

**ASSESSMENT OF THE INFLUENCE
OF POVERTY AND IGNORANCE ON
ENVIRONMENTAL QUALITY IN
DUTSEN KURA GWARI, MINNA,
NIGERIA**

BY

**ENEMMOU, JOSEPHINE
M.TECH/SSSE/2005/1350**

JANUARY. 2008

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**A THESIS SUBMITTED TO THE
POSTGRADUATE SCHOOL, FEDERAL
UNIVERSITY OF TECHNOLOGY MINNA IN
PARTIAL FULFILMENT OF
REQUIREMENTS FOR THE AWARD OF
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MANAGEMENT)**

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Lastly, thanks to God Almighty who used all these means to see me through to this academic height.

CERTIFICATION

The project titled Assessing the Influence of Poverty and Ignorance on environmental quality in Dutsen Kura Gwari, Minna, Nigeria by: Enemmou, Josephine(M/Tech/SSSE/2005/1350) meets the regulations governing the award of the degree of Master of Technology (M.Tech) of the Federal University of Technology, Minna and is approved for its contribution to Scientific knowledge and literary presentation.

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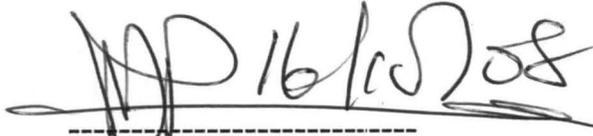
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DECLARATION

I hereby declare that this project was written by me and that it is a record of my own research, as part of the requirement for the award of Master of Technology (M.Tech) in Environmental Management of the Federal University of Technology Minna, Niger State.

Enemmou Josephine

 05/09/08
Signature & Date

DEDICATION

This research project is dedicated to my beloved son, Master Tochukwu Agubama, and also to God Almighty who used all means to see me through.

ABSTRACT

This project was carried out to assess the influence of poverty and ignorance on environmental quality in Dutsen Kura Gwari Minna, Nigeria. Over the past five decades, man has been faced with a rapidly deteriorating environment that daily draws disturbing attention. This deterioration, today is marked by deforestation, atmospheric pollution, land degradation, automobile and industrial noise. The environment has been terribly and adversely threatened due to poverty and ignorance. The extent of poverty and the level of ignorance was examined, its relationship and influence on the environmental quality was also determined. Data were collected on the aspect of the people's income and educational level. The method of data collection employed for this research included administration of questionnaires, personal and oral interview, direct observation, text books, unpublished text, internet. Data were presented using tables and histograms and analysed using percentages, correlation was made to determine the influence of poverty and ignorance on the quality of the environment. The researcher deduced that poverty and ignorance have a bad influence on environmental quality in the study area with its associated health and environmental problems, such as upper respiratory track which could lead to damage of the respiratory system, irritation and smarting in the eyes, nose and throat. Finally the researcher recommended that poverty should be eradicated, awareness created through inculcating of environmental studies into formal education system, and the local community should also be educated on environmental issues. The government should implement appropriate pollution control policy so as to attain a good quality environment.

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CHAPTER ONE

INTRODUCTION

Half of the world's nearly three billion people live on less than two dollars a day. The GDP (Gross Domestic Product) of the poorest 48 nations a quarter of the world's countries is less than the wealth of the world's three richest people combined.

Less than one percent of what the world spent every year on weapons was needed to put every child into school by the year 2000 and yet it never happened and one billion children live in poverty (1 in 2 children in the world)640 million live without adequate shelter, 400 million have no access to safe water, 270 million have no access to health services. In 2003 before they reached the age of 5, roughly 29,000 children per day.

One could ask why one should write about ignorance at all since people who are truly ignorant are not aware of their ignorance – not being aware that one does not know is defining quality and level of ignorance.

Ignorance seems to be a universal condition. In some way and to some degree, becoming aware of one's own ignorance is the first step towards getting rid of ignorance. It is a thinking process, but also an act of both analysis and commitment. [Http/www Global issues org/Trade related poverty a.s.p](http://www.Globalissues.org/Trade%20related%20poverty.a.s.p)

The term environment literally means surroundings circumstance or influence. However, different human groups with different technologies view the same environment in different ways (Strahler and Strahler, 1977). This is perhaps because of the difference 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 have defined the term environment in relation to man. It is seen as a sum total of conditions which surround man at any point in time on the earth surface. This 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 Haggett (1972) were originally largely natural especially for early man. These include climate, terrain, vegetation and soil.

Man became civilized and therefore surrounded himself with artifacts, which became 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 animal (living things) and non living things such as rock, air, sunlight and water bodies.

Every man is basically an economic man deriving his needs from his

environment, that is, the survival of man depends on the exploitation of the numerous environmental resources for his use. These activities of man in his environment therefore include agricultural practices, mining, quarrying, water resource exploitation, deforestation e.t.c. These activities have a sole aim of meeting man's needs. By this development, man's needs such as feeding, clothing, and shelter can possibly be met with ease. In addition, the general comforts of life enlightenment or awareness and improvement in the modes of human and environmental interactions ameliorated a great deal. These developments are contingent on the utility values arising from the environmental resources. However, this heavy dependence on the environmental resources due to lack of awareness and poverty has translated into a number of environmental problems.

One fifth (1.3 billion) of the world population live in acute poverty with less than \$ 1 U.S per day, lacking access to adequate diet, decent housing, basic sanitation, clean water, education, medical care and other essentials. Four out of five people in the world live below U.S based poverty level.

With respect to one basic need, water, only 38 percent of Nigeria's population had access to safe drinking water in 1985. In the rural areas, not more than 20 percent are so privileged. Poor nutrition and under

nourishment reduce resistance to infection and compound the health hazard of water borne diseases. The deteriorating health service delivery system aggravates the poor health status of most Nigerians. The impact of the structural adjustment programme on most family budgets is visible in the deteriorating living conditions in especially the urban areas.

With respect to ignorance (lack of awareness) literacy remains an obvious hindrance to socio-economic advancement and effective participation in (national) development. Above all, women constitute distinctly the disadvantaged group. In 1970, 35 percent of male but only 14 percent of female adults were literate. Progress has been made however by 1985. The corresponding percentages are 54 and 31, but the gap between the sexes is yet to be fully bridged.

Among the young Nigerians, only 31 percent of the pupils enrolled in primary one actually completed primary education in 1980 – 86 period representing a high wastage rate for scarce resources – facilities, fund and potential for man power development.

Poverty and ignorance have influence on our environmental quality. To assess the environmental quality, the scientific measurement of pollution is required, which is provided by the nature and strength of public attitude to the environment. (See Table 1.1).

Table 1.1: Some Gaseous elements with natural constant proportion.

Sn	Element	Natural Constant Proportion
1	Nitrogen	78.10%
2.	Carbon dioxide	0.03%
3.	Oxygen	20.10%
4.	Ozone	0.00026%
5.	Mixed gases of Neon	0.0018%

Source: Harper and Row (1981)

Table 1.2 Reduction in general emission to create balance in the atmosphere

Sn	Gases	Global Reduction Emission Percentage
1.	Carbon dioxide	60%
2.	Nitrogen dioxide	70 – 80%
3.	Methane	15 – 20%
4.	Chlorofluoro carbon	70 – 95%

Source: Nilson (1992)

Air as part of physical environment is essentially necessary for life to exist and a clean dry air is composed of some elements in its natural constant proportions as shown in table 1.1

Due to ignorance and poverty, man's activity has increased gases into the atmosphere and it became excess as shown in table 1.2. With this, the environmental quality is deduced to be poor due to the extent of pollution.

Meethan (1981) stated that these pollution arises from man's economic and domestic activities i.e. modern agricultural practice, which requires pesticide, which is one of the causes of poor environmental quality. Industrial activities are also responsible for a range of pollutants.

Some people are ignorant that thermal power station, burning fossil fuel, wood, fuel, and moving vehicles emit harmful pollutants like sulphur dioxide, nitrous oxide and carbon dioxide that cause acid rain, global warming and malfunctioning of human and animal haemoglobins while others due to poverty level cut down trees for fuel wood which is another form of deforestation. All these have effect on the environment.

1.1 BACKGROUND OF THE PROBLEM

The problem of environmental degradation and poverty is as old as humanity itself. Invariably the origin is due to ignorance of the sources and effect of pollution agents domestic burning of fire wood, which has now been intensified by quest for development, industrial revolution and modern agricultural practice.

1.2 STATEMENT OF THE PROBLEM

The problem under study is an unsatisfactory state of the environment high poverty rate in the study area which leads to the misuse or over use of resources thereby degrading the environment.

MAJOR RESEARCH QUESTION

What is the extent of poverty and ignorance in the study area? To what extent do these affect the environment negatively contribute in deterioration of the environment

1.3 SIGNIFICANCE OF THE STUDY

This study is of great significance and will assist the Federal Ministry of Environment to identify their lapses in educating the general public in matters of the environment. It will also help the ministry of education to see the lapses in the school curriculum with respect to environmental issues. This will call for inculcating of environmental science in their curriculum in both primary and secondary schools so as to enhance environmental awareness. It will also help the federal government empower the poor and provide alternatives for them.

1.4 AIM AND OBJECTIVES

AIM OF THE STUDY

The aim of this study is to examine the present state of environmental quality in relation to the level of poverty and ignorance in the study area

OBJECTIVES OF THE STUDY

The objectives of this study are

- To examine the extent of poverty in the study area
- To study the level of ignorance in the study area.
- To examine the influence of poverty on the environment in the study area
- To examine the influence of ignorance on the environment
- To find out the relationship between poverty, ignorance and environmental quality in the study area
- To postulate realistic solutions/recommendations that will enhance the quality of the environment in the study area.

1.5 SCOPE AND DELIMITATION

The field of this research is to examine the influence of poverty and ignorance on the quality of atmospheric environment. Is air polluted?

There are two elements of air pollution which are:

- a. The particulate pollutants. This consists of dust fumes e.t.c

- b. Gaseous pollutants which consist of carbon dioxide, carbon monoxide, hydrogen carbons, nitrogen oxide, sulphure oxide e.t.c
- c. Bush burning
- d. Indiscriminate cutting down of trees for timber, fuel wood, e.t.c.

1.6 **JUSTIFICATION OF THE STUDY**

A good and acceptable reason for this study is the unsatisfactory state of the environment in the study area, which is as a result of man's attitude in interacting with the environment. These attitudes vary in different zones in the study area. The researcher is concerned with the factors that could lead to these variations.

These factors need to be studied i.e. poverty, ignorance so as to postulate realistic recommendations to enhance the quality of the environment.

1.7 **GEOGRAPHY OF THE STUDY AREA**

General: Minna is the capital of Niger State. It currently serves as the administrative centre of the state. Minna is strategically located in the middle belt part of Nigeria, in the Savannah region of the country.

Minna is about 167km North West of Abuja, the federal capital. It lies on latitude 3.20° east and longitude 11.3° North to the equator.

Neighboring states include Zamfara by North, Kogi by South, Kwara

by South West, Kaduna and federal capital by south east. It enjoys good road network and communication link with neighboring states.

During the month of March/April the climate condition is usually very hot and at the later part of the year the temperature usually falls, below 09.11⁰c.

Predominantly the following are the tribes and languages in Niger State: the Gwaris , Nupes and Hausas, Presently there are 42 local government head quarters in Niger State, in which Minna Local Government is one and Dutsen Kura Gwari is situated in Minna Local Government. The following are some of the Local Government Areas in Niger State. Agwara, Borno, Riyau, Magama, Mashego, Kontagora, Mariga, Rafi, Shiroro, Muya, Wushishi, Lavun, Mokwa, Edati, Bida, Agaie, Lapai, Gbako, Katcha, Paikoro, Bosso, Gurara, Tafa, Suleja e.t.c.

1.8 HISTORY OF THE STUDY AREA

Dutsen Kura Gwari originally known as Anini Maji was founded in the year 1933 by the man called Zedibakar who is a farmer.

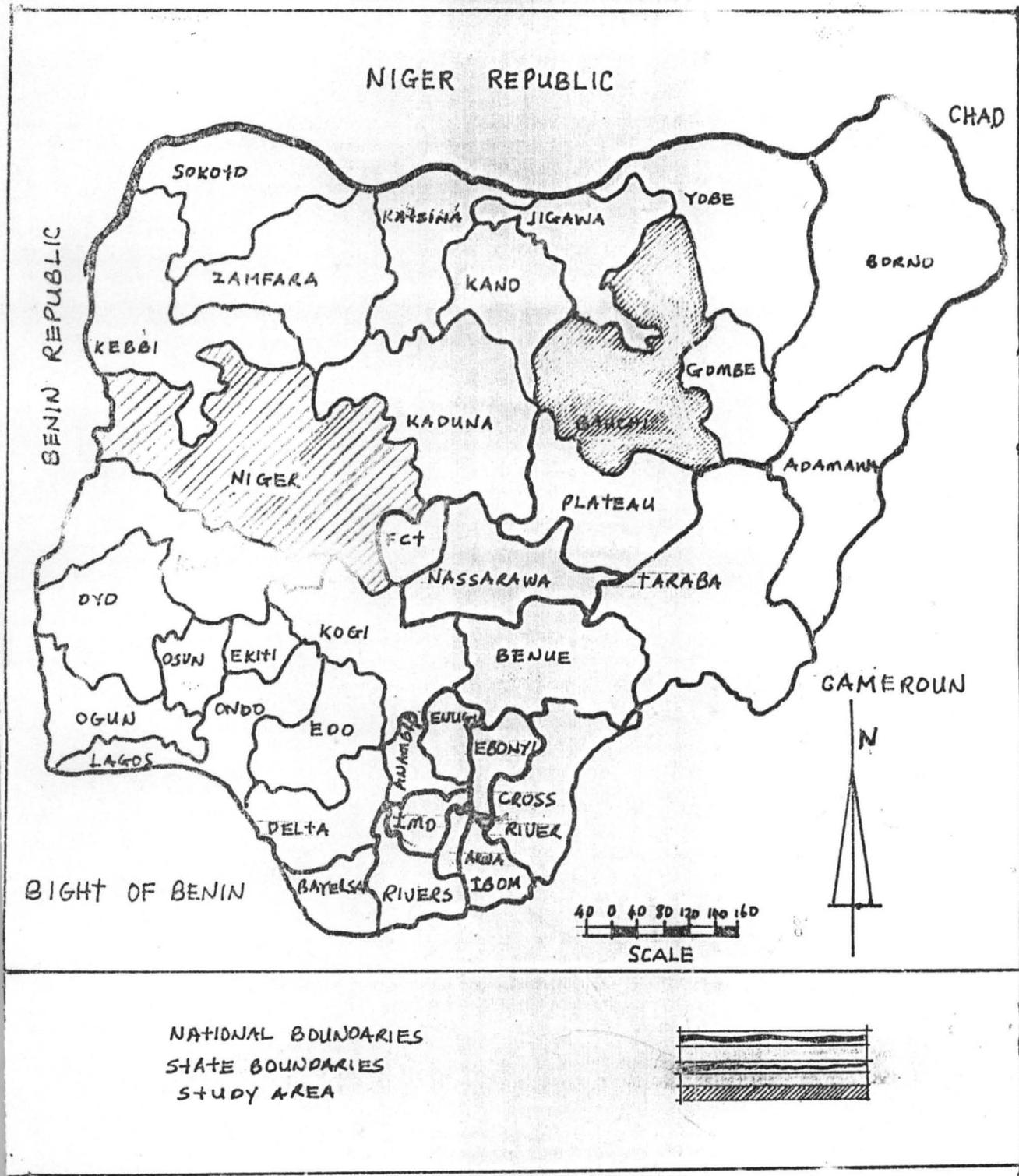
Zedibakar was formally living at Bosso, later on he moved to Anini Maji

