

**THE EFFECT OF URBAN SQUATTER
SETTLEMENT AND THE ENVIRONMENT
(CASE STUDY ON KARIMO-ABUJA)**

BY

**BADARU, YAHAYA USMAN.
PGD/GEO/98/99/08**

APRIL, 2000.

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**A THESIS SUBMITTED TO POST GRADUATE
SCHOOL
FEDERAL UNIVERSITY OF TECHNOLOGY
MINNA-NIGER STATE.**

**IN
PARTIAL FULFILMENT OF THE REQUIREMENT
FOR THE AWARD
OF POST GRADUATE DIPLOMA (PGD)
IN ENVIRONMENTAL MANAGEMENT DEPARTMENT
OF GEOGRAPHY
SCHOOL OF SCIENCE AND SCIENCE EDUCATION (SSE)
FEDERAL UNIVERSITY OF TECHNOLOGY
MINNA – NIGER STATE.**

APRIL, 2000.

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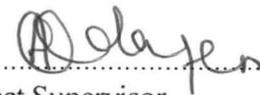
**Questionnaire
Reference**

CERTIFICATION

I hereby certify that this work has been supervised, read and approved as meeting part of the requirements for the awards of PGD in Environmental Management, FUT, Minna, Niger State.


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11th of May, 2000


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DECLARATION

I hereby declared that this project titled THE EFFECTS OF URBAN SQUATTER SETTLEMENT AND THE ENVIRONMENT” is an authentic work done by me and has not been presented elsewhere for the award of any degree programme.

DEDICATION

Firstly, to my Wife Mrs. Hawa Badaru and my mother Madam Melemu
Audu of Ejule.

Secondly, to (Late) Alhaji usman Badaru Retired Police Officer.

ACKNOWLEDGEMENT

Having successfully completed the task of compiling this project, I wish to express my profound gratitude and appreciation to my project supervisor Mrs. E. A. Odafen whose direction and constructive criticisms constituted a tremendous success to this thesis.

I am also grateful to all the staff of geography department for their kind support, it is well appreciating Dr. M. T. Usman, Dr. U. T. Umoh, Dr. A. S. Abubakar, Dr. Akinyeye. P. Shola, Dr. G. N. Nsofor, Prof. J. M. Baba, Prof. Adefolu and Dr. Okhlmamhe, Appolinia.

Finally, I must acknowledge the great role played by my friends and well wishes who contributed to the successful completion and encouragement, constructive criticism throughout the preparation of this thesis.

Also not left out are: Mr. Chris C. Amaike, and Adedotun Felicia Oluwaseun (Computer Analyst) Office of the Secretary to the Government of the Federation, for their Computer work. I should also like to express my thanks to my friends, classmates especially Mallam S. O. Shaibu of Federal Housing Authority and Mr. Song an Agriculturist.

ABSTRACT

This project work centres on the use of questionnaire technique for assessing the effects of squatter settlement in an Urban area. Data was collected based on the following requirement landuse structure number of rooms per household, number of person per room, construction materials used, age of the structure, ventilation condition, availability of kitchen, toilet and bathroom, type of sewage disposal facilities, type of water supply available, refuse collection points, accessibility of motorable road and accessibility of dwelling units to primary schools,

However, comprehensive analysis based on graphical work have postulated to give a wide understanding. The recommendation centres on two policies. In the first category, are long term policy issues relating to the prevention of squatter settlement, while in the second category are the short term policy issues relating to the physical improvement of squatter settlement in Karimo.

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CHAPTER ONE

1.0 INTRODUCTION:-

The word "SQUAT" conjures different Images to different people. The Oxford dictionary defines Squat as meaning "to settle on Land or in unoccupied building without legal right or to settle on land with a view to acquiring legal title".

Squats settlements are identified as places where people are predominantly engaged in primary activities: agriculture street trading, hawking etc. Other demographic characteristics such as community size, density, heterogeneity are casually related to the occupational difference. Hence squatter areas are further defined as homogenous areas of low density and small, insolated settlement. One can therefore say that squatter settlement areas are small, homogenous settlement where people depend on primary activities as means of livelihood. It is also to be noted that these settlements lack essential public facilities and community services. In addition, squatter or illegal settlement are characterized by poverty, illiteracy and subsistence.

Schnore (1966) suggests that certain variables should be measured to find out whether a settlement is a squatter or not. He says to defined squatter or illegal settlement one need to incline to the choice of those variables which can be statistically measured. These variables include population, type and level of economic activity predominant in the area, migration pattern, heterogeneity and

social differentiation and stratification.

In the same vein Jones (1963) in his book titled "Man and his Environment" defined squatter settlement as a cluster of dwellings, housing, often flanked by areas of irregular dispersed cultivation and pasture.

However, the study of Urban squatter settlement began with RITTER'S work in the early nineteenth century. Since both the content and the methodology of this study have been developed principally in the developed nation. Ritter's them of inter dependence among the elements of a landscape gave a broad base of early settlement studies.

Inspite of the rapid rate of urbanization in Nigeria within the last three decades, the country is still dominated by squatters settlement's. The study of this settlement involves an investigation into their origin, sites, rooms sizes, location and patterns. The patterns of settlement that emerge in the locality are a reflection of the interplay between physical and human factors.

Furthermore, many squatters settlement are extremely less efficient at conserving resources. Open space, are used to grow food, hunting, gathering, craft industrious such as wood working, dyeing, weaving, pottery and every item of household or business garbage. Many human activities alter the topography, vegetation and animal life of the area in which they take place, thereby disturbing the national equilibrium or ecological balance, and modifying the natural environment. These

environment's changes often result in harmful effects on the physical and mental well being of man himself.

Settlement is a major limiting factor that influences people's options for resources management. While squatter settlement is blamed on the ignorance and wastefulness of resources. That squatter and illegal settlement are interrelated and at the same time the cause and effect to each other. Since by virtue of their illegalities, how societal and economic status, the settlers usually have limited legal control over the landed resources.

Man is unhappy with the problems associated with and induced by squatter settlement today; he is in great danger in his environment and he is no longer in proper relation or balance with the other elements of the environment. Many of the inhabitants of squatter settlement do not have means to satisfy their basic needs; and live in houses of very low quality.

Urban squatter settlement is environmental ethic which is becoming as externalities and being incorporated into our principles by the less to do in the society.

The settlement ethic establishes that the human race is part of settlement that includes trees, rocks, animals water and scenery. And that we are morally bound to assured the settlement continued existence. Thus, this ethics affirms our belief that this earth is our only suitable habitat and recognises that rights of people to

breathe clean air, drink unspoiled water, and generally exist in a quality settlement (Jones, 1973)

11. HISTORICAL BACKGROUND

Humans are a special species. Throughout known history, people lived together in groups, often linked kinship. The commonest human settlement is the village-clusters of dwellings housing between 100 and 10,000 people, often flanked by areas of cultivation and pasture. (Idachaba, 1985).

In Federal capital territory Abuja, there were some 382 settlements, of which 372 were rural, and 98% of these were villages with less than 2,500 inhabitants.

While most people still live in Ghetto or illegal settlements, the proportion of urban dwellers is rising fast. Accommodation and lack of access to land in urban areas have led increasing numbers of people to move to inner city tenements or illegal settlement. The influx, added to rapid increase in the numbers of people already living there, has made the world urban dwellers the fastest growing sector of human population (FEPA 1999)

The anatomy of a settlement is fundamental to its functioning.

Unfortunately, virtually all illegal settlements of Ghetto or Squatters settlements were laid out before motor vehicles transport became common, and their road system are often inadequate for present needs. Infact, many urban squatters settlement are grinding to a halt because of it's congestion, while noise and

pollution endangers health and erode the quality of life.

However, it is common for a city population to live in overcrowded inner urban tenements or illegal settlements. For most, water supply, sanitation, garbage collection and access to health care are grossly inadequate. The environment in which they live are the most life threatening in the world.

