate student in the department, and she is currently working on her project for her post graduate Diploma at the above stated University.

The topic of her project is an appraisal study on the effect of building on the environment (A case study of Nasarawa, Nasarawa Local Government).

It will be highly appreciated if you would render her all necessary assistance.

Yours faithfully,

Mrs/Dr. Odafan.

QUESTIONNAIRE

PROJECT:-

An appraise study on the effect of building on the environment.

(A case study of Nasarawa Local Government, Nasarawa State).

Department of Geography
Post Graduate School
Federal University of Technology
Minna.

This Questionnaire is a post graduate research programme in the Department of Geography, Federal University of Technology, Minna.

The Questions contained in the Questionnaire are focussed at getting useful data on the effect of building on the environment.

I would be very much appreciate your support if you would sincerely help by providing answers to the following questions correctly as possible, so as to enhance the study.

All information given would be treated as highly CONFIDENTIAL and will be used for this research work only, please.

Part One:-

1. Building number:.....
2. Name of Street:.....
3. Building use:.....

- a. Residential
- b. Residential/Commercial
- c. Residential/Industrial
- d. Others (specify).

4. Type of building:-

- a. One bedroom
- b. Two bedroom
- c. Three bedroom
- d. Duplex building
- e. Others.

5. Level of maintenance:-

- a. Roof:-Leaking
 - ii not leaking
 - iii rusting
- b. Wall:- i. cracked
 - ii. not cracked
- c. Foundation:- I. exposed
 - ii. sinking
 - iii. not exposed

6. Painting:-

- a. peeling
- b. fading
- c. not peeling/fading

7. How did you acquired your building:

- a. buying
- b. renteges
- c. gift

B. What is the effect of the building to your environment;

A. Good

bb Bad

9. Is the building really affect the crop or vegetation of the area you are living.

a. yes

b. No

10. What are the cost of construction of the building.

.....

11. Do you have any expansion for your building in future.

a. Yes

bb. No

12. If yes , in what form.

.....

13. What are the problem encountered when constructing the building.

.....

14. Could you suggest ways of solving these problems you encounter during construction.

.....

15. In what ways has building increase the standard of living.

.....

16. Do you think that Government has the greater role to play in increasing building standard.

a. Yes

b.N No

17. Do you think that building play an important role on the standard of living of the people.

a. Yes

b. No

18. Would you like to sale your farmland? And why?.

.....