The word Dutsen Kura Gwari means Rocks of hyena. The name

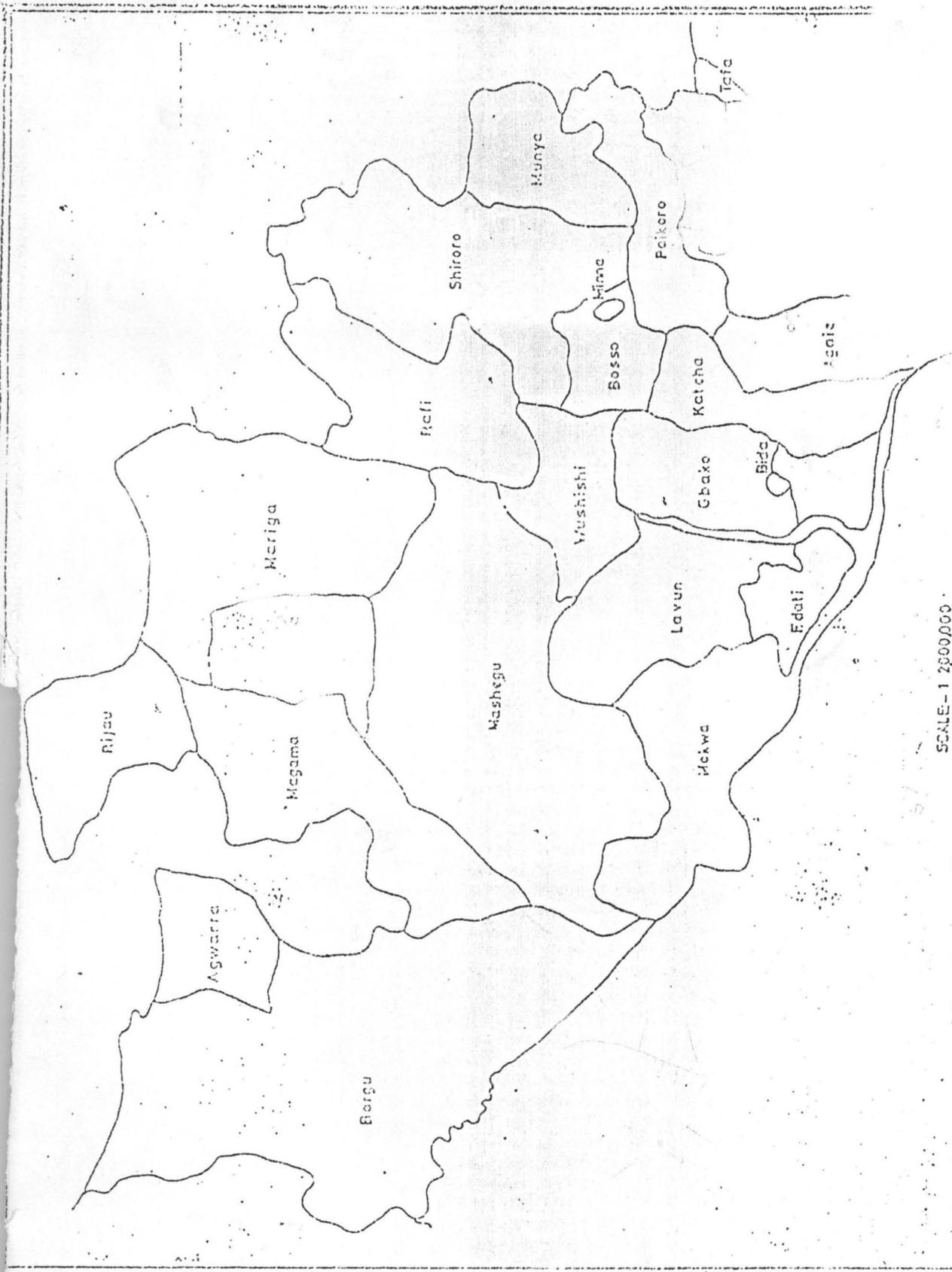
was given by some migrant from Kano who came grazing. Kwazo Zedibakar's son has a rock called Kongo Zuma where honey is produced. The kano migrant went to the rock to steal some honey. In the process, Kwazo sited them from his farm settlement and made a loud noise like the hyena. The migrant was scared thinking it was a hyena, They ran and left the calabash of honey. They visited the chief (Zedibakar) and told him that hyena lives in the rocks around them. They called the area Dutsen Kura meaning rocks of hyena.

The two government primary schools in the area were named after Zedikar children kwaso and Tukura Primary Schools.

Fig 1.1 Map of Nigeria showing Niger State

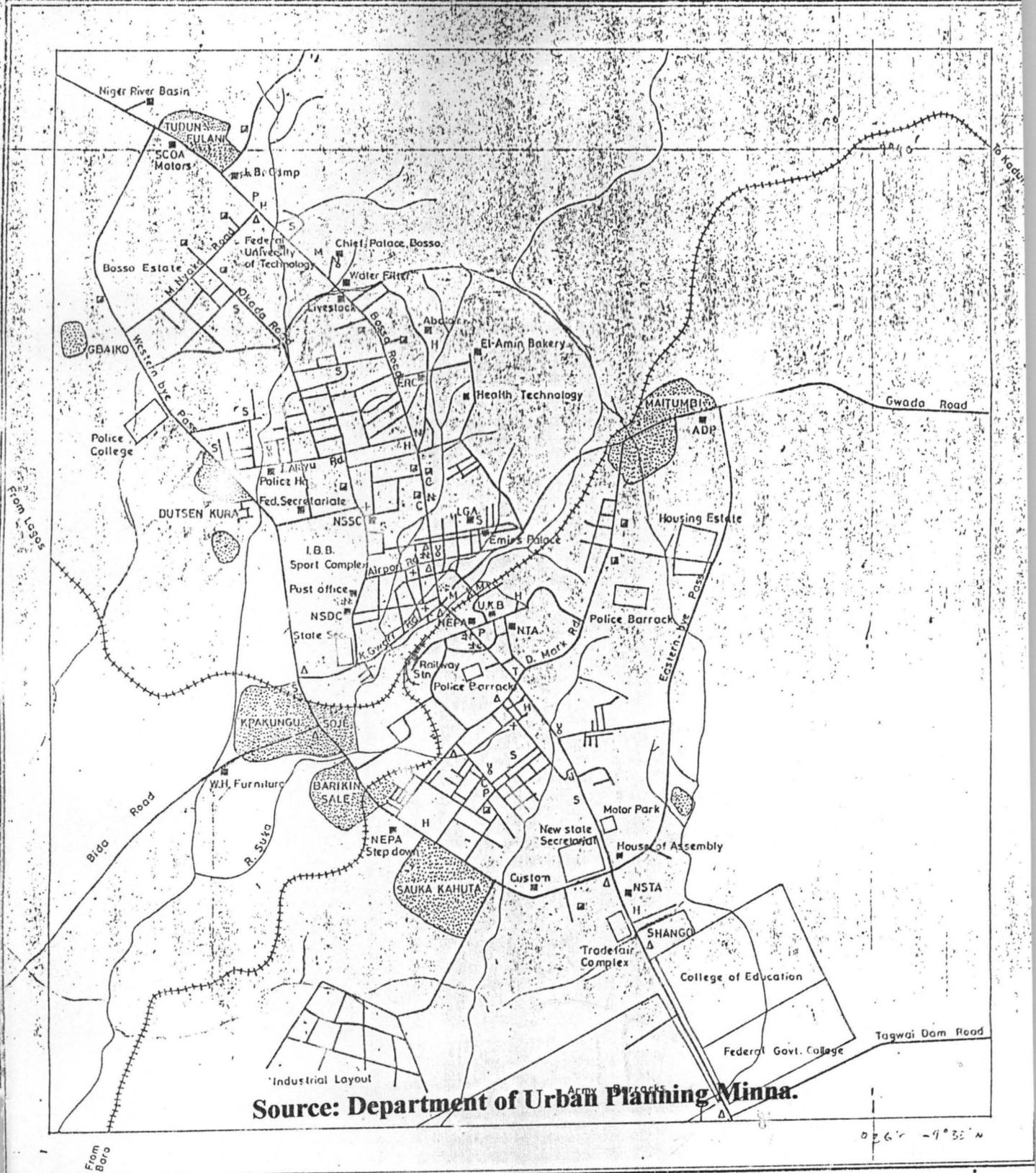


Source: Department of urban planning Minna



SCALE - 1:200,000

Fig 1.3: Minna Street Guide Map



1.9. DEFINITION OF SPECIAL TERMS

- **POVERTY:** This can be defined as the situation or experience of being poor. It can also be said to be lack of access to adequate diet, decent housing, basic education, basic sanitation, clean water and good medical care e.t.c
- **IGNORANCE:** This can be defined as lack of knowledge or information about something.
- **ENVIRONMENT:** Environment is the sum total of the conditions that surround man at any point in time on the earth surface. It can also be said to be surrounding circumstances or influences. Hornby (1963)
- **ATMOSPHERIC POLLUTION:** This is defined as any objectionable gas in the air, whether harmful or merely unpleasant. In other words, it is the admixture in the atmosphere of any foreign substance or element in the quantity that alters the natural constant proportion.
- **POLLUTION**
Pollution is the presence of any substance in the quantity, character or duration such that may affect health of human beings, animals, plants property and structure.

- **QUALITY:** Quality is said to be the degree to which something is good or bad.
- **DEGRADATION:** This can be defined as the process by which something changes to a worse condition.
- **GOVERNANCE:** This can be defined as the act or process of controlling or governing a community, state, local government or a country.
- **EMISSION CHARGE:** These are charges to the polluter discharging pollutants into air, water, and land and on the generation of noise.
- **TRADEABLE EMISSION PERMITS:** These are environmental quotas, allowances or ceiling on pollution levels.

1.10 ORGANISATION OF PROJECT

The Thesis was structured in five phases or chapters.

In chapter one, the researcher dealt with general introduction on poverty, ignorance and its effect on environmental quality. The problem was stated, its background, justification of study, focus, scope and delimitations, aims and objectives, research questions and definitions of special terms.

In chapter two she reviewed related literatures on poverty, ignorance and environmental quality, causes, types and effect.

In chapter three, the researcher dealt with methodology, data collected, method of collection and analyses as encompassed in the aim and objectives of the study.

In chapter four she presents data and analysed

In chapter five she summarized the findings made conclusions and vital recommendations.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Quite a large number of studies have been carried out on poverty, ignorance as well as environmental quality by various researchers. Some of the available literature on this topic are hereby reviewed to form a basis for understanding and appreciation of the relevance for this study.

2.2 POVERTY: An Overview

Poverty is the state for the majority of the world's people and nations. Why is this? Is it enough to blame poor people for their own predicament? Have they been lazy, made poor decisions and been solely responsible for their plight? What about their government? Have they pursued policies that actually harm successful development? Such causes of poverty and inequality are no doubt real.

These are typically influenced, driven, or formulated by the rich and powerful. These can be leaders of rich countries or other global actors such as multinational corporations, institutions and influential people. In the face of such enormous external influence, the government's of poor nations and their people are often powerless. As a result, in the global context, a few get wealthy while the majority struggle.

Cut backs in health, education and other vital social services around the world have resulted from international monetary fund (IMF) and World Bank – prescribed structural adjustment policies as conditions for loans and repayment. In addition, developing nations governments are required to open their economies to compete with each other and with more powerful and established industrialized nations. To attract investment, poor countries enter a spiraling race to the bottom to see who can provide lower standards, reduced wages and cheaper resources. This has increased poverty and inequality for most people. It also forms a backbone to what we today call globalization. As a result, it maintains the historic unequal rules of trade- (Last updated Sunday, November 20, 2005).

Inequality is increasing around the world while the world appears to globalize. Even the wealthiest nation has the largest gap between rich and poor compared to other developed nations. In many cases, international politics and various interests have led to diversion of available resources from domestic needs to western markets. Historically, politics and power play by the elite leaders and rulers have increased poverty and dependency. These have often manifested themselves in war, hot and cold which have often been trade and the resource – related. Mercantilist practices, while

presented as free trade, still happen today. Poverty is therefore not just an economic issue, it is also an issue of political economics.

(Last updated Thursday, February 15, 2007. [http://www.globalissues.org/Trade Related/poverty. asp](http://www.globalissues.org/Trade%20Related/poverty.asp)).

2.2.1 DEATH

Today around the world, 27-30,000 children die every day. That is equivalent to 1 child dying every 3 seconds. 20 children dying every minute, a 2004 Asian Tsunami occurring almost every week, or 10-11 million children dying every year. Over 50 million children died between 2000 and 2005. The silent killers are poverty, easily preventable diseases and illness, and other related causes. In spite of the scale of this daily ongoing catastrophe, it rarely manages to achieve, much less sustain, prime time headline coverage (Posted Sunday, May 06, 2007).

2.2.2 WORLD HUNGER AND POVERTY

People are hungry not because of lack of availability of food or “over” population, but because they are too poor to afford the food. Politics and economic conditions have led to poverty and dependency around the world. Addressing world hunger therefore implies addressing world poverty as well. If food production is further increased and provided to more people while the underlying causes of poverty are not addressed, hunger will still continue because people will not be able to purchase food.

(Last updated Thursday February 15, 2007).

2.2.3 FOOD DUMPING (AIDS) MAINTAINS POVERTY

Even non-emergency food aid, which sees a noble cause, is destructive, as it under – sells local farmers and can ultimately affect the entire economy of a poor nation. If the poorer nations are not given the sufficient means to produce their own food and other items then poverty and dependency may continue (Last updated Saturday June 25, 2005).

2.2.4 CORRUPTION

We often hear leaders from rich countries telling poor countries that aid and loans can only be given when they show they are stamping out corruption. While that definitely needs to happen, the rich countries themselves are often active in the largest forms of corruption in those poor countries and many economic policies they prescribe have exacerbated the problem. Corruption in developing countries definitely must be high on the priority list, but so too must it be on the priority list of rich countries (Last updated Saturday, April 15, 2006).

2.2.5 UNITED NATIONS WORLD SUMMIT 2005

The United Nations World Summit 2005 is supposed to review progress since the Millennium Declaration, adopted by all member states in 2000. However, the U.S has proposed enormous changes to an outcome

document that is to be signed by all members. There are changes on almost all accounts including striking out any mention of the Millennium Development Goals, that aim, for example, to halve poverty and world hunger by 2015. This has led to concerns that the outcome document will be weakened. Developing Countries are also warned about stronger text on human rights and about giving the UN Security Council more powers (Last updated Sunday, September 18, 2005).

To complement the public protest in Seattle, the week leading up to April 16th/17th 2000 saw the other two global institutions, the international monetary fund (IMF) and the World Bank as the focus of renewed protests and criticisms in Washington, D.C. The purpose of mass demonstrations were to protest against the current form of globalization, which is seen as unaccountable, corporate – led, and non democratic and to show the link with poverty due to the various policies of the IMF and World Bank(Last updated Friday, July 13, 2001).

2.2.6 POVERTY FACTS

There is an increasing number of poor people who are missing out on this apparent boom, while increasingly less people are becoming far more wealthy (Last updated Friday, November 24, 2006).

2.3 TYPES OF POVERTY

2.4 A. individuals

Poverty is explained by individual circumstances or characteristics of poor people. Some examples are;

- a. Education standard
- b. Age, handicap and healthy.
- c. Work orientation, time horizon, culture of poverty
- d. Discrimination, together with race, sex

B. Aggregate

There are two types of aggregate poverty which are

1. Case: Add up all poverty explained by individuals and that is equal to total or aggregate poverty. In other words, according to case theories of poverty, individuals and aggregate explanations are really the same, that is just the sum of individual poverty.
2. Generic: poverty is explained by general, economy – wide problems, such as
 - a. Inadequate non- poverty employment opportunities
 - b. Inadequate overall demand (macro problems, macro policy)
 - c. Low national income (less Developed Countries).