The failures of government are not merely administrative, however, in many cases they also reflect historical influences. Much growth of Urban squatters settlement has out stripped the capabilities of municipal governments because national government do not give them sufficient authority to raise revenues and manage their affairs.

According to Gana (1978), the illegal (squatters) settlement scenery is one of a more nucleated and unsettled pattern of village based on particulars economic activities at the time of their establishment, such as fishing, hunting, farming, trading, social organisation and history, evidence of adjustment to physiographic, socio-cultural and slave settlement located close to the farms.

The Nigerian squatter settlement has always been a dominant scenery in the country mainly because the settlement space has been most extensive. Virtually the settlement spaces of the country in pre-colonial era were few and the apart. From available records, these settlements were of relatively small population and had not the features associated with modern urban centres,(Chike Mba, 1995).

The slums areas of Idu and Old Karimo are good examples of traditional slums which are made up of residential areas built up during the pre-colonial era on during the early years of colonial administration in Nigeria. Apart from the poor building materials and low technology which gave birth to such slum areas, lack of development control contributed remarkably to their emergency. On the other hand, the slums or squatters area in Southern Karimo presents as example of a slums which developed as a result of the expansion of the built area of an urban area (Abuja) into existing rural villages of Karimo. Since such villages were not planned and the houses built of local materials to house mainly farmers, the physical environment of these areas contrast sharply with that of surrounding urban neighborhoods. The subsequent expansion of the continuously built-up urban area eventually places such slums areas between the city centre and the slum.

Finally, the slum/squatter areas of Karimo, owes its origin to the squatting of Urban dwellers who could not find or afford accommodation in the city of Abuja. Such localities where market shift dwellings are constructed develop into slums. Since these squatters areas are located outside the defined city boundary, landuse development is not subjected to any form of control by planning authorities

1.2 STATEMENT OF PROBLEMS

The environment of man is complex, and to understand the

evolution and character of a settlement that many problems are involved. These problems should not be seen as discrete entities, for they interact with each other. Geographers because of their subject matters, altitude and approaches, undertake studies that are of direct tangible benefit to man and problems associated with his settlement pattern.

Squatter settlement way of life has also resulted to various environmental problems. Many of such environmental problems are as follows; Smog (Pollutants) which results from combustion and burning process of fossil fuel, fuelwood and others which is harmful to man, animal and vegetation. Indoor air pollution as a result of the use of asbestos in so many building may develop a rare form of lung cancer. (WHO year). In addition, the radioactive gas RADON, which is present in well water and building materials, such as traditional or local blocks/brick if they are made from materials with a high radon concentration; which is known to cause irritation to ear nose and throat, and lungs cancer (WHO 1988).

Furthermore, the dumping of cars and lorries involved in ghastly motor accidents, and exposing of life expectancy has render the land wasted. Water pollution is mostly carried out along the stream where solid wastes, condemned motor battery, industrial waste, unidentified chemical from motor mechanic were dumped, human faces which are washed into water and render it unfit for drinking,

bathing, cooking etc.

Extinction of domestic animals has a normal feature of evolution in a squatter settlement. Extinction by a variety of acts; redition, as with hunting of animals, collecting of eggs and plants, introducing animal and plants which compete with native species.

Soil erosion resulting from deforestation and agricultural practice is prominent and serious.

The most common forms of human waste disposal are pit, pan and bucket latrines and open defecation. These are slums in the entire areas, where more than half of the children and adult and open spaces and more than half of the population does not live in facilities with a private toilet.

In Idu-Karimo, outfall from the poorly functioning sewage system contaminates the ground surface and poor sewage coverage results in serious stream pollution, as well as soil contamination from the open defection in slums areas. It was discovered that organic waste from households is the waste pollutes of water bodies.

However, the overview of other associated environmental problem at the squatter settlement level are as follows:- The menance of sanitation, street trading, lack of potable water supply, health problems, inadequate infrastructure and noise pollution.

Another serious defect of the landuse structure in the slums/squatters is the small amount of land devoted to transport, that is roads and streets. This indicates that mobility within the slum areas is highly restricted.

I've discovered that insignificant proposition of land in the squatters/slum areas of Karimo is devoted to commercial and other land use types. This indicates that community services in the slum areas do not have adequate space .In facts, recreational space is non existent in all the squatter areas.

One implication of the almost complete allocation of developed land in the slums areas is the high population density per hectare in the areas. The field survey by NPC(1991) indicates that the densities range from 600 persons per hectare in Abuja to 1,500 persons per hectare in Ibadan. These high densities contrast with the normal standard of between 100 and 200 persons per hectare which is acceptable in high density residential areas of Nigerian cities. The high densities therefore constitute serious constraints on the maintenance of an acceptable standard of environmental sanitation in these areas.

1.3 AIMS

The aim of this study is to assess the effects of squatters settlement of the environment. To be more precise, “To analysed the impact on the development of squatters settlement on the people and it's environment”.

1.4 OBJECTIVES

The major objectives of this studies is the planning and management of human settlement to satisfy the physical, social and other need of their environment on a sustainable basis by maintaining the balance of the ecosystem of which the settlement is an integral sections.

Secondly, encouraging people to discontinue the development of squatter settlement and participate in the newly introduced self housing scheme or take up a credit facilities so that they can build these houses in a legal approved environment.

It was of the opinion that environmental laws and regulations are not enforced and that their impact on the people and environment is pronounced. In that vein, I hoped to identify and recommend efficient and sustainable ways to implement such laws and regulations.

However, the studies will also examine the absence of conservation measure and having a range of environmental impacts. (i.e.) over exploitation and contamination of ground water reserves and over exploitation of the land.

One particular important objective of this studies is to examine the trends in the growth of burning fossil fuel or ingestion of fuel in the air, water and food, and suggest a sustainable and appropriate way of reducing them.

1.5 JUSTIFICATION FOR THE STUDY

The pattern in Abuja urban squatters centres whereby the poor are segregated into areas with very deplorable living conditions that comes into sharp focus in the Karimo area. That all houses in Abuja high class areas enjoy pipe-borne water supply while residents of the poor neighborhoods of Karimo mainly depend on water from wells. Where residents have no access to well or pipe-borne water some enterpreneurs fill the gap of selling water. At Karimo a 20 litre tin of water sells for N20.00. In the absence of pipe-borne water supply, pit and bucket latrines are the most common toilet facilities in the low income areas. When properly managed, these bucket latrines still pose grave danger to health, but the health hazards are greatly intensified when conservancy contractors who are paid through the health section of the Municipal council demand extra bribes from inhabitants of poor areas before performing their duties. However, most residents not wanting to bribe empty their human wastes at night into the drains, refuse dumps and swamps.

It was of the opinion that, the slum areas currently under study by me is opined to receive up grading from the Federal Government of Nigeria. That's to say, the present occupants will be assured of housing, unlike in past schemes where the rich middle class usually purchased newly developed plots only to rent them out at exorbitant prices, thus excluding the urban poor. For example,

land in Lagos was meant to be re-allocated to owners after slum clearance. However, only few of the original owner bought back their land for various reasons. These problems are not peculiar to Lagos area alone as similar cases of public housing estates meant for the poor become the property of the country. Therefore, plan for future management should well spelt out for coping with existing slums.

The studies demand to know, the deplorable environment in which a large proportion of residents live is greatly exacerbated during the raining season (about eight months of each year) during which several areas are flooded. At this time, many households are either forced to live in damp, water logged buildings and wade knee-deep in flood waters or , in extreme conditions, to vacate their homes.

However, the unsatisfactory method of disposing of domestic refuse and human waste constitutes a major health hazard for this area. In addition the absence of a fire station increase the danger of major fire out-break. Infact in August, 1999, one such fire destroyed a large part of Karimo pump areas life and properties were damaged. This should be a lesson to the slump resident. But then, provision should be made to protect future occurrences.

The variables through which pollutants reach us include not only the air we breathe, the water we drink, the food we eat, but also the sounds we hear.

This emphasizes the point that noise pollution constitutes an element of the general environmental pollution problem. Infact, noise is no longer regarded as a mere musiance, it has now been found to be a harzard, posing serious threat to the quality of life enjoyed especially in the urban environment. Egunjobi (1988).