2.5 CAUSES OF POVERTY

Warfare: The material and human destruction caused by warfare is a major development problem. For example, from 1990 to 1993, the period encompassing Desert Storm, per capital GDP in Iraq fell from \$3500 to \$761. The drop in average income, while a striking representation of the drop in the well-being of the average Iraqi citizen in the aftermath of the war, fails to capture the broader affects of damages to the infrastructure and social services, such as health care and access to clean water.

Agricultural Cycles: People who rely on fruits and vegetables that they produce for household food consumption (subsistence farmers) often go through cycles of relative scarcity for many families that rely on subsistence production survival, the period immediately prior to harvest is a 'hungry period.' During these periods of scarcity, many families lack sufficient resources to meet their minimal nutritional needs. Being familiar with these cycles has enabled development practitioners to anticipate and prepare for periods of acute need for assistance.

Droughts and Flooding: Jimoh (2000) states that besides the immediate destruction caused by natural events such as hurricanes, environmental forces often cause acute periods of crisis by destroying crops and animals.

Natural Disasters: Natural disasters such as hurricanes and earthquakes have devastated communities throughout the world. Developing countries often suffer much more extensive and acute crises at the hands of natural disasters, because limited resources inhibit the construction of adequate housing, infrastructure, and mechanisms for responding to crises.

2.6 Entrenched Factors Associated with Poverty:

2.5.1 Colonial Histories: One of the most important barriers to development in poor countries is lack of uniform, basic infrastructure, such as roads and means of communication. Some development scholars have identified colonial history as an important contributor to the current situation. In most countries with a history of colonization, the colonizers developed local economies to facilitate the expropriation of resources for their own economic growth and development.

2.5.2 Centralization of Power: In many developing countries, political power is disproportionately centralized. Instead of having a network of political representatives distributed equally throughout society, in centralized systems of governance one major party, politician, or region is responsible for decision-making throughout the country. This often causes development problems. For example, in these situations politicians make decisions about places that they are unfamiliar with, lacking sufficient

knowledge about the context to design effective and appropriate policies and programs.

2.5.3 Corruption: Corruption often accompanies centralization of power, when leaders are not accountable to those they serve. Most directly, corruption inhibits development when leaders hold on to money that would otherwise be used for development projects. In other causes, leaders reward political support by providing services to their followers.

2.5.4 Warfare: Warfare contributes to more entrenched poverty by diverting scarce resources from fighting poverty to maintaining a military. Take, for example, the cases of Ethiopia and Eritrea. The most recent conflict over borders between the two countries erupted into war during 1999 and 2000, a period when both countries faced severe food shortages due to drought.

2.5.5 Environmental Degradation: Awareness and concern about environmental degradation have grown around the world over the last few decades, and are currently shared by people of different nations, cultures, religions, and social classes. However, the negative impacts of environmental degradation are disproportionately felt by the poor.

Throughout the developing world, the poor often rely on natural resources to meet their basic needs through agricultural production and gathering

resources essential for household maintenance, such as water, firewood, and wild plants for consumption and medicine. Thus, the depletion and contamination of water sources directly threaten the livelihood of those who depend on them.

2.5.6 Social Inequality: One of the more entrenched sources of poverty throughout the world is social inequality that stems from cultural ideas about the relative worth of different genders, races, ethnic groups, and social classes. Ascribed inequality works by placing individuals in different social categories at birth, often based on religious, ethnic, or 'racial' characteristics. In South African history, apartheid laws defined a binary caste system that assigned different rights (or lack thereof) and social spaces to Whites and Blacks, using skin color to automatically determine the opportunities available to individuals in each group.

Source: MSU Women and International Development.

2.6 IGNORANCE: An Overview

Ignorance is the root of suffering. It is more than just the absence of knowledge, even though a lack of knowledge is often part of the conditions. It is the negative opposite of wisdom: the absence of qualities associated with wisdom. It also implies a lack of compassion, and as such it constitutes a self-centered attitude and its subsequent destructive approach to life of

greed and hatred instead of compassion and wisdom. It is to fall victim to illusions of permanence and materialism, the inability to distinguish between the real and the fake, and the failure to choose priorities correctly.

We live in a world promoting ignorance, vilifying the illusory and ignoring, even denying, the true essence of things. Fighting ignorance has therefore become a constant vigil against negative influence, which can take the form of peer pressure, the group mind, government propaganda or subtle and brash form of an omnipresent advertising industry. Our consumer society is focused on evoking greed and inflating the ego, and it is difficult to isolate ourselves from its negative influence. Governments often fan the flames of blind patriotism. Often, our professions, social pressures and education promote and demand an egotistical life style which runs contrary to a compassionate and wise approach to life. Many people seem to have no alternative but follow life styles, which strengthen their own egos and ignorance.

2.7 THE SUPERSTITION OF ESCAPE FROM KARMA

Many charlatans have made fortunes out of selling to people what they claim to be forms of escape from the inescapable forces of karma. The church even sold absolutions from sins to naïve people. Often, holy men or women or relics are presented as agents neutralizing the effects of your actions.

One thing is clear, there is no way to escape the inexorable law of karma. The law of cause and effect operates as relentlessly in the world of the spirit as it does in the physical realm. You shall reap what you have sown. Your deeds will come back to haunt you. Even a Buddha does not escape the relentless fairness of causality.

Only a real change in your mind, thought, speech and actions will change your karma, for karma is nothing but your own action, it is in fact you, only when you are not serving an ego will you live without creating more sorrow and suffering for your self and for others out of ignorance.

The (Tao is Tao, 34) the superstition of salvation through an external sources stated that “ you and you alone can salvage your life and walk the path no one else can do it for you? You cannot get article without paying the price for it (File:/E:/Jos%20 %20 ignorance htM.)

The above reviewed literature clearly explain poverty and ignorance, its cause and effect materials used are published text and unpublished articles on global issues but not in relation to environmental quality. This gave rise to this study as other concepts of influence of poverty and ignorance on environmental quality are studied below.

To this point there should be increment in creating awareness as to environmental pollution, management and control for individuals and the

world at large by the Ministry of Environment and the Environmental Protection Agency. Pollution has its own history, archaeology, literature and science". It is in view of the above literature and the importance of environmental management and control to produce good environmental quality cannot be over emphasized.

2.8 ENVIRONMENTAL QUALITY

The people of the country of Hawaii live in an environment with qualities that other areas have long since lost. Economic expansion and population growth in the country are bringing about more demand for products, transportation, services, energy and other necessities that could affect the environment quality of the country. The environmental quality of the country thus not only enhances the quality of life for its residents, but is also a major economic asset. Wttp www Hawaii country General plan.

Pollutants may be classified by the characteristics such as organic or inorganic, by stimuli or by type of environment affected, such as air, land or water. Sources of pollution are problem not only in the amount and type of discharge but also in patterns of dispersal that cause local concentrations of pollutants.

Dr. Akiinyeye (2000) stated that, in Nigeria, that the air is far from clean is clear from many studies of air pollution in the country. Dust

particles, which are the most evident air pollutants have many sources in the country. These include vehicular movements, wind, bush burning and industry.

Jimoh (2000) stated that vehicular traffic is an important source. The emission rate of dust per vehicle – kilometer for paved and unpaved roads in all parts of Nigeria are reported to be rather high when compared with 0.1g per vehicle – kilometer for roads in London and England. It was estimated that the annual amount of dust kicked up in the air by the country's motor vehicle were 612,000 tonnes and 187,000 tonnes for unpaved and paved roads respectively. The annual harmattan dust haze was estimated to have increased from 160,000 tonnes in 1990 to between 300,000 tonnes in 2005.

Bush burning from bush fallowing practices sweeps through about 260,000 ha per year of forest land and about 100,000 ha per year of savanna land in Nigeria, about 584,000 tonnes of smoke particles were estimated to be emitted annually into the atmosphere from the burning of about 80 million cubic metres of fuel wood. The burning of an estimated 18.25 million tones of domestic waste is capable of throwing about 58,400 tonnes of dust into the air annually. Jimoh (2000)

2.9 CAUSES OF POOR ENVIRONMENTAL QUALITY

Environment has been conceived as a system where living organisms interact with the physical elements. Sad (1988) stated that this system is alternatively known as the ecosystem. In this view man as part of living organisms interact with other organisms within the environmental set up. Thus a number of issues have therefore arisen out of man's interactions with his environment.

The levels and rates of interactions between man and the environment depend on man's needs, modes of meeting the needs and perhaps the level of his technological developments. These interactions are viewed below.

First is the Paleolithic era. During this era, Man's need centered mainly on food and shelter. These needs were accomplished and thus the emergence of a number of environmental problems with its attendant consequences on man and the quality of the environment.

The second phase is the Neolithic era (middle age). At this period man dictates what he desires from the environment.

Finally, is the third phase, which coincided with the modern age. This phase is characterized by the desire for various needs. And many steps have equally been devised to meet these numerous man's needs from the environment. Jimoh (2000) stated that in this view, there has been a high

positive relationship between man and the environment. However, man's activities in his environment have spelt disastrous consequences on it which man is ignorant of. Thus the emerging environmental problems that threaten both man's present and the future. These activities are as follows.

2.9.1 INDUSTRIAL ACTIVITIES

Nilsson (1992) stated that before the industrial revolution the carbon dioxide concentration in the atmosphere was some where between 265 and 280 molecules of carbon dioxide per million. As industrial activities commenced it increased to about 353ppm. This trend can be through the gathering of fruits, hunting for animals using sticks, stones and clubs as hunting tools; taking shelters under trees and covering themselves with leaves and hides and skin. This means that at this point man depended on only what the environment offers (environment determinism) basically, man had no option but to yield to whatever is obtainable from the environment. This therefore means that the degree of man's environment interaction was a one-way affair, for example, environment on man. In essence the incidence of man- provoked environmental problems was less known.

The second phase is the Neolithic era (middle age). During this era or period, environment was capable of offering possibilities (environmental positivism) and man at this period had ability to dictate what he desires from

the environment. This was due to improvement in man's technological developments. In essence man's environment gradually experienced a systematic transformation. These forms of transformations were in the form of disturbing the general ecosystems.

2.9.2 AGRICULTURAL ACTIVITIES

Uchegbu (1998) argues that modern agricultural activities, which requires pesticides, pollute the air/atmosphere. Nilsson (1992) also stated that "many farmers spread nitrogen fertilizer in their field to enhance growth of their crops, some taken by crop, but some leached into the surface and ground water while the rest enter the atmosphere causing pollution. The flux of nitrogen depends on the microbial activity in the soil. If the fertilizer is applied as ammonia, for example, bacteria convert some of it to gas known as nitrous oxide and nitrogen in this particular form serves as green house gas. When it enters the atmosphere, it increases the natural nitrogen of the atmosphere, which is 78% with 12.4tg in 1986, 14.1tg in the year 2000 thereby causing pollution.

Rice cultivation in the Polar Regions are methane producers. Though methane is not a natural gas but rice cultivation increases its concentration in the atmosphere by 1.5% each year thereby polluting the atmosphere.

Deforestation, which is the clearing of forest and wood land to create agricultural and pastoral land has increased its emission of carbon dioxide in the atmosphere between 1860 and 1980. Antarctica shows that the carbon dioxide concentration started to rise around 1800 and it had increased to about 15ppm by 1900. This rate of increase in carbon dioxide emission since the introduction of industrial revolution is now 1.8ppm per year.

Nitrogen oxide which results from exhaust of acid and explosive making industries also contribute to air pollution.

Carbon monoxide chemicals are also released into the air when substances are burnt. Sulphur oxides are also discharged into the atmosphere by burning of fuel.

Carbon dioxide which has constant proportion of 0.03% has been tremendously increased presently with about 6AT each year as stated by Nilsson (1992) due to industrial activities; thereby causing environmental pollution and degradation. Land use change has also added between 80 and 150 billion tones of carbon to the atmosphere and the yearly global input is somewhere between 0.6 – 2.6m of carbon thereby polluting the air and degrading the environment

2.9.3 DOMESTIC ACTIVITIES

Nilsson (1992) stated that “cooling medium such as refrigerators and Air condition in our houses emits chloro-fluoro-carbon (CFCs) into the atmosphere thereby causing air pollution. The related bromofuror carbon which is used in fire extinguishers is also a source of air pollution.

Without alternative sources of energy in the sahelian zone, the demand for fuel wood has been on steady increase by the increase in population and rapid urbanization. Despite the existing felling of trees (control) edict in various states, wood are exploited for building, arts and craft in this environment.

It has been estimated that nearly three quarters of Kano city’s yearly firewood requirement, of about 75,000 tonnes are brought in by donkeys mainly from within a radius of about 20km. These woods when burnt emit carbon dioxide into the air thereby causing pollution. As degree of urbanization increases rapidly at 5 and 10 percent annually, one can expect the woodland to become very sparse. This situation is further compounded by the people who clear areas for the purpose of making and transporting charcoal to urban centers for additional income. The consequence of human dependence on wood for fuel and construction is that about 350,000 ha of land is under threat of deforestation annually, while the annual rate of

reforestation is estimated at about 30,000 ha. This in a longer run lead to climate change.

The burning of fuel wood creates increased carbon monoxide in the atmosphere, which is a strong pollution agent, and the use of automobile also emits carbon monoxide.

2.9.4 CONSTRUCTIONAL ACTIVITIES

There is an increasing awareness among development policy makers that failing to take the costs of environmental damage into account will prove to be inefficient and often ineffectual in raising people's standard of living. Activities or projects are meant to improve the standard of living of the people. However unregulated activity or project can equally affect the standard of living of the people negatively and most of these negative impacts of project are environment related. Thus the road transport system and construction of buildings are not an exception. There is a strong agreement at the conceptual level on the need to integrate road transport development and the environment. However, a large gap exists between rhetoric and practice in Africa, particularly in Nigeria. The Nigerian transport policy document recognizes the fact that road transport system in Nigeria is characterized by high noise level, congestion, land degradation, pollution, high accident rate and casualty rate e.t.c.

The use of land constitutes one of road transport's most obvious impacts on the environment. For example, in big cities, road networks can take up to 19 percent of the surface area. However, there are basically land - take by road transport project which are primary land take including agricultural land. Loss due to road development parking space e.t.c and secondary land take which comprises of land other than the primary land take e.g. land for quarrying materials used for road transport infrastructure, run off, land use for disposal of scrapped and accident vehicles, these disturb fragile stops especially in mountain areas. Also road construction has a great deal of effects on habitats and bio diversity. Noise and vibration are also another problem created from road construction.

Pollution cannot be over emphasized. The road-based transport is by far the most damaging land-based mode whether for passenger or freight transport as cars not only consume double the amount of energy for every kilometer traveled but also produce more than twice as much CO_2 as rail, four times as much NO_x and seven times as much in the form of volatile organic compounds (Vocs), many of which are carcinogenic. Tolley and Turton (1995) state that these emissions are as a result of energy requirement of vehicles.

Apart from the aforementioned effects of road transport on the environment, there are other effects such as visual intrusion. Road transport has a great deal of impact on the visual landscape of the society. Others include pollution of surface and ground water by surface run off, modification of water system e.t.c.

The above literature reviewed man environment interaction via industrial, agricultural, domestic and constructional activities and how each activity pollutes the environment. The problem tackled are listing these activities. It is void of the extent of permissible activities to create balance in same gaseous element so as to achieve good environmental quality.

Materials used are published text.

2.10 GLOBAL EFFECTS OF POOR ENVIRONMENTAL QUALITY

Heavy dependence on environmental resources has translated into a number of environmental problems, which are as follows.

2.10.1 CLIMATE CHANGE

Climate change is normally regarded as a complete “shift” of climate of an area, for example, a change from cold to warm or from wet to dry climates. Usually it is a long-term change in climate especially over a geological period say millions of years.