It is against this background that attempt is made to raising some basic issues with a view to establishing a basic for understanding the problem and then indicate possible directions for policy making.

CHAPTER TWO

2.0 BACKGROUND INFORMATION OF THE STUDY AREA:

Settlement, particularly squatter or illegal settlement (Unplanned Environment) tend to display certain internal form such as the degree of connectivity of their dwellings and this overall shape. The form of any squatter settlement is a reflection of the population, socio-economic background, Landform drainage's climate conditions, Geology (topographical) and cultural environment in which it has developed. Thus these forms of settlement may be compact, with closely space dwellings due to scarcity of land.

2.1 POPULATION

The world's traditional framers are conservatives and their life style is difficult to change. The Kasamojong in Uganda, Masai of Tazania and Nigeria's Gwari and Nupe share a comtept for farming and other stationary occupations (IUCN, 1988).

However, for the over 60,000 resident (CENSUS NPC –1991) of Karimo made up of the Yoruba, Hausa, Igbo Gwari, Igala, Nupe Fulani, Ghanian, Liberian, Chadian Germany etc. Karimo is a 50,000 square Kilometer . To the West is Nnamdi Azikiwe International Airport and Wuse district to the South.

Historically, the Gwaris which made up 30% of the population are the first settlers of Karimo. Kaduna, Minna Gurara , Gwagwa in search of available land for farming

Civilization also treatens the Gwari's traditions and farming with the establishment of the Federal Capital in Abuja.

During the regime of Alhaji Shehu Shagari a reasonable sum of money was provided to resettled the people of Karimo with a population of 1,240 head (NPC-1978). The resettlement project is part of a national effort to build industrial estate in the area.

However, attention will be focused on an elucidation of the environmental implications of some salient features of the population. Those of these features will be examined as follows:- Growth trends ends, spatial distribution and General quality of life.

2.11 **GROWTH TRENDS:-** The Karimo's total population was established at 60,000 in the 1991 national head count. This gave a code density of 86 persons/Km². National Population Commission sources 1998 have further stated that the population growth rate seems to have been on an upward tread, rising from 2.86 for the period 1990 as to 2.99 for the period 1995 – 2000.

Karimo population analysis which is structured into a hierarchy of construction workers, trends, civil servant, farmers etc. Thus by the year 2010 the

Karimo's population would have risen to over 600,000 giving a density of 134 person/km² (NPC, 1991). The implications of these figures for resource use are very obvious. The need for food and energy resources would have escalated so very significantly when the present population would have doubled.

2.12 **THE SPATIAL PATTERN OF DISTRIBUTION:** An analysis of the distribution pattern of population in Nigeria, based on the 1991 Census, was recently undertaken by Omideji (1998). The author categorized the pattern into three broad areas: Densely populated areas having over 200 persons/km² and sparsely populated areas which have less than 100 persons/km². The first category is of interest for our purpose here. The category represents where populations is already existing serve pressure on land resources and where appropriate measure are presently needed.

The undesirable impact of population on the environment is only of futuristic problem. An important dimensions of the total truth is that Karimo's population is disaggogated through a distribution pattern that exhibits wide spatial disparities

2.13 **GENERAL QUALITY OF LIFE:-** The quality of life among the people has direct bearing on environmental quality. The truth in this statement is easy to comprehend when we understand that quality of life has to do with such issues as the states of poverty/affluence, illiteracy/literacy, cultural Taoists and technology

among the people. For example poverty affects people's perception of resources and the proneness of society to extract national resources at levels injurious to ecosystem.

We dare to say that against all these parameters Karimo remains very deficient. Mass poverty and deprivation are presently the room, and in the face of these, survival demands the exploitation of resources to limits that are environmentally dangerous. Also although the 1991 census showed that a literacy rate of 57% had been attained, the degree of awareness about environmental matters and commitment to take protective measures generally low. This is so not only because of fact that at least 3% of the population remain illiterate, but also because of the overriding impact of poverty.

2.2 **SOCIAL –ECONOMIC BACK GROUND:**

The growth of trade created settlement of medieval Northern Nigeria. The few settlement did so because they were center of religious on secular power. Religion also inhibited economic activity, by prohibiting the charging of interest and by insisting that goods be bougsh and sold at a stable prices. Above all, religion taught that men should accept their inherited status in life. Rather than seek economic gain, men should prepare for life after death.

In addition, superstition inhibited socio-economic development as much as religion did, because people were naïve about cause and effect relationships. Instead of solve problem by systematic analysis, they tread to explain what they did not understand in terms of magical on supernatural events. The indignation to explain things in terms of magic rather than of cause and effect prevented the investigation necessary for economic development.

Another limiting condition on socio-economic development was that few trader did not travel much. They lived and died within a few kilometres of where they were born out settled. As a consequence, they were not exposed to the different ways of life to other people way perhaps more effective than the national ones use at home.

The development of trade was also inhibited by lack of transportation. Roads consisted mostly of trails and rutted wagon paths infested with bandits, that traders were forced to abandon there goods on pay heavier fees.

Tradition was preserved in medical society by a right social hierarchy. "If a person was born an artisan" he had to be content with his status; it was almost impossible to rise to a higher class. Religion supporter this social structure by teaching that even the desist to better oneself sinful, because status was God given. (Harter 1972).

Little is known about personalities in medical time, but what we do know leads us to the conclusion that the people were authoritarian in personality a personality commonly associated with hierarchical organisations interim of Socio, Economic and political.

The medical society was largely rural. The belief in the traditional ethics was the basic social unit that bind the people together. Peasants, most of whom were Gwari bound to the soil, performed the work with the use of traditional methods,

2.21 **INFLUENCE OF MILITARY REGIME:-**

The difference in these armies illustrates a significant and important deviation from traditional society. Military power changed in organisation, equipment, settlement pattern and planning.

The foregoing so-called military development caused a shift in the socio-economic to Nigeria settlement pattern particularly in Abuja (Karmo).

As early as the December, 1991 General Ibrahim Bagaginda led regime hired construction mercenaries from Germany (Julius Beger Ltd) to construct and supplement illegal or unplanned as temporarily construction worker camp in Karimo. At the same time, the mercenaries introduced on encouraged the development of socio-economic that made migration of peoples into the areas.

When General Sani Abacha arrived. Social and economic activities was well

pronounced, that trade and commerce because the order of the day.

2.22 ETHNIC AND TRADER ORGANISATION:-

Since 1992 when the move to compensate Karimo and other Satellite town of Abuja. Many ethnic group in Karimo formed an associations. As of April, 1992 there were 32 association (Abuja Municipal Gazette, 1992). In addition, there are many other exempted from registration.

The word “Meeting” was phonetically devised meaning a grouping. Meeting is an age-old concept and, in local usage, it denotes a politico-socio-economic grouping based principally on a dialect. Thus the various dialect groups are more often referred to as the various meetings. This is principally because the power structure of ethnic grouping is the advancement of socio-economic activities in the area.

During the colonial era, Karimo were largely left to their own dances. It was towards the provision of shelter, Sanitation and other needs, such places for religions and ancestral workshop, social gatherings, centuries, Law and order that had led to the mushrooming of various forms of ethnic association.

2.3 CLIMATIC CONDITIONS

The scope of the subject matter would focus on the weather and climatic condition of Abuja, Nigeria.

Abuja is located in the guinea savanna belt which fall between

the rain forest in the south and Sudan Savanna in the north. As a result temperatures are generally high throughout the year. Net radiation, locus of bright sunshine, and the mean annual and maximum temperature decrease from Zuba to Karishi. On the other hand, maximum temperature decreases from Nyanya in the south east up ward.

In terms of the nation wide pattern of atmospheric pressure distribution, Abuja's climate is dominated by the interaction between the pressure belts over the savanna and forest zone throughout the year (Acheampong, 1982).