Emission of green house in the atmosphere brings about changes in the elements of weather such as wind, rain, temperature e.t.c. Changes in these elements bring about climate change with its attendant consequent effect on temperature, sea level. The temperature rises above normal temperature, melting the ice caps at the North and South Poles resulting in rise in sea level every year.

On global basis, climate change is mostly defined through large scale global circulation mode (GCM). It is important to note that global circulation models results are not predictions, but scenarios describing a possible future climate situation under a set of variables with given values. Evidence from paleoclimatology has indicated that during the ice ages about 2.5 million to 10,000 years ago global temperatures were about 5°C which is lower than they are now. There was future warming until the althithermal period. Some 7000 years ago; again the earth was 2°C warmer than the present. This was followed by yet another period of cooling and by 1000 AD there was another thermal period popularly called the medieval warm epoch before the little ice age which persisted with about a degree cooling until 1650AD. Since then, there has been persistent warming with few periods of cooling interruptions.

In Africa, Grove (1968; 1972) observed that the climate was drier than at present particularly in lands now semi-arid or subhumid, rainfall being a third of the present amount and temperature between 4-6⁰c lower. The Sahara desert was smaller in size and lake Chad bigger. Nicholson (1989) pointed out that cultural, environmental and hydrological indicators all suggest that from Mauritania eastward to Ethiopia, conditions significantly more humid than the current ones prevailed from the thirteenth century. At the end of eighteenth century, marked desiccation commenced over Africa. Lake levels evidenced these, landscape descriptions, historical accounts and sporadic meteorological data. In Northern Africa, after about 1800 the Nile flow became very weak, the level of lake Chad fell, and drought became a common occurrence. Within decades, however, the good rain recovered and a relatively humid period persisted from the 1870's to the mid 1890s. Conditions again changed abruptly around 1895 and a continent wide decrease in rainfall culminated in a long period of severe drought in the 1910's (Nicholson, 1989).

In recent times, examination of instrumental records has indicated inconstancy of climate locally and globally. On the global scale, the best estimate of observed mean temperature records has been that of rising in the range of 0.3⁰ c to 0.6⁰ c in the last 100 years with the warmest six years on

record being in the 1980s (WHO 1990) over Africa, as varied as the rainfall regimes, so as the pattern of rainfall variation over the continent. However, a common trend is down ward especially in the sub-Saharan region.

Examination of various precipitation data (Bryson, 1973, Olaniran, 1990) has all indicated a run of dry years for the sub Sahara region dating back to the 1940s. Lamb (1985) noted that the years 1942, 1949, 1968 – 83 are drier than normal in the sub-Sahara region. South of sub – Sahara region, dry period of varying intensity and magnitudes have been observed (Adeyemi, 1992). These changes have a lot of impact on man and his environment.

The report of the IPCC (inter-governmental panel on climate change) (1995) group II is based on the work of a number of sub groups, using independent studies, which have used different methodologies. Based on the existing literature, the studies have several scenarios to assess the potential impacts of climate change. These have features of :

- a. An effective doubling of Co^2 in the atmosphere between now and 2025 for business as usual scenario.
- b. A consequent increase of global mean temperature in range of 1-5⁰c

- c. An unequal distribution of temperature increase, namely a smaller, increase of half the global mean in the tropical region and larger increase of twice the global mean in the polar region and
- d. A sea level rise of about 0.3 – 0.5m by 2050 and about 1m by 2100 together with a rise in the temperature of the surface ocean layer of between 0.2^oc and 2.5^oc.

There is uncertainty related to these time lags. The changes will not be steady and surprise cannot be ruled out. The severity of the impacts will depend to a large degree on the rate of climate change.

Despite these uncertainties, working group II has been able to reach some major conclusions on impact of climate change, which are as follows.

2.10.1.1 AGRICULTURE AND FORESTRY

Sufficient evidence is now available from a variety of different studies to indicate that changes of climate would have an important effect on agriculture and livestock. Negative impacts could be felt at the regional level as a result of change and change in ground level ozone associated with pollutants necessitating innovations in technology and agricultural management practice. An increase or change in ultra violet. Band radiation at ground level resulting from the depletion of stratospheric ozone will have

a negative impact on crops and livestock. The rotation period of forests is long and current forests, mature and decline during a climate in which they are increasingly more poorly adapted. Actual impacts depend on the physiological relationship.

The climate zone which controls species distribution will move pole ward and to higher elevation for example, in semi arid areas, social stresses can be expected to increase and consequent anthropogenic damage to forest may occur.

2.10.1.2 NATURAL TERRESTRIAL ECOSYSTEM

Natural terrestrial ecosystems could face significant consequences as a result of the global increase in the atmospheric concentrations of green house gases and the associated climate change. Projected changes in temperature and precipitation suggest that climatic zones could shift several hundred kilometers towards the poles over the next fifty years. Flora and fauna would lag behind these climatic shifts, surviving in their present location and, therefore, could find themselves in a different climatic regime.

Some species could be lost owing to increased stress leading to a reduction in global biological diversity. Increased incidence of disturbances such as pest out breaks and fire are likely to occur in some areas.

Consequences of these impacts will be significant, especially for those regions of the globe where societies and related economies are dependent on natural terrestrial ecosystems for their welfare, changes in the availability of food, fuel, medicine, construction materials and income are possible as these ecosystems are changed. Important fibre products could also be affected in some regions.

Plant, animal and insect suffer atmospheric pollution; the gaseous pollutant such as sulphur dioxide enters the plant via the stomata in the course of their normal respiration leading to the destruction of chlorophyll and the disruption of photosynthetic activity of the plant. Animal health may be in danger when they feed on plant covered by toxic particles such as fluorine, when absorbed into plant or animal tissues. Fluorosis is characterized in animal by mottled teeth and a condition of joint known as exostosis leading to lameness and ultimate death. Fungi, protozoa, bacteria loss is prominent due to air pollution.

2.10.1.3 **HYDROLOGY AND WATER RESOURCES**

Mark (1999) stated that relatively small climate changes can cause large water resources problems in many areas, especially arid and semi arid regions and those humid areas where demand or pollution has led to water scarcity. Little is known about regional details of green house gas induced

hydro meteorological change. It appears that many areas will have increased precipitation, soil moisture and water storage, thus altering patterns of agricultural, ecosystem and other water use. Water availability will decrease in other areas e.g. sahelian zone in Africa. This has significant implication for agriculture, for water storage and distribution and for generation of hydroelectric power.

With increase in precipitation, water management practice, such as urban storm drainage systems may require upgrading in capacity. Change in drought risk represents potentially the most serious impact of climate change on agriculture at both regional and global levels.

Further more, 99% of what is fresh water is out of reach frozen in ice caps and glaciers or buried deep underground. What is thus available for human use is a very tiny fraction. With increasing populations and demand, fresh water resources across the globe are dwindling.

2.10.1.4 HUMAN SETTLEMENT, ENERGY, TRANSPORT INDUSTRIAL SECTORS, HUMAN HEALTH AND AIR QUALITY

The most vulnerable human settlements are those especially exposed to natural hazards e.g. coastal or river flooding, severe drought, land slides severe wind storm and tropical cyclones. The most vulnerable populations are in developing countries e.g. Residents of coastal low land, and urban

poor in squatter settlements, Slum and shantytowns, especially in megacities. Inundation due to sea-level rise and storm surges could lead to significant movement of people. Major health impacts are possible, especially in large urban areas owing to changes in availability of water and food and increase in health problem due to heat stress and spreading of infection. Change in precipitation and temperature could radically alter the pattern of vector-borne and viral disease by shifting them to higher latitudes, thus putting large populations at risk. As similar events have in the past, these changes could initiate large migrations of people over a number of years to severe disruptions of settlement patterns and social instability in some areas.

Global warming can be expected to affect the availability of water resources and biomass, both major sources of energy in many developing countries, loss of water may jeopardize energy supply and materials essential for human habitation.

In developed countries some of the greatest impacts on the energy, transport and industrial sectors may be determined by policy responses to climate change such as fuel regulations, emission fees or policy promoting greater use of mass transit.

In developing countries, climate related changes in the availability and price of producing resources such as energy, water, food and fibre may affect the competitive position of many industries, quality of air and human health.

2.10.2 ENVIRONMENTAL DEGRADATION

Ukpong (1994) stated that environmental degradation is one of the worst environmental problems facing many people worldwide. Over 40 million are affected in Nigeria. This leads to food shortage and health problems.

Some causes of environmental degradation as noted by Ukpong (1994) include.

1. Improper resources management
2. Destructive logging of our forests
- 3 Overgrazing and over cropping of arable lands
- 4 Flooding and wind erosion menace
- 5 Strip mining
- 6 Land degradation with pesticides and fertilizer
- 7 Destruction of wetlands and marshes for development.

He also identified other indirect causes of environmental degradation

to include the population growth and population influx, property ownership issues, lack of control, enforcement measures and use of inappropriate technology for farming and producing manufactured goods.

It is the continuous exploration of the environment for productive activities that lead to its degradation. Degradation of the environment usually comes in different forms depending on the natural resources.

The heavy dependence on fuel wood combined with rapid population growth contribute to accelerating forest and woodland destruction especially around major urban areas. Commercial logging has been directly responsible for about 10 to 20 percent of forest destruction in sub Saharan Africa. The degradation and destruction of forests and woodlands accelerate soil degradation and erosion and harm local and regional climate and hydrological regimes which in turn affect agriculture negatively.

Environmental degradations through water and air pollution also have serious consequences on health of most poor communities in less developed countries for instance; poor people are less protected from polluted water. Milk (1993) stated that in Indonesia almost 60 percent of poor people in urban areas rely on unprotected wells for drinking compared with 34 percent of the non-poor. In the rural areas only an estimated 36 percent of households draw water facilities that provide a clean supply.

World Bank (1991) stated that in the Pakistani cities of Karachi and Lahore, for example, daily industrial discharges into a local stream include about 35 tones of suspended solid, 376 tones of dissolved solids, 2 tons of ammonia and 1.5 tons of arsenic oxide. (At kala shah kaku (near Lahore,) industries and manufacturing plants discharge toxic effluents (including mercury) into the Deg Nallah River making its water unsuitable for irrigation and livestock consumption.

Similarly, sanitation services are less adequate for most poor communities. Even where access to sanitation is available, water is often discharged entirely untreated.

Related to water pollution is air pollution, which is thought of as an urban health problem because of the concentration of emissions sources from vehicle, power plants and industries in these areas. People rely on biomass fuel such as wood, crop residues and dungs because these are the cheapest and most available option, but produces much combustion pollutants that are health risk during cooking.

2.10.3 OZONE LAYER DEPLETION

Nilsson (1992) stated that the halocarbons were brought to the attention of atmospheric scientists in the mid 1970's when one started to understand that chlorofluoro carbons were extremely stable and that they

could be transported to the stratosphere. These ultraviolet lights can break loose chlorine and bromine atoms, which in turn attack the ozone layer. As more and more scientific evidence as to their destructive potential had come in, including the appearance of the ozone “hole” over the Antarctica, politicians worldwide have come to recognize the need to ban these chemicals.

CFCs together with methane, nitrous oxide and carbon dioxide are also inducing changes in global atmospheric warming. These gases result from the combustion of fossil fuels, (coal, petroleum) for energy. Other industrial and agricultural practices such as rice cultivation is a major source of methane, soils exposed after forests are cleared and nitrogen – rich fertilizers spread over fields emit nitrous oxide biomass burning (the burning of vegetable) and deforestation. Without any action, the earth could heat up by between 2⁰c in the next century, a change that will be unprecedented in the last 10,000 years. The shifts that are bound to occur in temperature and rainfall patterns, will seriously disrupt ecosystems, agriculture and food production with considerable socio-economic consequences globally.

2.10.4 GLOBAL WARMING

This is the continued build – up of green house gases in the Atmosphere. These gases, which include carbondioxide, methane, nitrous oxide, chloro-fluorocarbons among others block some of the heat radiated from the earth to cause green house effect. According to inter-governmental panel on climate change (IPCC), the last two decades of the 20th century are the hottest on record (UN, 1998).

Some of the major causes of increasing emissions of green house gases are the burning of fossil fuels for energy and transport, the clearing of forest, which reduces carbon dioxide absorption, cattle raising which produces methane emissions as a by-product; and use of technology that pollutes. Accordingly, this global warming has led to rise in sea water level leading to soil erosion, flooding and drought. It also modifies ocean circulation and damage marine ecosystems with considerable socio-economic consequences. These effects will be added to present trend of rising sea level and other effects that have already stressed coastal resources such as pollution and over harvesting. Rapid sea level rise would change coastal ecology and threaten many important fisheries. Reduction in sea ice has serious impacts on ice-dependent marine mammals and birds.

Impact on the global oceans will include changes in the heat balance, shift in ocean circulation which will affect the capacity of the ocean to absorb heat and CO_2 and changes in upwelling zones associated with fisheries.

The reviewed literature tackled problems on global effect of man's interaction on the environment, materials used are published text and reports from global circulation models. The literature is void of possible remedies to these effects. It also lacks local evidence i.e it is a global issue. Current climate models are only able to predict patterns of change for the continental scale. Predicting how climate change will affect weather in a particular region and how such effect will be prevented is much difficult, thus the practical consequences of global warming for individual countries or region remain uncertain.

This literature tackled problems on poverty and ignorance causes and general effects on the environment. Materials used are published and unpublished text, journals, Internet.

The researcher had designed the methodology to study the influence of poverty and ignorance on environmental quality.

The attitude measurement which is the methodology used, good observation and comparison are made between literate or enlightened

wealthy individuals and illiterate poor individuals and how their attitude influence the quality of the environment.

Problems were in areas of data collection in respect to salary/ wages or income per month to enable the researcher determine those living on less than one dollar a day which is a determinant factor to define poverty level.

These data were collected via questionnaires and were analyzed using descriptive relationship and correlation to compare their effects.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

Environmental quality can be assessed in several ways, for example, by expert such as connoisseurs of architecture or of land scape, or by the scientific measurement of pollution by the nature and strength of public attitude to the environment. The process is essentially that of attitude measurement.

Attitudes cannot be measured directly. First, they are intangible, they can be discerned only by their outward effects, or indicators. Second, attitudes are multi dimensional; attitude cannot be measured by one indicator anymore than physical volume can be measured along a single line. Third, attitudes may be changeable in an apparently idiosyncratic and irregular manner.

In attitude measurement good observation and comparism is important, proper sampling procedures, the use of randomized control groups and internal analysis of data that is looking for differences in responses between identifiable sub groups. This ideally have not been pre-determined. It helps to reduce the possibility of incorrect conclusion with regards to examining poverty and ignorant rate, and the present environmental quality.

The problem under study is the assessment of the influence of poverty and ignorance on the environmental quality in Dutsen Kura Gwari.

The major research questions are

- what is the extent of poverty and ignorance in the study area
- to what extent do these affect the environment negatively (i.e do they contribute in the deterioration of the environment.

The specific objectives are

- to assess the extent of poverty in the study area
- to assess the level of ignorance in threatening the environment in the study area
- to examine the influence of poverty and ignorance on the environment.

The general research design used was attitude measurement. The attitude of various house holds in relation to the environment was studied in different strata or zones in the study area. The strata or zones were divided into low, medium and high income earners. The division was done using types of houses in a particular area. This was done through the use of questionnaires.

The extent of poverty in the study area was determined by assessing number of households living on less than N140 per day. Data collected in

this regard is the income or salaries of the house hold heads and was analysed by dividing such income by number of days per month and finally calculating the percentage of the number of house holds living on less than N140 per day.

The level of ignorance was assessed by calculating their educational level or number of house holds/respondents that have the knowledge of the effect of the source of energy used for cooking. Percentage was also used to deduce the level of ignorance in the study area. Data collected were on their educational level.

In examining the influence of poverty and ignorance in the study area, the researcher listed various income or salary levels, their sources of energy for cooking and their awareness level. Data collected were on sources of energy for cooking. Income or salary determines their source of energy for cooking and their source of energy determines the extent of pollution or degradation on the environment.

3.1 **RESEARCH DESIGN**

This was the basic plan of how the research, was done. It guided the collection of data and analysis, since it is a normative research, variables were observed, measured, and comparison were made between literate

/wealthy individuals and illiterate/ poor individuals and how their attitude influenced the quality of the environment (description of relationship).

Data was analyzed and correlated using graphs and figures for easy interpretation.

3.2 POPULATION AND SAMPLE

Population does not refer to the population at large nor even necessarily to humans or indeed animate objects at all. It refers to any whole group of subjects or things which have the characteristic identified for research purposes, all dyslexic people everywhere make up our research population. But such a large group is too variable and so the researcher limited her research to sample population, which represented the total population.

The general population was divided into sub populations or zones called strata. Questionnaires were administered in each sampled strata or zone. This method of random sampling is known as stratified sampling technique.

With the sampling techniques derived, a percentage was taken from the general population i.e 30% assuming the general population is 150 house holds, the sampled population would be

$$\frac{30}{100} \times \frac{150}{1}$$

$$= 45 \text{ households}$$

The total population of each zones was divided into 3 sub populations,

That is, $\frac{150}{3}$ so that each will contain 50 house holds.
 $= 150 \text{ households}$

Then the number sampled in each strata was $\frac{45}{3} = 15$ house holds.

Therefore in every 45-house holds, 15 was sampled and administered questionnaires randomly using gender (male and female adult).

3.3 RESEARCH INSTRUMENTS

Instruments used were

- a. Questionnaires
- b. Personal interview
- c. Direct observation
- d. Review of literature

3.4 SOURCES OF DATA COLLECTION

Data were sourced from private or internal source, public or external sourced i.e. primary and secondary sources.

3.5 METHOD OF DATA ANALYSIS

Description of relationship was used to analyze poverty and Ignorance rate through percentage while percentage was used to compare its effect on the quality so as to deduce conclusion as to whether its effect enhances or degrades the quality of the environment in the study area.

CHAPTER FOUR

4.0 DATA PRESENTATION AND ANALYSIS

Data collected from the survey were on influence of poverty and Ignorance on environmental quality in Dutsen Kura Gwari Minna. For clear and logical presentation and analysis, the data were presented in form of tables. This was to enable the researcher to evaluate data intelligently, evaluate statement of reliability, to present the fact in defined form. Description of relationship and percentage was used to analyse poverty and ignorance rate while comparism was used to compare its effect on the quality of the environment.

The researcher deduced conclusions about the entire population based upon the sampled data taken from the entire population.

66 questionnaires were administered, 50 returned and 16 not returned.

The data are presented in table 4.1

Table 4.1 **Presentation of number of administered questionnaires, Number returned and number not returned.**

Number of administered questionnaire	66	100%
Total number returned	50	76%
Total number not returned	16	24%

Source: field survey (28/04/07)

Table 4.2 presents the influence of poverty and ignorance on environmental quality in zone "A". It reveals that respondents with higher income level use

gas as their source of energy for cooking while (9) nine out of fifteen respondents use either kerosene stove or wood due to its cost and would prefer to use gas. With regards to its effect, only (6) six respondents out of (15) fifteen admitted to have an idea of the effect of their source of energy for cooking on the environment.

Table 4.2 Presentation of Influence of Poverty and Ignorance on Environmental Quality in zone "A" (High Income Earners) London Street Dutsen Kura Gwari, Minna.

S/No	Type of building	Educational level of head of household	Occupation	Income per month	Source of energy for cooking	Cost of energy per month	Reason for choice of energy	Preferr ed alternat ive	Awareness of the effect	Personal opinion about the environment.
1.	Bungalow	BSC	Civil Servant	50,000	Gas	7,000	Convenience	None	Yes	Good
2.	Duplex	PHD	Civil Servant	-	Gas	10,000	Convenience	-	Yes	Good
3.	Bungalow	BSC	Trader	-	Kerosines stove	2,000	Convenience	-	Yes	Good
4.	Bungalow	H.N.D	Civil Servant	-	Kerosines Stove	2,400	Convenience	Gas	Yes	Fair
5.	Bungalow	H.N.D	Civil Servant	30,000	Kerosines Stove	2,400	Cheaper	Gas	No	Fair
6.	Bungalow	H.N.D	Civil Servant	25,000	Gas	5,000	Convenience	-	No	Good
7.	Tenement	B.ED	Civil Servant	38,500	Gas	7,500	Cheaper	-	No	Fair
8.	Bungalow	N.C.E	Civil Servant	18,000	Wood	1,300	Cheaper	Gas	No	Good
9.	Bungalow	N.C.E	Civil Servant	18,500	Wood	1,400	Cheaper	Kerosin es Stove	No	Good
10.	Bungalow	H.N.D	Civil Servant	25,000	Gas	6,300	Cheaper	Gas	No	Good
11.	Bungalow	WEAC	Trader	-	Gas	5,000	Convenience	-	No	Good
12.	Tenement	H.N.D	Civil Servant	-	Wood	1,500	Cheaper	Gas	No	Good
13.	Bungalow	B.SC	Civil Servant	-	Gas	6,400	Cheaper	-	Yes	Good
14.	Bungalow	OND	Civil Servant	-	Kerosines Stove	2,600	Cheaper	Gas	No	Good
15.	Bungalow	MSC	Civil Servant	60,000	Gas	7,400	Cheaper	-	Yes	Fair

Source: Field Survey (2007))

Table 4.3 Presentation of Influence of Poverty and Ignorance on Environmental Quality in Zone "B" Medium Income Earners off bye pass road Dutsen Kura Gwari, Minna.

S/No	Type of building	Educational level of head of household	Occupation	Income per month	Source of energy for cooking	Cost of energy per month	Reason for choice of energy	Preferred alternative	Awareness of the effect	Personal opinion about the environment
1.	Bungalow	H.N.D	Civil Servant	30,000	Kerosines Stove	2,000	Cheaper	Gas	No	Fair
2.	Tenement	-	Trader	-	Wood	800	Cheaper	Kerosines Stove	No	Bad
3.	Tenement	Pry Six	Trader	3,500	Wood	500	Cheaper	Kerosines Stove	No	Bad
4.	Bungalow	N.C.E	Civil Servant	12,000	Wood	1,000	Cheaper	Kerosines Stove	No	Bad
5.	Bungalow	N.C.E	Civil Servant	10,000	Kerosines Stove	1,000	Cheaper	Gas	No	Fair
6.	Tenement	B.ED	Civil Servant	25,000	Kerosines Stove	2,000	Cheaper	Gas	No	Fair
7.	Tenement	B.SC	Civil Servant	28,500	Kerosines Stove	2,400	Cheaper	Gas	Yes	Fair
8.	Tenement	-	Trader	4,000	Wood	800	Cheaper	Kerosines Stove	No	Bad
9.	Tenement	WEAC	Trader	10,000	Wood	800	Cheaper	Kerosines Stove	No	Bad
10.	Bungalow	WEAC	Trader	20,000	Wood	1,000	Cheaper	Kerosines Stove	No	Bad
11.	Bungalow	H.N.D	Civil Servant	18,000	Wood	1,000	Cheaper	Gas	No	Bad
12.	Bungalow	-	Farmer	18,000	Wood	1,000	Cheaper	Gas	No	Fair
13.	Tenement	TC. 2	Civil Servant	4,000	Kerosines Stove	800	Cheaper	None	No	Fair
14.	Tenement	B.SC	Civil Servant	28,000	Kerosines Stove	2,000	Cheaper	Gas	No	Good
15.	Tenement	MSC	Civil Servant	75,000	Kerosines Stove	2,000	Cheaper	Gas	Yes	Good

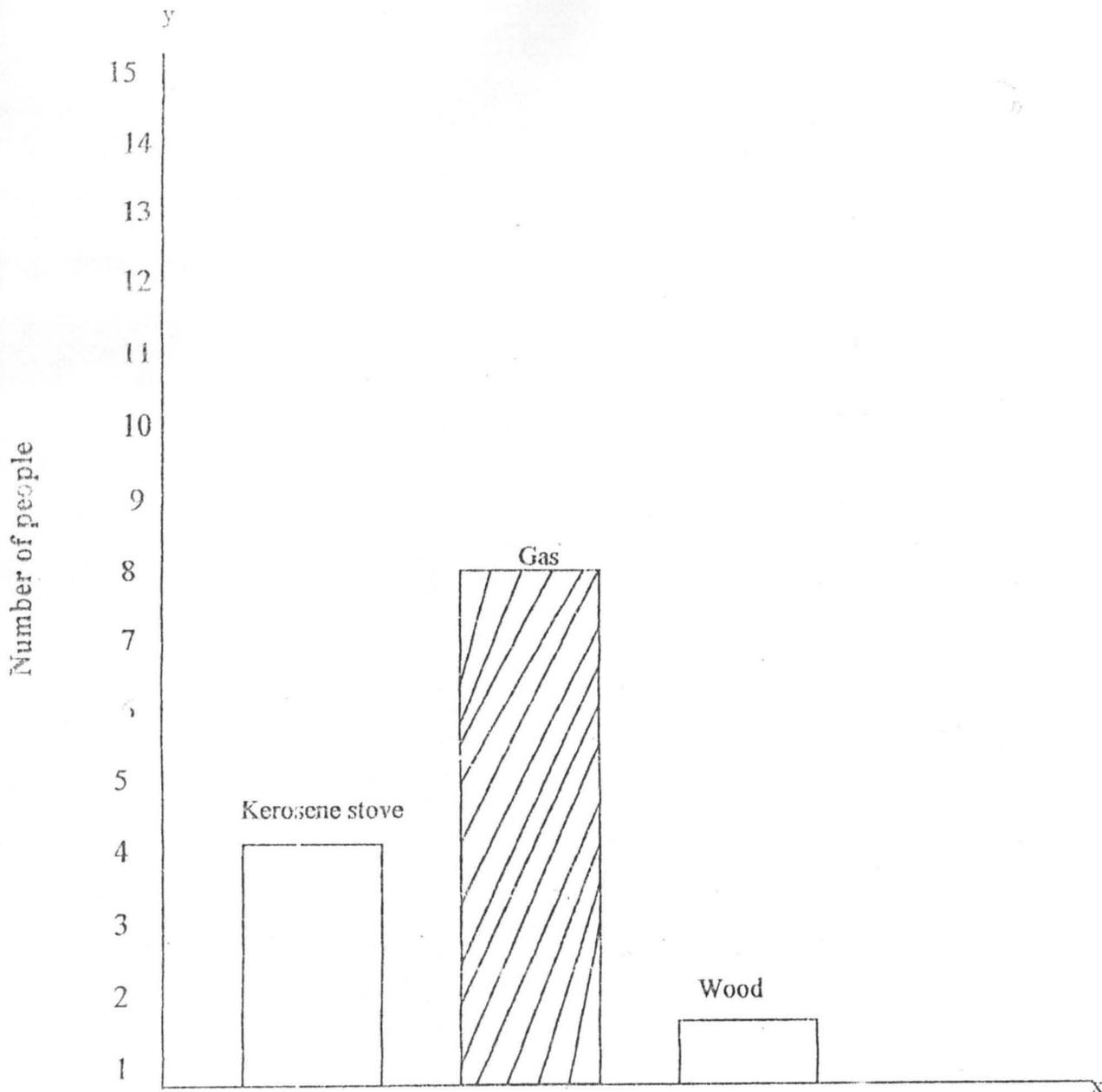
Source: Field Survey (2007)

Table 4.4 Presentation of Influence of Poverty and ignorance on Environmental Quality in Zone "C" Low Income Earners padukpe Area Dutsen Kura Gwari, Minna.

S/No	Type of building	Educational level of head of household	Occupation	Income per month	Source of energy for cooking	Cost of energy per month	Reason for choice of energy	Preferred alternative	Awareness of the effect	Personal opinion about the environment
1.	Tenement	T.C. 2	Civil Servant	4,000	Wood	400	Cheaper	Kerosines Stove	Fair	No
2.	Tenement	-	Farmer	3,000	Wood	-	Cheaper	Kerosines Stove	Fair	No
3.	Tenement	-	Farmer	3,000	Wood	-	Cheaper	Kerosines Stove	Bad	No
4.	Tenement	-	Farmer	4,000	Wood	400	Cheaper	Kerosines Stove	Bad	No
5.	Tenement	Pry Six	Trader	3,500	Wood	300	Cheaper	Kerosines Stove	Bad	No
6.	Tenement	N.C.E	Civil Servant	8,000	Wood	800	Cheaper	Kerosines Stove	Fair	No
7.	Tenement	N.C.E	Civil Servant	8,000	Wood	800	Cheaper	Gas	Fair	No
8.	Bungalow	H.N.D	Civil Servant	18,000	Kerosines Stove	1,500	Cheaper	Gas	Fair	Yes
9.	Tenement	H.N.D	Civil Servant	20,000	Kerosines Stove	1,500	Cheaper	Gas	Good	No
10.	Bungalow	-	Farmer	-	Wood	-	Cheaper	Gas	Fair	No
11.	Tenement	-	Farmer	2,500	Wood	-	Cheaper	Kerosines Stove	Fair	No
12.	Tenement	-	Trader	4,000	Wood	-	Cheaper	Kerosines Stove	Good	No
13.	Tenement	-	Trader	4,000	Wood	-	Cheaper	Kerosines Stove	Fair	No
14.	Tenement	-	Trader	4,000	Wood	-	Cheaper	Kerosines Stove	Good	No
15.	Tenement	OND	Civil Servant	6,000	Wood	600	Cheaper	Kerosines Stove	Bad	No

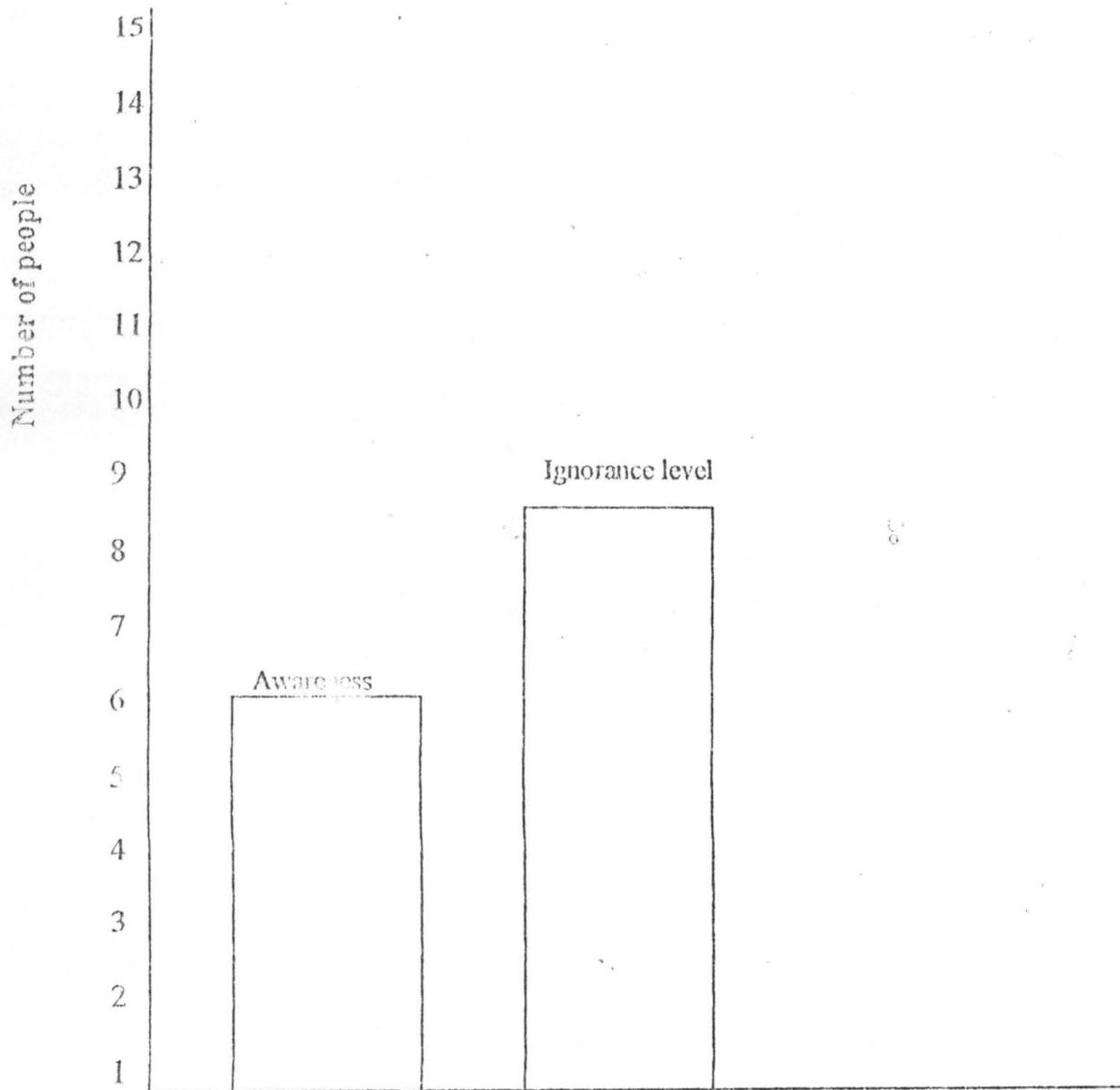
Source: Field Survey (2007)

The above presentation shows that all the respondents in the low-income zone use either kerosene stove or wood due to its cost, people using kerosene stove would prefer gas while people using wood would prefer kerosene stove. With regards to its effect, only (1) one respondent out of (15) fifteen admitted to have an idea of the effect of their source of energy for cooking on the environment.