During the northern hemisphere winter, a high pressure centre develops over the sahara and the dry harmattan winds affect the whole of the Federal Capital Territory. The harmattan air is dusty and warm in the daytime, but cool at night, the result of rapid radiation cooling through the cloud less skies. During this time, complete dryness and low humidity prevail over the greater part of the territory. Relative humidity reaches 80 percent in the mornings in the southern area, but falls to 50 percent in the alternative. (Acheampong, 1982).

In summer, though pressure remains high in the upper atmosphere, a thermally induced low pressure develops over the continental interior, and the inter-tropical Boundary moves to a position over the air – the southwest monsoon winds that bring thick cloud cover and rainfall to the country. In the rainfall total range from 760mm to over 1500mm (Acheampong, 1982). During this season, cloud

cover over the country is thick and the house of bright sunshine are reduced very considerably, especially in the southeast.

The Federal Capital Territory lie neat the Northern limits of the rain bearing winds so that the actual incidence of rainfall over the area is subject to great variability in time and in space. Variability however bear an inverses relationship to the rainfall amount, so that the nose reliable rains are experienced.

The rainfall distribution during the rainy season is more critical than annual total, especially for agricultural and hydrological processes. Two rainfall season exist; the major rains occur between March and July with the peak in June, whilst the minor rains cast from September to November.

On the whole, there is a prolonged dry spells, and often the rains may fall completely. Evapor transpiration rates are high and normally exceed precipitation on the average.

2.4 **LANDFORMS DRAINAGES**

The cleaning and development of land often have a pronounced influence on drainage networks. Deforestation and agriculture may initiate soil erosion and gully formation. As gulliers advance, they expand the drainage network, thereby increasing drainage density. It's precise example of the happeinig in the entire Karimo Land foram.

On the move positive side Karimo development has increased pressure on

land and improved the degree of human infringement on ecologically fragile lands.

Reconnaissance slavery carried out by me. I discovered that Karimo is without a properly designed drainage system. Rain water, Liquid from of waste mainly escape from earth surface as uncontrolled run off and possibly percolate if the soil structure is fresh (Uncomplicated)

Individual effort has further escheat the problem. It is because, there is no co-ordinaton and lack of continuity in the degree and direction of flow. Though majority of Karimo landforms are subjected to underrating, sloping and flat formation.

CHAPTER THREE

3.0 LITERATURE REVIEW

Drakakis-Smith, (1981), is of the view that, there is no single and accepted definition of what a slum area is. He further went to say that, there are various definitions which reflect the different orientations of various disciplines such as sociology, demography, economics, medicine and physical planning. At the same time, different societies define slums in different ways, even among people in the same discipline. Thus, the physical planners definition of a slum in the united states of America or Great Britain is bound to be different from that of a developing country such as Nigeria. This is a reflection of the varying levels of socio-economic development which characterizes different countries in the world.

Despite this lack of agreement, Drakasis 1981 provide an overview of what constitutes a slum area in the context of third world countries in general and Nigeria in particular. Third world cities are known to have two types of environmentally degraded areas. The first is the squatter settlement which comprises un-controlled or temporary dwellings largely inhabited by immigrants from outside the city concerned. Often, such areas are occupied illegally since building plans are not approved before dwellings are built. The second type is the slum proper which can be defined as legal, permanent dwellings which have become substandard through age, neglect and or subdivision into micro-

occupational units such as rooms, cubicles or cocklofts. (Onokerhoraye.A.E,1988,)

Odongo, 1979 noted that, most contemporary attitudes and interpretation of the nature and origin of slums are derived from the Victorian era. During the Victorian period, slum dwellers were viewed as a socio-spatially isolated group whose separation was attributed variously to preferred deviance, the rejection of the work ethic, and other anti-socials value. In the words, slum areas have viewed as generations of host deviant behaviours such as criminality, prostitution and juvenile delinquency. The theoretical foundation for this social perspective on slum areas can be traced back to the works of the Chicago school of social Ecologists especially those of park, Mckenzie and Biogess (Odemerho, 1988).

Economically, slum/squatters areas are viewed as areas inhabited by the poor in the urban system. The economic perception of slum areas is thus largely that of a people who are unskilled and therefore cannot be employed. Since there is no employment, there is no source of income for the vast majority of the dwellers of slum/squatters areas. Thus, PORTES (1971) in a not untypical passage has described urban slums in Chile as housing the poorest of the poor the unemployed, the vagabond, and the delinquent. The unskilled, and illiterate and often the alcoholic, the vagabond, and the delinquent. According the PORTES, the slum and its inhabitants have both reached dead and situations a refuge of ultimate destitution.

There is the political perspective which views slum/squatters areas as the breeding ground of political radicalism and violence. This perspective stems from the basic assumption that slum dwellers, experiences of poor living conditions and a variety of socio- economic hardship would, in time, generate feelings of frustration and discontent. Such feelings would eventually lead to an eruption of political radicalism and violence (PORTERS, 1971).

Abrams, 1966 is of the view that over-crowding is generally regarded as a hazard to health and, in particular, encourages the spread of infectious diseases, such as typhoid and tuberculosis. This is most pronounced in a residential situation in which sleeping accommodation is congested and the ventilation facilities poor. Thus, the theory that a filthy and decaying environment is indeed a health hazard of slum in India and Lagos, CLINARD (1966) and MARRIS (1961) have independently observed that the often supposed poor health of slum dwellers is not exclusively a consequence of poor housing conditions as such, as poor health could also be attributed to unbalanced diet, inadequate medical facilities and general disregard of personal hygiene.

In Nigeria (Lagos State) public Health Bye-law of April 1972 recommends a room occupancy of 2 persons per room, only the high-income areas conform with this standard, while residents of low income areas live in overcrowded rooms with occupancy ratios ranging from 8 person per room in a defined area of squatters

settlement (MABOGUNJE, 1968, page 270).

Besides overcrowding in slums and squatters settlements. MABOGUNE view the grossly inadequate essential services of water supply, storm drainage, roads, electricity, waste removal and disposal.

In third world countries, Studies of slums as a social problem have, in, general, tended to follow the colleagues. Reviewing studies carried out in Ghana, Uganda, the Philippines and Venezuela, among other developing countries, Clinaod and Abbott (1973) have noted a significant degree of correlation between slum/squatter housing and deviant behaviours.

The survey conducted by the Nigerian Institute of Social and Economic Research (NISER) in 1982, shows that vigorous definition and identification of slum/squatter areas was attempted. The selected slum/squatter areas in each urban area was made after a through reconnaissance survey of all the worst residential areas with respect to their physical characteristic. In addition, the questionnaire administered focused on the social and economic of the house- holds and dwellings in which the inhabitants live. However, the analysis have focuses on the physical characteristics of the dwellings and the overall environments in which they are located.

In the opinion of a British writer SCHNORE (1966), Suggested that certain variables should be measured to find out whether a settlement is a slum/squatters

or not. He says to defined squatters settlement one needs to incline to the choice of those variables which can be statistically measured. These variables include population, type and level of economic activity predominant in the area, migration pattern, heterogeneity and social differentiation and stratification

Squatters settlement scenery is one of a more nucleated and unsettled pattern of villages based on particular economic activities at the time of their establishment, such as hunting, farming, trading, social organisation and history evidence of adjustment to physiographic and slave settlement located to the forms (GANA, 1978)

According to CHIKE MBA (1995), the Nigerian squatters settlement has always been a dominant scenery in the country mainly because Nigerian, the settlement space has been most extensive. Virtually the settlement spaces of the country in pre-colonial era were few and far apart. From available records, these settlement were of relating small population and had not the features associated with modern urban centers.

Peter Hagget, 1979 is of the view that uncontrolled or squatters settlement often lie around the periphery of the built-up area, and are made up of temporary buildings(built-by the squatter themselves) with few social infrastructure. He went further to say that their names vary from country to country. In Jamaica they may be called Ghetto; In Latin America ranchos or favelas; In Asia, bustees or

kampongs; in Africa, bidonvilles or sharty towns.