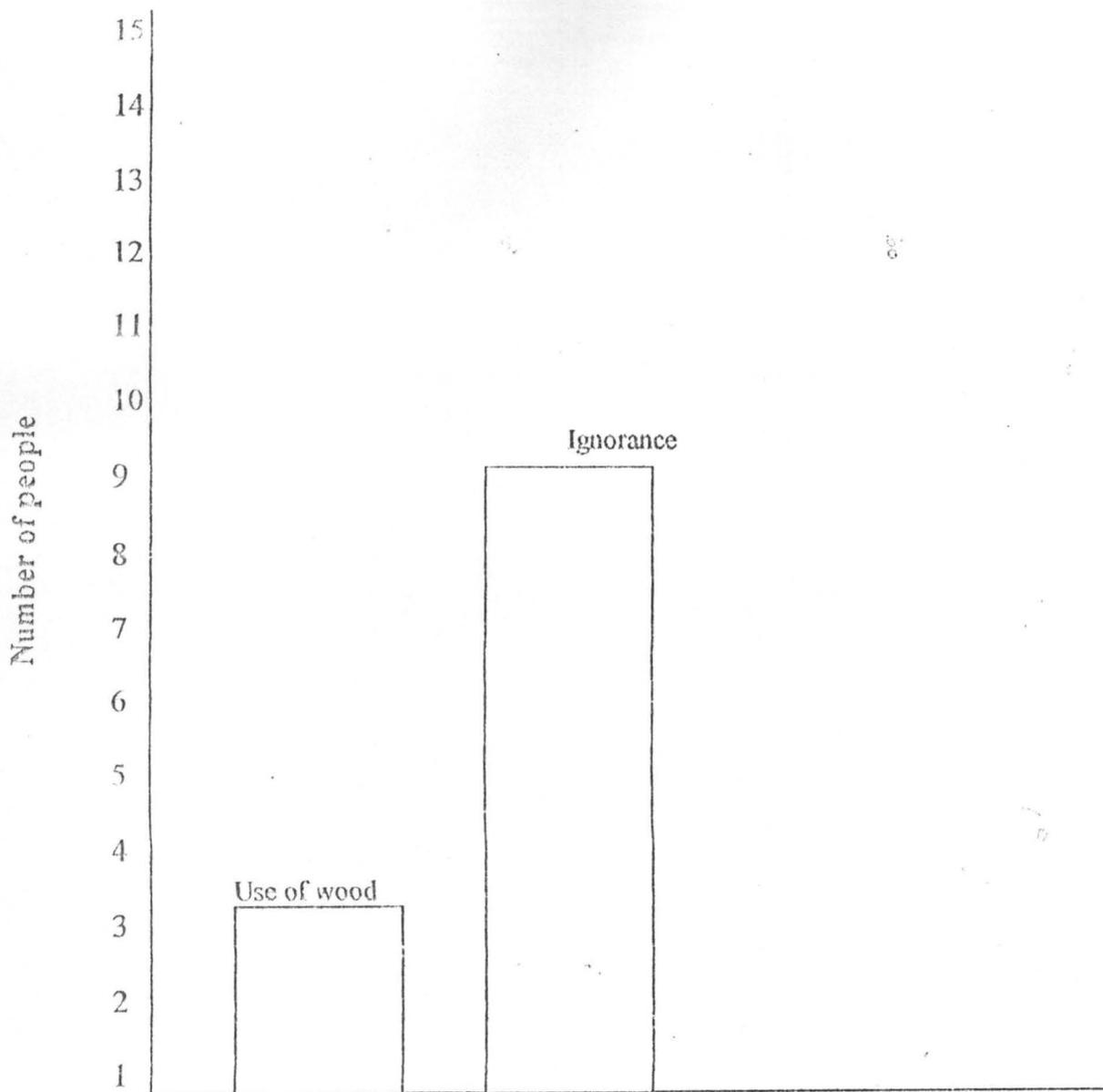
Source: field survey (28/04/07)

Figure 4.1 Presentation of pollution or degradation emission level in zone A via use of Wood, Gas and Kerosene Stove.



Source: field survey (28/04/07)

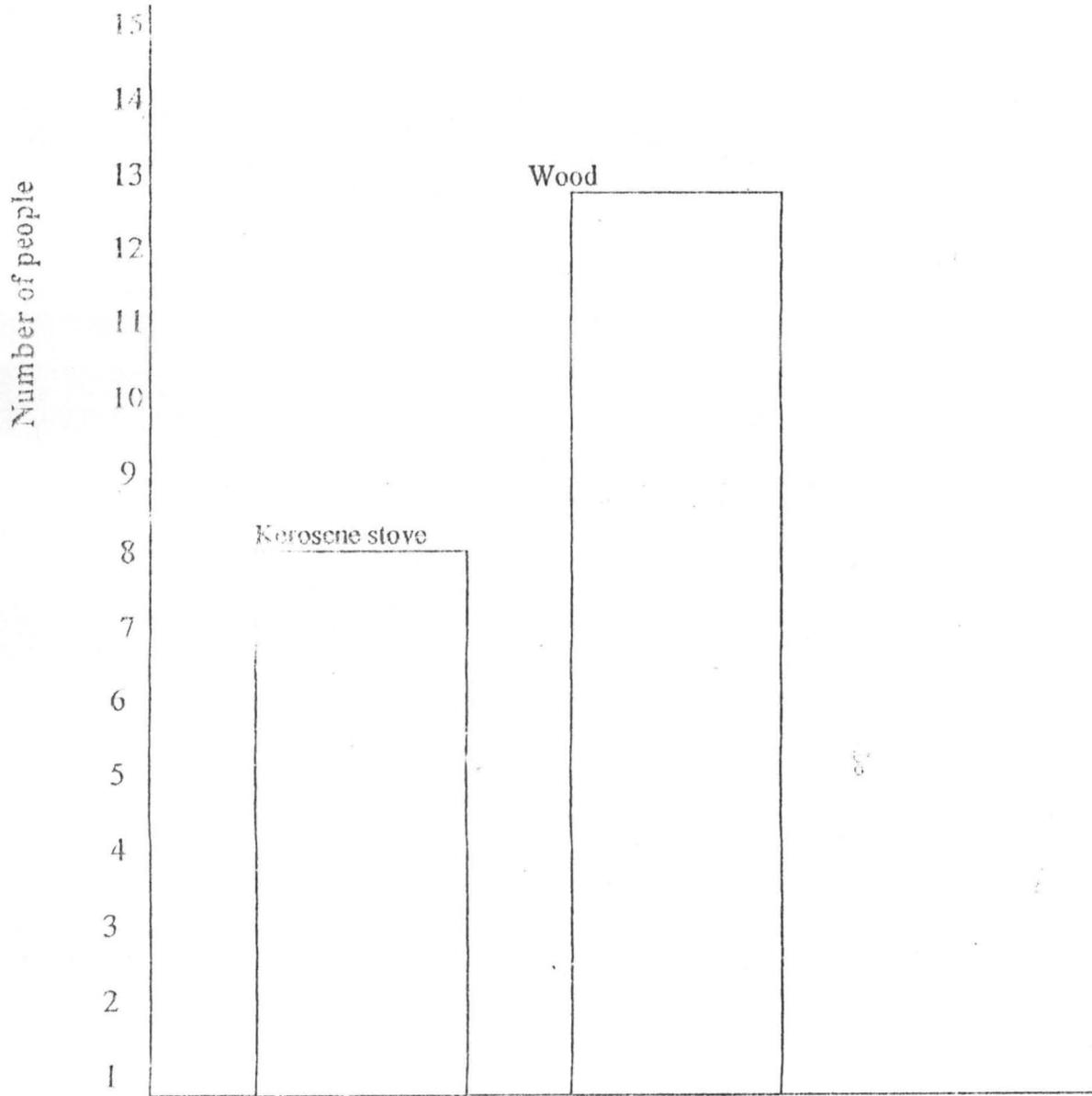
Figure 4.2 Presentation of Ignorance and awareness level in zone A with regards to the effect of their source of energy for cooking



Source: field survey (28/04/07)

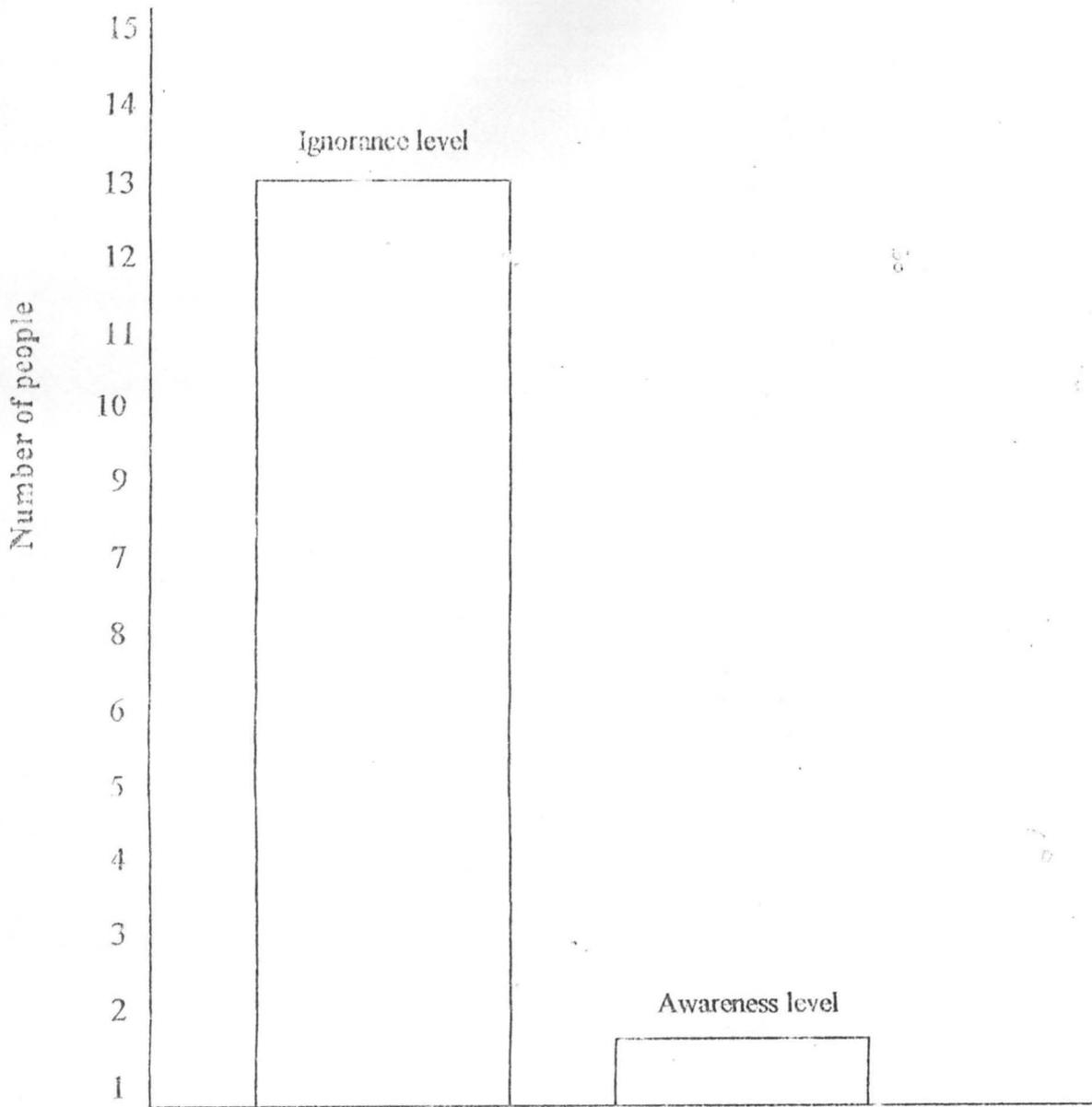
Figure 4.3 Presentation of the influence of poverty and ignorance on environmental quality in Zone 'A'

Note: The criteria for determining poverty are people who earn less than ₦140 per day.