Hagget further articulated that the uncontrolled squatter settlement are largely a third world problem. Inward immigration of the rural poor area in the western world has led to a spatially different through socially similar phenomenon, the ghetto. That, the term ghetto originally described Jewish areas within the medieval cities of eastern and southern Europe. In such cities the Jews lived apart from the rest of the community and in some cases even a wall separating their area from the rest of the city.

According to P.K. MAKINWA—ABEBUSOYE, 19988, defined squattes settlement/slum as area characterized by sub-standard housing built mainly of corrugated iron sheets, planks and plywood set haphazardly on land without adequate thought for vehicles movement, drains, ventilation and natural light. He further said existing houses are usually overcrowded rooming houses and most of these, over 80%, contain more than these households.(F.O.ODEMERHON AND SADA,1988.P.142).

CHAPTER 4.

4.0 METHODOLOGY.

Reconnaissance survey (Questionnaire) of the physical features:-

One hundred houses and households were randomly selected for the questionnaire. The (questionnaire) focuses on the social, economic and physical characteristics of the households and dwellings in which the inhabitants live.

The squatter settlement areas in Karimo Abuja is a good example of the traditional squatter areas which are made up of residential areas built up during the pre-colonial era or during the early years of colonial administration in Nigeria. Apart from the poor building material and low technology which gave birth to such slum and squatter areas, lack of development control contributed remarkably to their emergence. On the other hand its development is as a result of the expansion of the built-up areas of an urban area into existing rural villages.

Since such villages were unplanned and the houses built of local materials to house mainly farmers; The physical environment of their areas contrast sharply with that of the surrounding urban neighbour-hoods.

The subsequent expansion of the continuously built-up urban area eventually places such slum areas between the center and the sub-urban. Finally, the squatter settlement of Karimo also owes its origin to the squatting of urban dwellers who could not find or afford accommodation in the city of Abuja. Since these squatter areas are located outside

the defined city boundary of Abuja, land use development is not subjected to any form of control by planning authorities. The field survey in the slum areas indicates that residential dwellings constitute over 89% of the total developed land in them.(Table 4.1 indicates that.) This reflects the known characteristics of traditional slum/squatter areas in Karimo, Abuja in which virtually all available space is devoted to residential land use.

TABLE 4.1
LAND USE STRUCTURE IN KARIMO

LAND USE TYPE	PERCENTAGE
Residential	89.0
Commercial	4.0
Transport	5.0
Recreation/Open Space	0.0
Industrial	1.5
Others	0.5

Another serious defeat of the land use structure in the slums areas is the small amount of land devoted to transport, that is, roads and streets. Table 4.1 indicates that mobility within the squatter areas is highly restricted. The table again indicates that community services wherever they exist in the slum areas do not have adequate space. Infact, recreational space is non- existent in the slum areas.

overcrowding is the numbers of persons per habitable room. Table 4.3 presents the pattern in the sectional areas of Karimo (Old Karimo, market phase one, pump area,(Idu) Forest camp and Karimo extensions).It indicates that, over 80 percent of the dwellings surveyed have four or five persons per room. This is against the average national standard of two persons per room in the urban areas.

TABLE 4.2

Number of rooms per household (percentage total).

Number of Rooms	Old Karimo	Market	Idu	Forest/Camp	Karimo Extension
1 Room per Household	9	6	5	5	25
2 Room per Household	30	30	40	45	30
3 Room per Household	61	64	55	50	45

Table 4.3

**Number of Persons Per Room
(Percentage of Total)**

Number of Rooms	Old Karimo	Market	Idu	Forest/Camp	Karimo Extension
1 Person per room	35	5	28	1	12
2 Person per room	15	10	40	5	18
3 Persons per room	31	20	30	10	48
4 and above	19	65	2	84	22

Another housing characteristic which is of relevance is the concern of physical feature of the dwellings themselves. Table 4.4 indicates five main combination of building materials that could be used in the area. It shows that, the vast majority of the dwellings are build of mud walls with galvanized or asbestos roofs. Few of the dwellings in the survey areas have cement rendered mud walls, while less than 3 percent are build of sand Crete block walls.

Most of the inhabitants built their houses during the pre-colonial or early colonial period with the local materials they could lay hand upon.

An analysis of the age structure of the dwelling Units surveyed also indicates marketed differences on the one hand and Market, footest etc, on the other hand. Table 4.5 shows over 30 percent of the dwellings are either thirty years or less years. The relatively old age of some of the dwellings is because such buildings were in existence as rural settlements before the town intruded and may newer building were added.

Table 4.4
Construction Materials of Dwelling Units
(Percentage of Total)

Construction Materials of Dwellings	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
(a.) Sand-Crete block wall asbestos roof	11	1	2	4	5
(b.) Cement sand and mud wall and asbestos roof	23	20	2	45	5
(c.) Mud wall & asbestos roof	26	70	55	25	50
(d.) Mud wall/thatch roof	15	5	40	15	35
(e.) Wall/ asbestos	20	30	1	10	4
(f.) Others	5	1	0	1	1

100% 100% 100%

Table 4.5
Age Structure of Dwelling Units
(Percentage of Total)

Age of Dwelling Units	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Between 5 years	40	25	36	28	20
Between 5-10 years	15	45	52	72	45
Between 11-30 “	20	15	10	-	25
Less than 31- 50“	15	10	2	-	10
Over 50 years	10	5	-	-	-

Houses located in the slum areas are known to be poorly ventilated. The survey indicates that these are many rooms in the dwellings which do not even have one window. The vast majority of the rooms in the dwellings have one or two small windows.

Table 4.6
Ventilation Condition of Dwelling Units
(Percentage of Total)

Ventilation Condition	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Rooms without windows	-	-	-	-	-
Rooms with one Windows	32	42	37	36	25
Rooms with Two Windows	48	38	45	43	48
Rooms with 3&4 Windows	12	14	11	12	16
Rooms with 4 & above Windows	8	6	7	9	11

RECONNAISSANCE SURVEY OF HOUSING FACILITIES

The survey attempted to examine the nature of basic facilities available in the area by investigating the availability or otherwise of certain basic facilities which are essential for a healthy residential environment. Table 1.6 indicate that about 60 percent of the dwellings had no kitchen, toilet or bathroom. It also indicates that only about 30 percent of the dwellings have the three facilities. While only 10 percent have either of them

Table 4.7
Availability of kitchen, Toilet and Bathroom
(Percentage in Total)

House Hold Amenities	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Has Kitchen, toilet and bathroom	20	30	35	40	10
Has Kitchen & Toilet	40	40	45	25	60
Has Kitchen & Bathroom	20	10	10	15	18
Has Toilet & Bathroom	5	10	5	17	2
Has no Kitchen, Toilet & Bathroom	15	10	5	3	10

An analysis of the type of sewage facilities used in those dwellings with any facilities indicates that in all the selected areas, the pit latrine is the commonest form of sewage disposal facilities. The septic tank accounts for less than 20 percent of the dwellings which have sewage disposal facilities. Table 4.8 indicates that.

Table 4.8
Type of Sewage Disposal Facilities
(Percentage of Total)

Sewage Disposal Facilities	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Pit Latrine	80	50	70	34	60
Septic tank	15	45	5	60	28
Others	5	5	25	6	12

The nature of water supply available in Karimo vary from one area to the other (Table 4.9 indicates). At Karimo Extention, Forest camp areas wells with untreated water provide the dominant source of water supply to the dwellings. In Idu and Market, Public taps provide water twice a week for most dwellings. At Market area, the river is the main source of water for most of the dwellings. The main trend in all the area is that pipe borne water connected to individual dwellings have to use buckets to search for and collect water for their clarity needs.