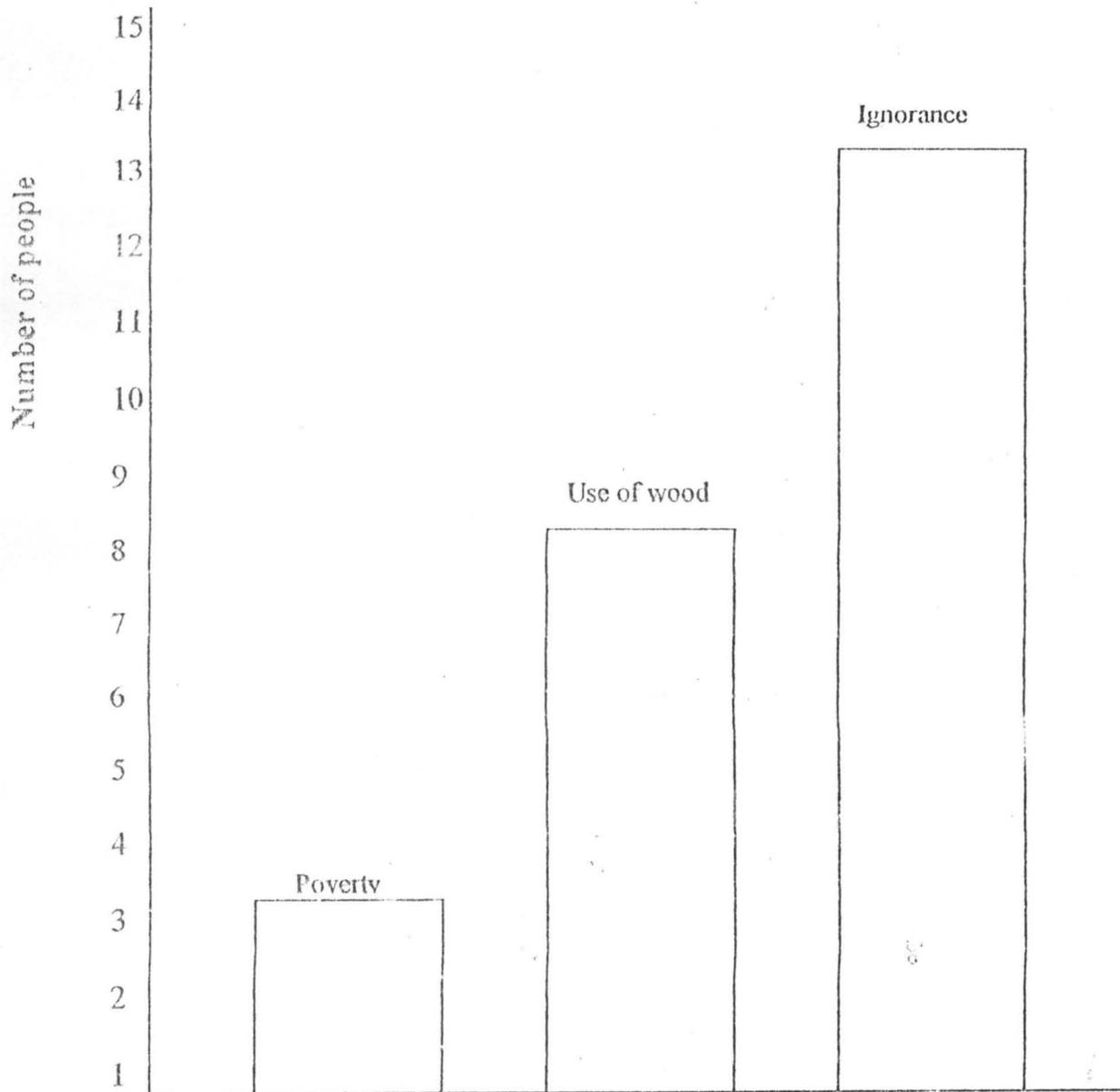
Source: field survey (28/04/07)

Figure 4.4 Presentation of pollution or degradation level in Zone B via use of wood, Gas and Kerosene stove.



Source: field survey (28/04/07)

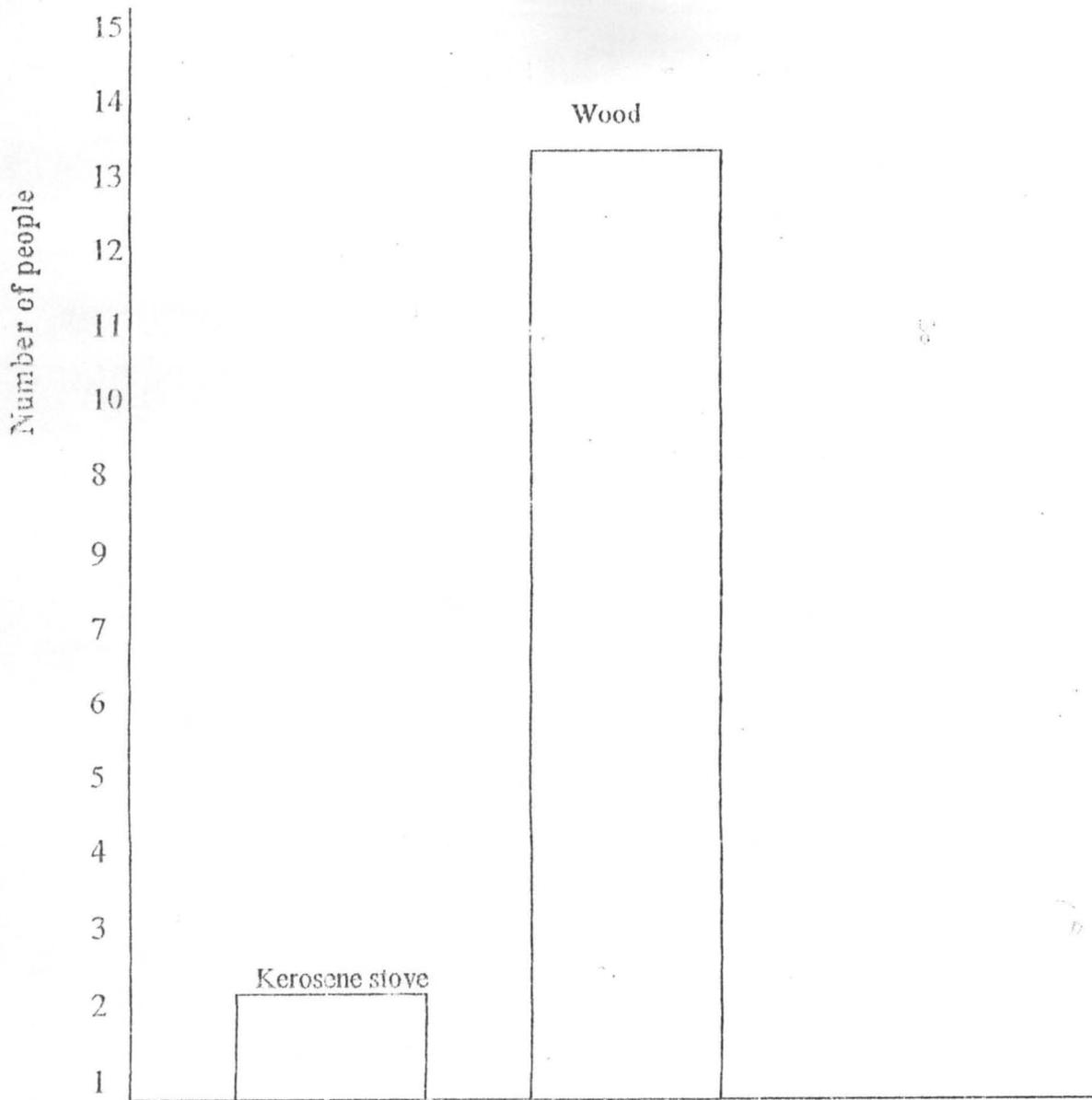
Figure 4.5 Presentation of Ignorance and awareness level in zone B with regards to the effect of their Source of energy for cooking.



Source: field survey (28/04/07)

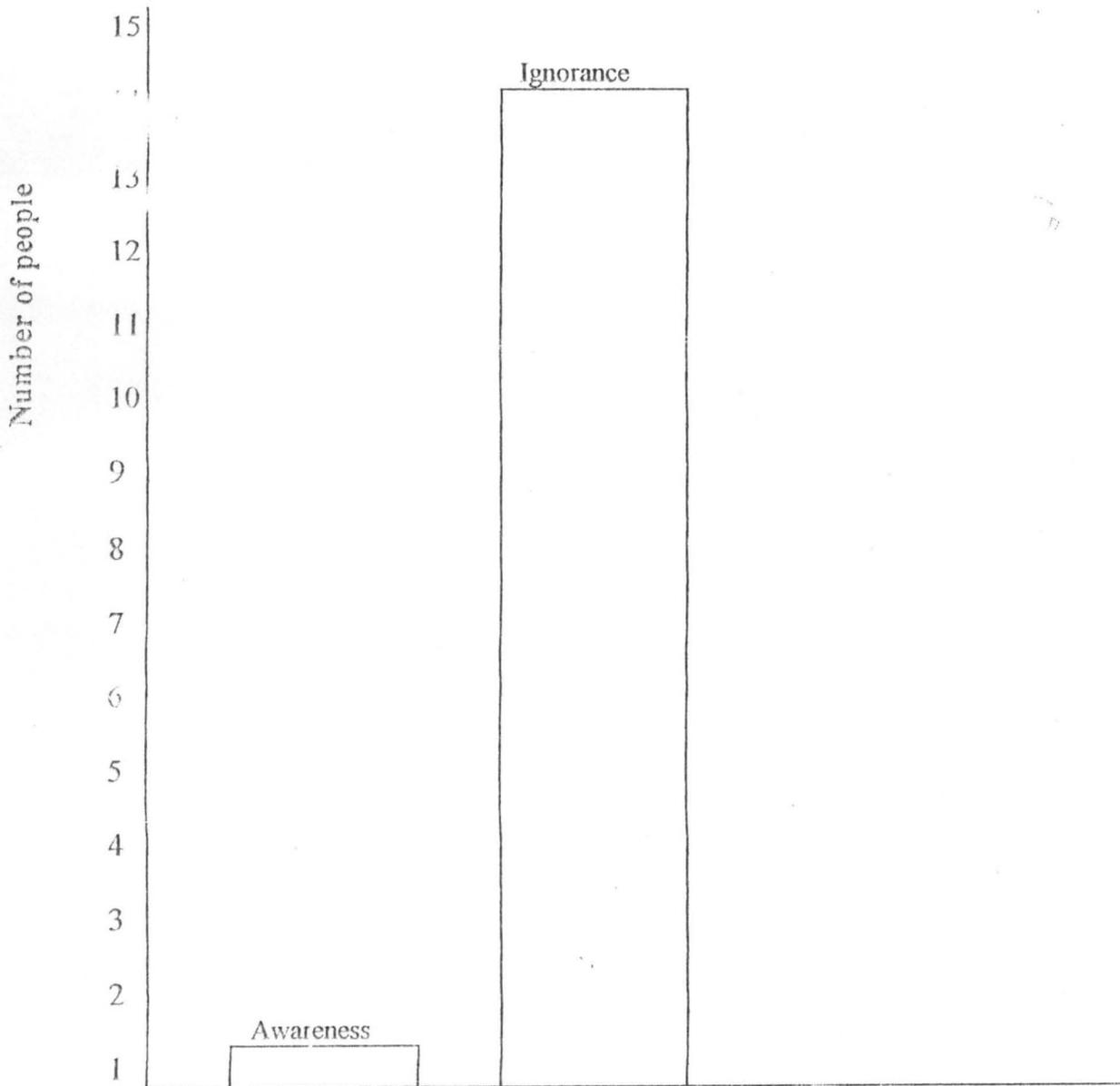
Figure 4.6 Presentation of the influence of poverty and ignorance on environmental quality in Zone 'B'.

Note: The criteria for determining poverty are earnings less than ₦140 per day.



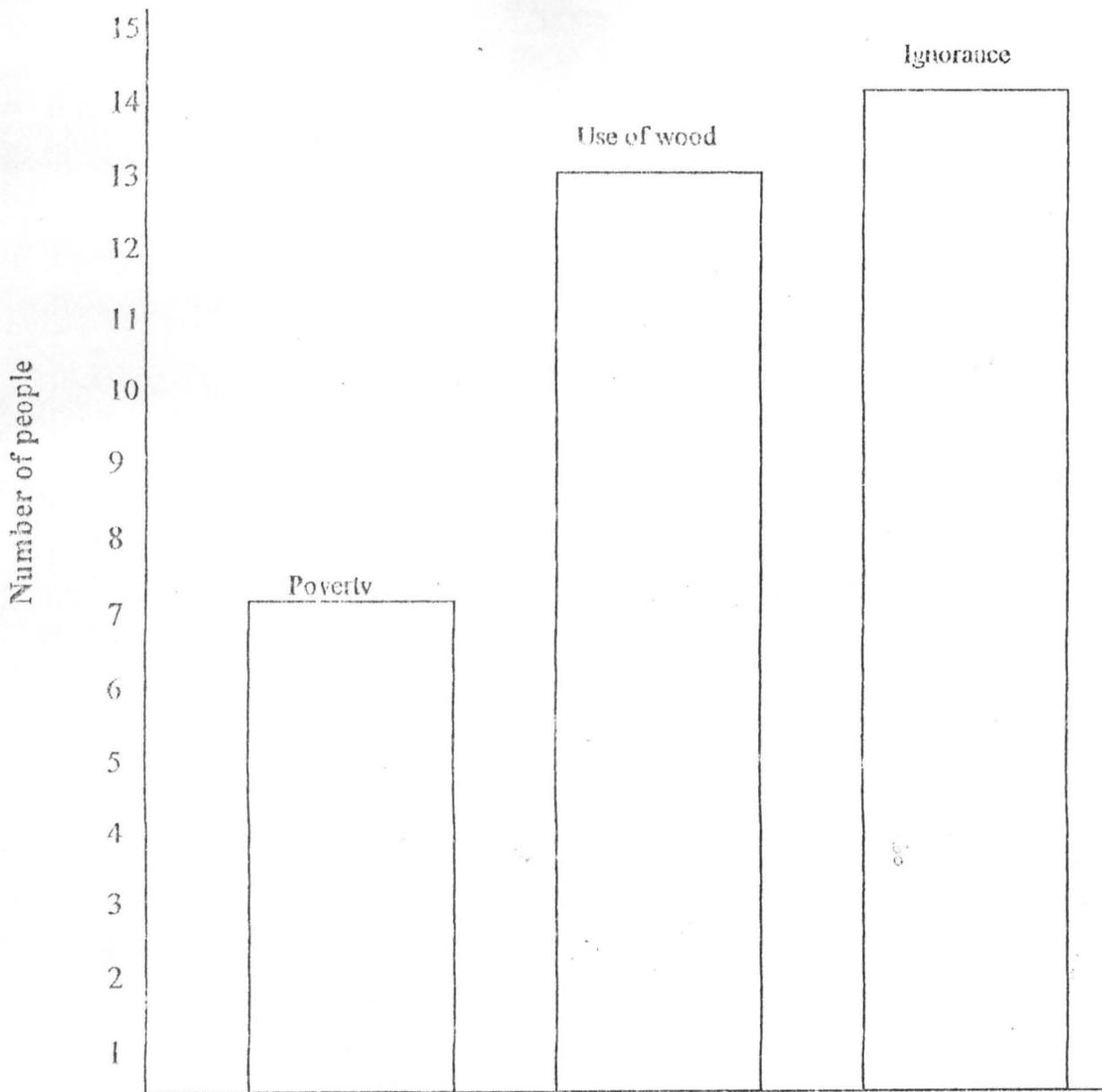
Source: field survey (28/04/07)

Figure 4.7 Presentation of pollution or degradation level in Zone C via use of wood, Gas and kerosene stove.