Table 4.9
Type of Water Supply Available in Dwelling
(Percentage of Total)

Water Supply	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Pipe-born water connected to dwelling	5	1	-	-	-
Public taps	20	55	40	35	55
Wall	45	30	20	50	35
Rivers	25	4	30	5	5
Others	5	10	10	10	5

Table 4.10
Refuse Collection Points
(Percentage of Total)

Location/Distance	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Within 100 metres	5	4	3	2	20
Between 100 – 200m	10	11	12	8	8
Between 200 – 300m	30	35	36	28	32
Over 300 metres	45	50	49	62	40

FIELD WORK ON AVAILABILITY OF COMMUNITY SERVICE

Field work in all the area indicate that the areas are largely neglected in terms of the provision of community services. Table 1.9 indicates that most of the dwellings in the various squatter area do not have easy accessibility to refuse collection points. One of the major factors responsible for the long distance which households in the areas have to walk before getting to the nearest refuse collection points is the lack of motorable road which can facilitate the collection of garbags by lorries. Table 4.11 indicates that only very few dwellings in these areas are close to motorable roads. Many of the dwellings are located far away from the motorable road.

Table 4.11
Accessibility of Motorable Roads
(Percentage of Total)

Location/Distance	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Within 50 metres	10	8	11	5	15
Between 50 – 100m	20	24	21	32	29
Between 100 – 150m	30	28	32	35	31
Between 150- 200 metres	40	40	36	28	25

Finally, table 4.12 indicates that most pupils in the slum areas of the five location of Karimo walk longer distances before getting to a primary school which, in most cases, is located few away from them.

Table 4.12
Accessibility of Dwellings Units to Primary Schools

Location/Distance	Old Karimo	Idu	Forest Camp	Karimo Ext.	Market
Less than 1 Km	45	55	-	75	60
Between 1 – 3 km	35	35	30	25	30
Between 3-5 km	20	10	45	-	10
Above 5 km	-	-	25	-	-

4.1 ANALYSIS

The data analysed here is derived from the questionnaire of the five slums/squatters settlement areas from Karimo Abuja. The questionnaire survey was conducted by me in 2000. (See Questinaire format). All effort was made during the survey (Questionaire) to analyse all the squatters/Uncontrolled area in the five section noted above. Consequently regoous definition and identification of squatters areas was attempted.

The questionnaire administered focused on the following social, economic and physical characteristics of the house holds and dwellings in which the inhanitants live;

- (a) Landuse structure
- (b) Number of Rooms per Household
- (c) Number of Persons per room
- (d) Construction materials of dwelling units
- (e) Age structure of dwelling units

- (f) Ventilation condition of dwelling units
- (g) Availability of Kitchen, Toilet and Bathroom.
- (h) Type of sewage Disposal facilities
- (i) Type of water supply available in Dwelling
- (j) Refuse collection points
- (k) Accessibility to Motorable Roads
- (l) Accessibility of Dwellings Unit to Primary Schools

LANDUSE STRUCTURE

Based on bar chart, significant proportion of Land in the five squatters areas of Karimo is devoted to residential and the rest remaining percentage is devoted to the other land use.

Code= R= Residential, C= Commercial, R/O=Reception Open Space, I=Industrial, O= Others

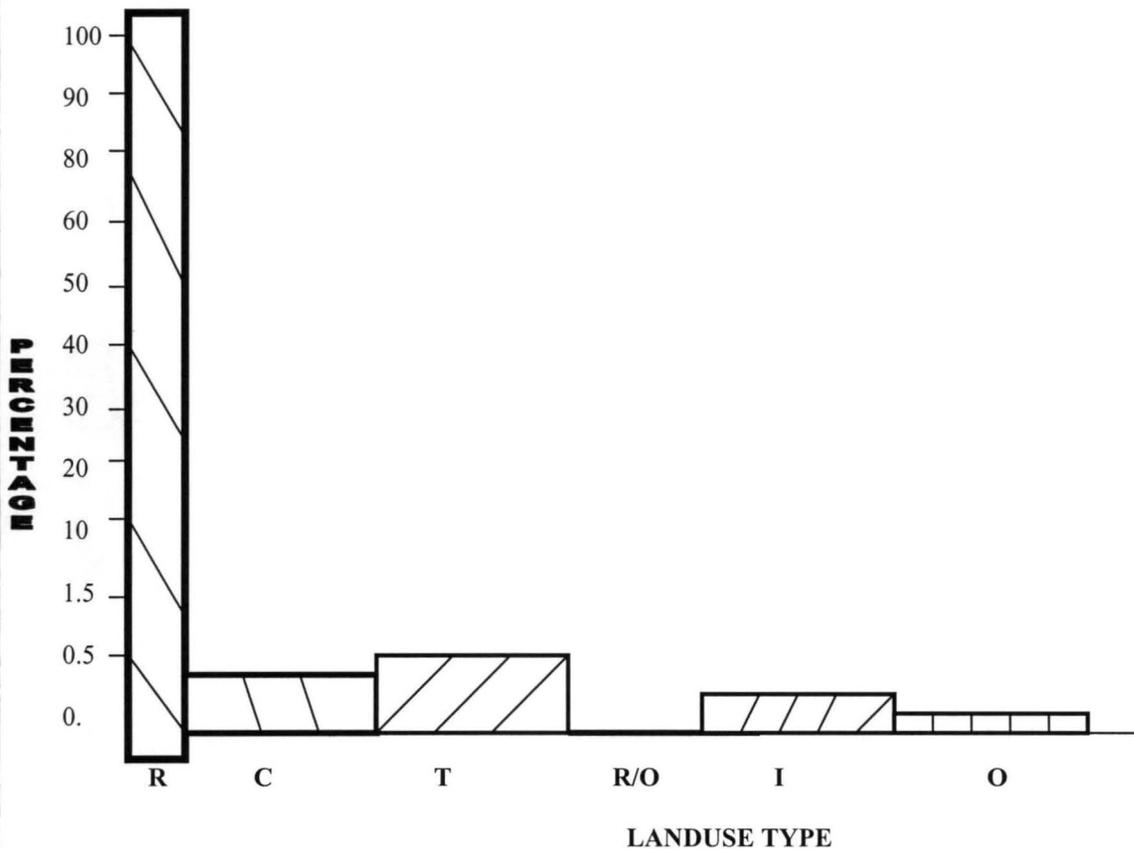


Fig.4.11

In fact, reception and open space is non-existent in all the five areas.

NUMBER OF ROOMS PER HOUSEHOLD

The graph attempted to measure the number of rooms per household as an indicator of the pressure on accommodation.

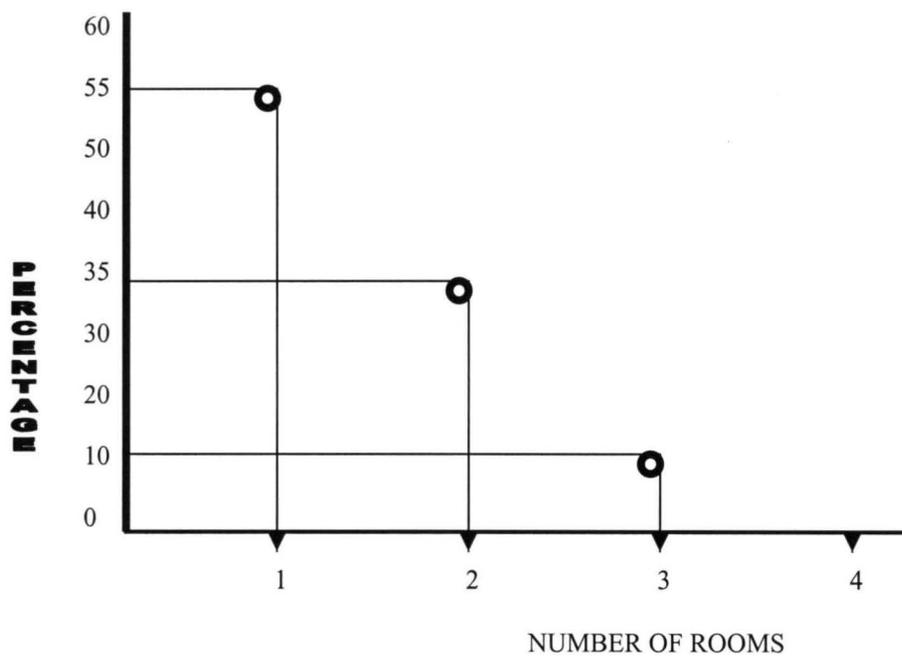


Fig.4.12

These appears to be a relatively even distribution of household's among the three categories. This suggests that in the traditional slum areas, the pressures of accommodation space is not as serious as in the modern ones.

This suggest that, significant proportion of one room per household is dominant. In which the graph indicate upward rise.

NUMBER OF PERSONS PER ROOM

The graph below indicates that in all the five areas of Karimo, surveyed have high proportion of four persons per room.

Fig 4.13

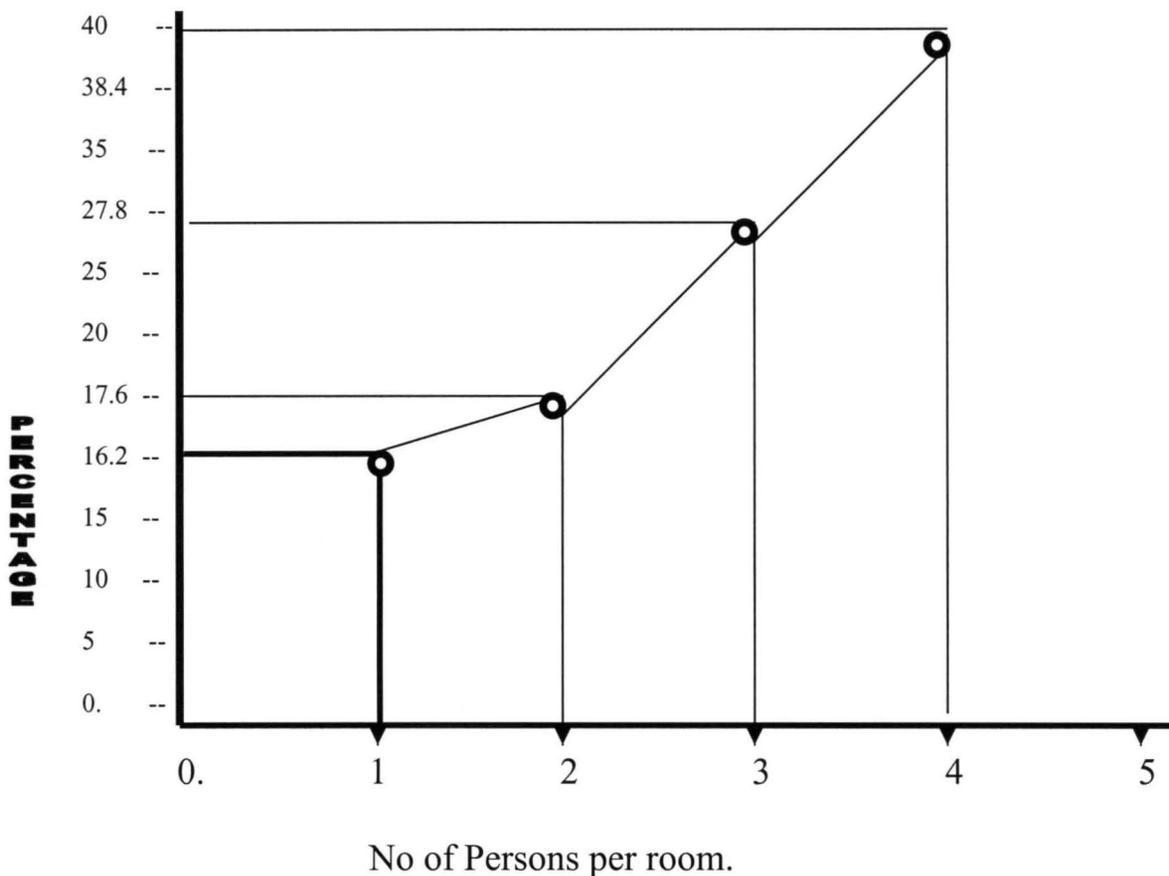


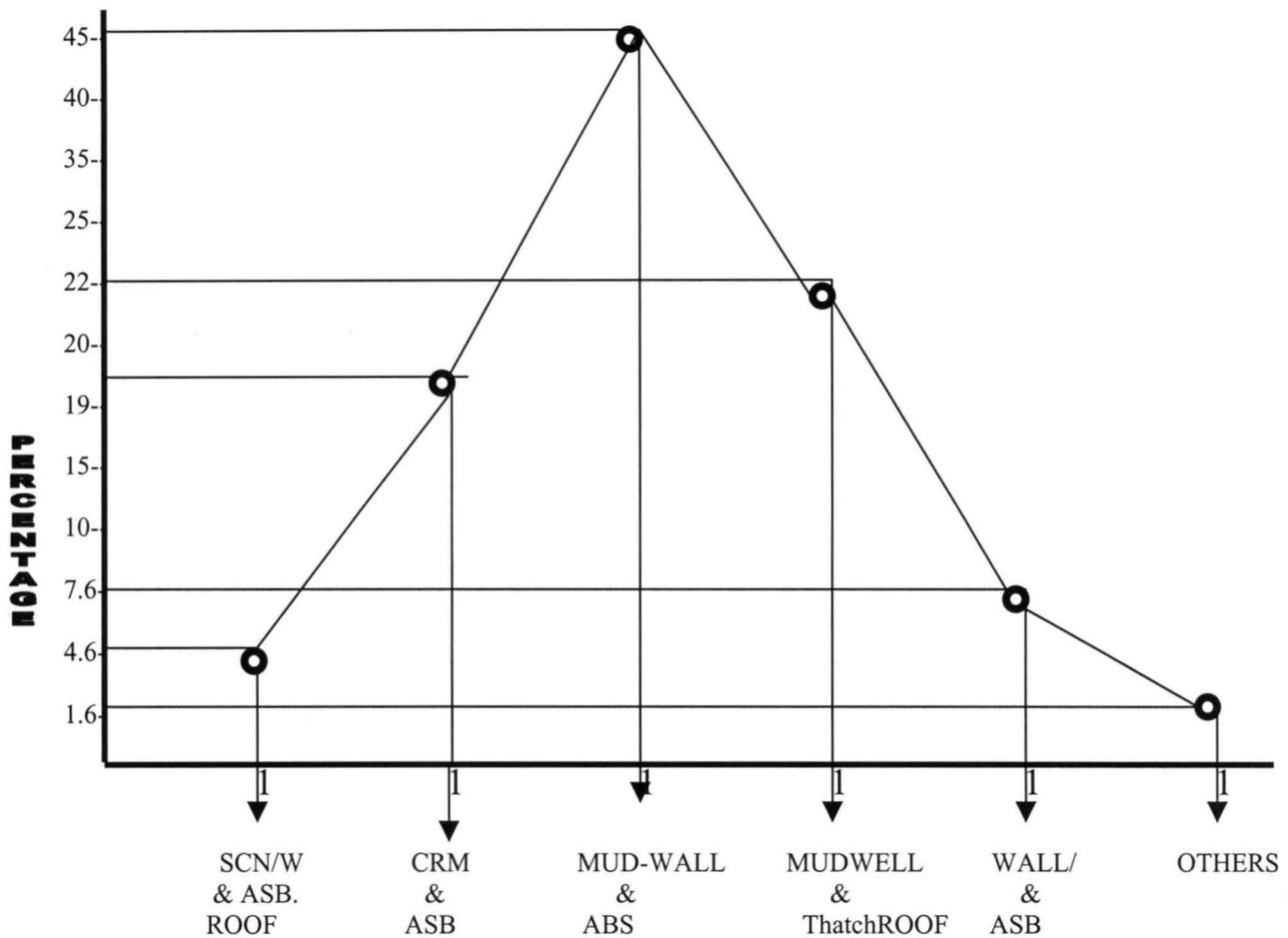
Fig. 4.13 indicates that in all five areas of Karimo, over 50 percent of the dwellings surveyed have three or four persons per room. This is against the average national standard of two persons per room in the Urban areas. The reason for the existing pattern is that household sizes are large in the traditional slum areas where most

of the inhabitants are indigenes of the town and where family planning is unpopular.