Source: field survey (28/04/07)

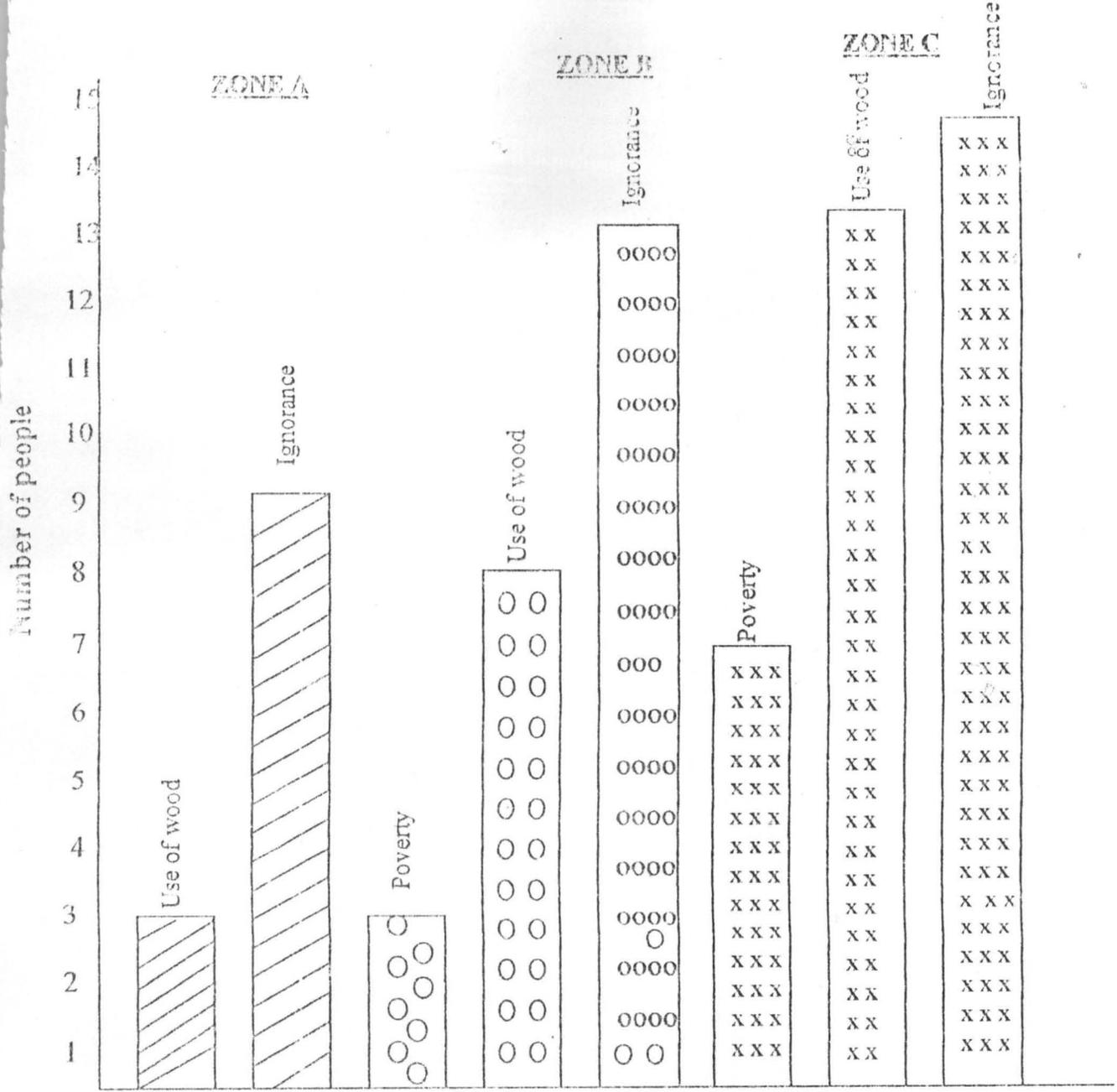
Figure 4.8 Presentation of ignorance and awareness level in Zone C with regards to the effect of their source of energy for cooking.



Source: field survey (28/04/07)

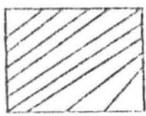
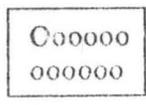
Figure 4.9 Presentation of the influence of poverty and ignorance on environmental quality in Zone C.

Note: The criteria for determining poverty are earnings less than N140 per day.



Source: field survey (28/04/07)

Figure 4.10 General presentation of the influence of poverty and ignorance on environmental quality in Dutsen Kura Gwari Minna.

- 
 Zone 'A': The lower the poverty level, the lower the use of wood and the lower ignorance when compared to Zone B and C.
- 
 Zone 'B': The higher the poverty level, the higher the use of wood and the higher the ignorance.
- 
 Zone 'C': The higher the poverty level, the higher the use of wood and the higher the ignorance.

From the data presented, it was deduced that environmental quality in Dutsen Kura Gwari is unsatisfactory since greater percentage of the sampled house hold are ignorant of the effect of the use of wood and they use these wood as a result of poverty.

Table 4.2 shows that respondents with higher income level use gas as their source of energy for cooking while (7) seven out (15) fifteen respondents use either kerosene stove or wood due to it's cost and would prefer to use gas with regards to its effect, only (6) six respondent out (15) fifteen admitted to have an idea of the effect of their source of energy for cooking on the environment.

Table 4.3 shows that all the respondents in the medium income zone use either kerosene stove or wood due to its cost. People using kerosene stove would prefer gas while people using wood would prefer kerosene stove.

With regards to its effect, only (2) two respondents out of (15) fifteen admitted to have an idea of the effects of their source of energy for cooking on the environment.

Table 4.4 shows that all the respondents in the low-income zone use either kerosene stove or wood due to its cost. People using kerosene stove would prefer gas while people using wood would prefer kerosene stove. With

regards to its effect, only (1) one respondent out of (15) fifteen admitted to have an idea of the effect of their source of energy for cooking on the environment.

In zone A 0% of the house hold earns less than N140 per day, i.e poverty rate at zone A is at 0 level, 20% of the house hold in zone B lives on less than N140 per day and in zone C 46% of the house hold lives on less than N140 per day. This is to say that poverty level is high in zone C.

With regards to the use of wood, in zone A 20% of the house hold uses wood as their source of energy for cooking. 53% of the house hold in zone B uses fuel wood as their source of energy for cooking and in zone C 86% of the house hold uses fuel wood as their source of energy for cooking. This leads to deforestation and pollution.

In respect to ignorance, in zone A 60% of the house hold are ignorant of the effect of their source of energy for cooking, in zone B 86% are ignorant of the effect of their source of energy for cooking while in zone C 93% are ignorant of the effect of their source of energy for cooking.

Figure 4.10 in zone 'A' shows that the lower the poverty level, the lower the use of wood and the lower ignorance when compared to zone B and C. In zone 'B' the higher the poverty level, the higher the use of wood

and the higher the ignorance. In zone 'C' the higher the poverty level, the higher the use of wood and the higher the ignorance.

4.15 THE IMPLICATIONS

Generally from the data presentation and analysis it is deduced that poverty and ignorance have negative effects on environmental quality in the study area with its associated health and environmental problems, such as upper respiratory track which could lead to damage of the respiratory system, irritation and smarting in the eyes, nose and throat. It also leads to more ultra – violet (b) radiation from the sun which gives rise to skin cancer.

Environmentally, emission gives rise to global warming, sea level rise, causing flood, decreased water level, causing drought with its consequence on agricultural production and shortage in production which leads to hunger and starvation and finally to death of both man, plant and animal.

It is also deduced that the zone of wealthy house hold reduces emission and are more aware of the effect of these emissions.

With this result, all hands must be on deck to eradicate poverty and to create awareness so as to enhance environmental quality.

With respect to the research questions it was deduced that poverty rate at the study area was 64% while ignorance was 78%. These have high negative effects on environmental quality in the study area.

CHAPTER FIVE

5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION.

Through out the proceeding chapters, the problem under study is the unsatisfactory state of the environment high poverty rate in the study area which leads to the misuse or over use of resources thereby degrading the environment.

The aim of this thesis was to examine the present state of environmental quality in relation to the level of poverty and ignorance in the study area while the objectives are to examine the extent of poverty, the level of ignorance in treating the environment and the influence of poverty and ignorance on the environment in the study area.

The general research design used was attitude measurement. The attitude of various households in relation to the environment was studied in different strata in the study area through the use of questionnaires.

The extent of poverty in the study area was determined by assessing number of households living on less than N140 per day. Data collected in this regards were the incomes or salaries of house hold heads and were analysed by dividing such income by number of days per month and finally

calculating the percentage of the number of households living on less than N140 per day.

The level of ignorance was assessed by calculating their educational level or number of households/respondents that have the knowledge of the effect of the source of energy used for cooking. Percentage was also used to deduce the level of ignorance in the study area. Data collected were also on their educational level.

In examining the influence of poverty and ignorance in the study area, the researcher listed various income or salary levels, their sources of energy for cooking and their awareness level. Data collected were on sources of energy for cooking. Income determines their source of energy for cooking and their source of energy determines the extent of pollution or degradation on the environment.

With the above analysis it was deduced that poverty and ignorance had negative effects on environmental quality in the study area.

From the sampled house hold, the researcher deduced his conclusion which shows that at the low income earners zone (zone C) poverty and ignorance are at high rate so also the use of fuel wood which emits carbon dioxide, causing pollution. Extraction of these fuel woods also causes

deforestation and degradation of environmental quality in Dutsen Kura Gwari, Minna, Niger State.

5.1 CONCLUSION

The need to identify the contribution of groups or bodies concern about the state of the 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. The ‘war’ resulting from the ‘victory’ of man over the environment as ordained by the nature had actually exploded into another round of “war” because of the possibilistic tendencies of mans act of ignorance and poverty on his relationship with the mother earth.

Except deliberate attempts are made to create awareness towards his environment and empowered or alternatives provided, the ‘war’ in his biblical victory may rage for longer than expected and indeed the ‘victory’ itself may becomes a ‘cannon folder’ that destroys its own existence.

5.2 RECOMMENDATIONS

Good environmental quality can be attained to the advantage of men through the following.

5.2.1 ERADICATION OF POVERTY

To alleviate poverty there would be a strong need to protect and properly manage the environment. It would be important to also empower the poor by providing them with education, health care facilities, credit facilities, land and property right (Aina and Salau 1992).

- **Share the benefits of economic growth through an emphasis on more widespread employment.**

The phenomenon of jobless economic growth that increases income inequalities and generates too few jobs for low income groups poses a serious threat to the well-being of many nations, both North and South. Government policies should consider not only aggregate economic impact but also the distribution of employment. Socially responsible venture capital and microcredit initiatives can foster employment-generating businesses that complement the local culture and environment.

- **Rout out corruption, which harms society as a whole.**

Corruption, both in government and business, places heavy cost on society. Businesses should enact, publicize and follow codes of conduct banning corruption on the part of their staff and directors. Citizens must demand greater transparency on the part of both

government and the corporate sector and create reform movements where needed.

- Broaden access to education and technology among marginalized groups, and especially among girls and women.

The educational attainment of women has strong bearing on the well-being of their families, and efforts to improve education for women and girls must be strengthened. At the same time, steps should be taken to ensure that the current revolution in information technology benefits marginalized groups. This must begin in school.

- Improve government capacity to provide universal access to essential goods and services, including potable water, affordable food, primary health care, education, housing and other social services.

Governments around the world have made commitments to this through the 20/20 Initiative, which calls for 20% of national budgets and 20% of foreign aid to be spent on human services. But raising adequate resources through effective taxation and other mechanisms is often politically difficult. New mechanisms for public policy dialogue that enable citizens of all classes to recognize the benefit of universal access to key services must be put in place. Nonprofit groups and even corporations can provide essential support here, helping

articulate a vision of a healthy society. These nongovernmental actors can also help in the actual provision of services.

<http://www.gdrc.org/icm/poverty-causes.htm>

5.2.2 INCULCATION OF ENVIRONMENTAL STUDIES INTO FORMAL EDUCATIONAL SYSTEM

1. PRE-PRIMARY/NURSERY

Pupils at this level learn through poem and emulation of poems related to clean environment should be taught e.g pieces of paper, pick them up, I don't want to see them, pick them up. The teachers can also impart knowledge on them by showing good hygiene habit (visual) and also teach them literary (audio) through films. This process of learning is known as audio visual learning process.

2. PRIMARY

Primary School pupils should be taught environmental science just as social studies is being taught. Since social studies is the study of man and his physical environment, this is a branch of environmental science for environmental science comprises both physical and non physical environment. This will help at this level so that the kids will grow up with a full knowledge about the environment.

3. SECONDARY SCHOOL

At junior and senior secondary school levels students should be made to offer environmental technology as a compulsory subject just like English and Mathematics. The relationship between man and his physical and non physical environment should be taught e.g man's agricultural, industrial, commercial and economic activities and the impact of these activities on the environment.

4. TERTIARY INSTITUTION

At this level the course/subject should be optional since the student had acquired some knowledge on environment, he/she may chose to continue with environmental issues or not, but in any field he chooses, the environment has an impact on it. Here, it should be taught as environmental management technology, which is the process of putting together those items of environmental nature where man exists so that man's penetration and exploitation do not have an adverse effect on the environment. This will go a long way in enhancing environmental quality in Nigeria since the graduate of different institution will also help in educating others in the wider world.

5.2.3 EDUCATING THE LOCAL COMMUNITY

Teachers or facilitators can arrange instructional visits to the local communities, educating them on environmental issues as deforestation, bush burning, the use of fuel wood and its consequences on man and his environment.

PUBLIC RADIO AND TELEVISION PROGRAMMES

These are used to disseminate information to a large and scattered audience. It is usually faster. A document on deforestation prevention and control aired on radio and television can considerably enhance environmental awareness, related to this aspect of environmental damage.

MARKET PLACE

This is a very important place for environmental education by the use of public address system. This exercise should take the form of educating and informing people about conservation, a clean environment, use of waste bin and why litters should be avoided since a lot of litter or land pollution takes place in the market place.

LOCAL INDUSTRIES AND WORKSHOPS

This can be used to demonstrate the concept of sustainability e.g. a rice mill which burns the rice husk to generate its power for machines, and is located close to the rice field, can be a local industries and produce a wide

variety of environmental related instructional materials in form of models, graphics and other visuals using locally available inputs.

5.2.4 IMPLEMENTING APROPRATE POLLUTION CONTROL

POLICY

Pollution is the introduction by man directly or indirectly of any substance or energy into the environment resulting in deleterious effect, such as harm to living resources, hazard to health and hindrance to human and animal activities.

In choosing a pollution control policy we need to determine the following.

- What policy instruments and technologies for reducing of pollutant are available
- What the objectives of the pollution control policy are, with particular reference to the type of pollution and degree of environmental risk posed, the extent and reliability of pollution control methods, the full social cost of pollution control, and actual distribution of costs and benefits across the society.
- How cost effective are the different policy instruments with respect to these objectives and how politically acceptable are these instruments.

5.3 RECOMMENDATION FOR FURTHER STUDIES

A significant number of the respondents as gathered from the findings of this study attributed their use of wood as their source of energy for cooking to its affordability and cheapest source for their income. There is need to find out relationship between attitude of high income/low income earners in creating good environmental quality.

It is recommended that a detailed study should be carried out to determine why awareness level is low among educated and illiterate residents of Dutsen Kura Gwari, Minna.

There is also a need for medical research on air pollution (poor environmental quality) as causation agent of lungs and respiratory diseases.

**DEPARTMENT OF GEOGRAPHY
FEDERAL UNIVERSITY OF TECHNOLOGY**

MINNA, NIGER STATE

**PROJECT TOPIC: ASSESSING THE INFLUENCE OF POVERTY
AND IGNORANCE ON ENVIRONMENTAL QUALITY IN DUTSEN
KURA GWARI, MINNA.**

The purpose of this study is purely academic for research work in partial fulfillment of the requirements for the award of M.TECH in Environmental Management. Your Co-operation is hereby solicited for in supplying data in your possession, which may be needed. Be rest assured that such data would be treated strictly confidential. It would be appreciated if you would kindly give answers to the following questions.

Tick in the box if the answer is yes, if the answer is No. fill appropriately where required.

SECTION A

1. Data _____ Residential Address _____
Time _____
2. Name of respondent -----
3. Type of resident/Building (1) flat (11) tenement
(iii) others specify -----
4. Number of occupants residing in the house -----
5. Number of children per family _____ number of wives _____

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6. Educational level or certificate obtained

(i) First School Leaving Certificate (primary 6)

(ii) West Africa Examination Certificate (WAEC)

(iii) Ordinary National Diploma (OND)

(iv) Higher National Diploma (HND)

(v) University Degree

(vi) M.TECH Degree

(vii) P.H.D

(viii) None of the above

(ix) Other (specify) -----

7. Occupation: trader civil servant Technician

Other (specify) -----

3 Salary/income per month -----

SECTION B

9. What is your source of energy for cooking firewood coal (abacha stove) kerosene gas others specify.

10. Total cost spent per week on cooking energy _____

11. Why are you using (a) fire wood _____

b. Coal _____

c. Kerosene stove _____

d. Gas _____

e. Others _____

SECTION C

12. Would you prefer alternative source of energy for cooking

13. What alternative would you prefer -----

14. Why -----

15. What is your impression about the quality of environment in Dutsen

Kura (i) good (ii) fair (iii) very bad

16. Do you know of any effect of the source of energy you use in cooking

on the environment?

Yes

No

If yes state

17. Briefly give in your opinion how best you think the quality of your

environment can be improved. -----