CONSTRUCTION MATERIALS OF DWELLING UNITS.

The graph indicates majority of dwellings are built of mud walls and asbestos rod.

Fig. 4.14



CONSTRUCTION MATERIALS OF DWELLINGS

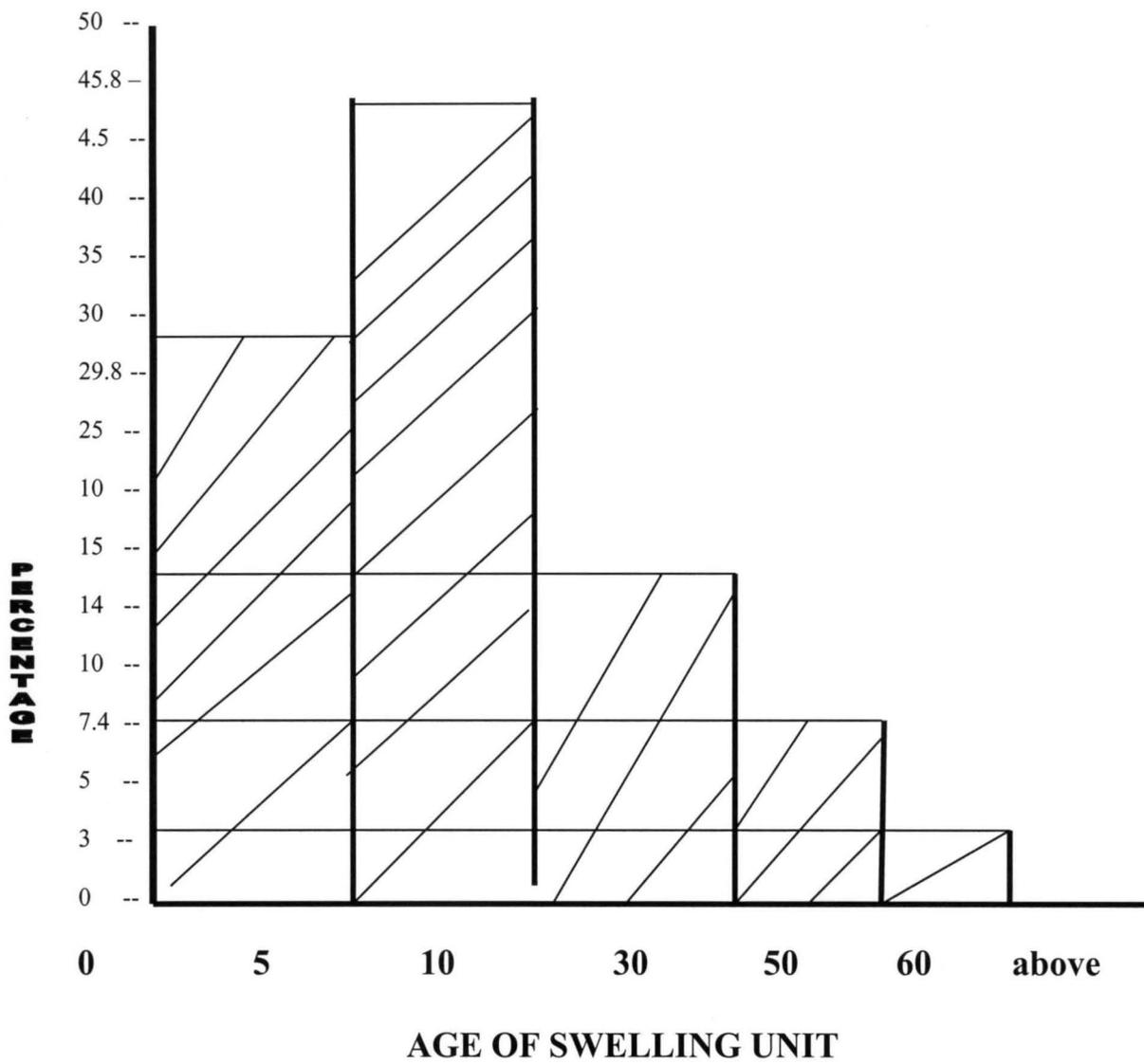
While few of the dwelling use sand etc, blockwall and cement rendered wall. The vast majority of the dwellings are built of mud walls with galvanized or asbestos roots. Most of the inhabitants built their houses dwelling the pre-colonial

period.

AGE STRUCTURE OF DWELLING UNITS

Majority of the buildings are between zero to ten years. It also indicates the relatively age of some of the dwellings is because such buildings were in existence as rural. Settlements before the town intruded and many newer buildings were added. An analysis of the age structure of the dwelling units surveyed also indicates marked difference between those located in the selected areas. In old Karimo, most of the dwelling are between eleven and thirty years. This pattern contrasts with the situation in other slums areas of Karimo

Fig 4.15



AGE OF DWELLING UNITS

Settlement before the intruded and many newer buildings were added.

VENTILATION CONDITION FO DWELLING UNITS.

The graph indicates that there are many rooms in the dwellings, which do not even have one window. Majority of the rooms.

A= without windows

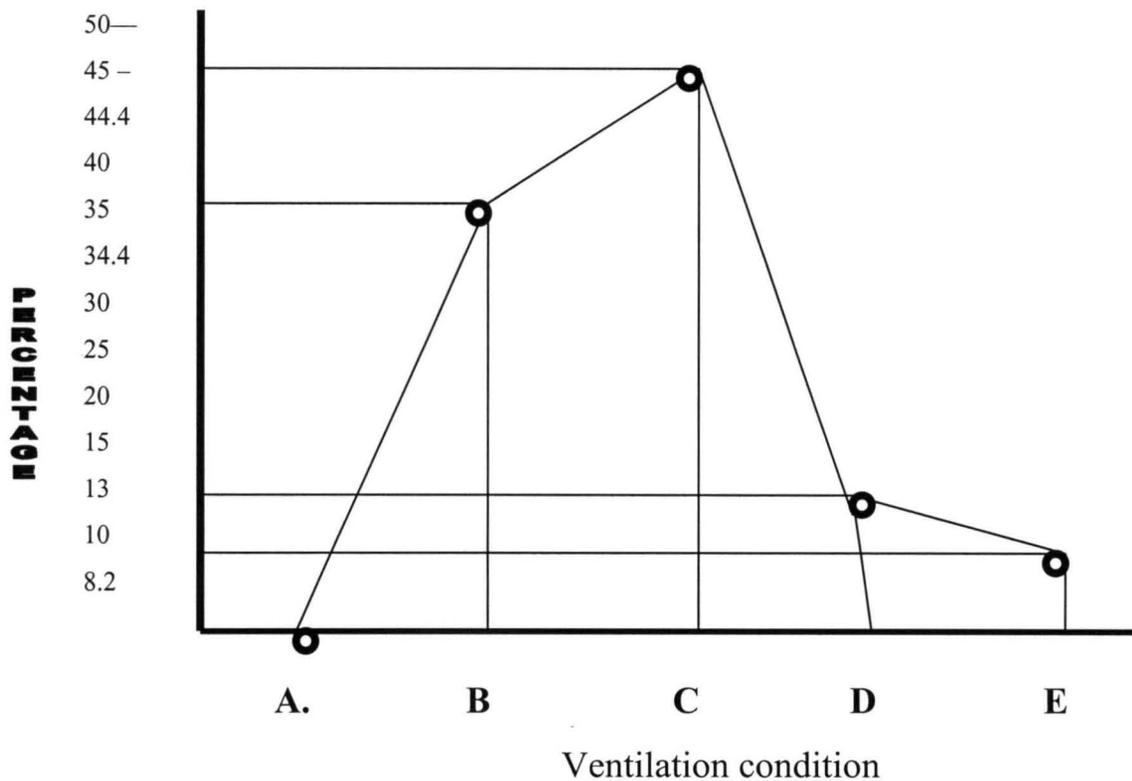
B= One window

C= Two windows

D= 3 or 4 windows

E= four windows & above

Fig. 4.16



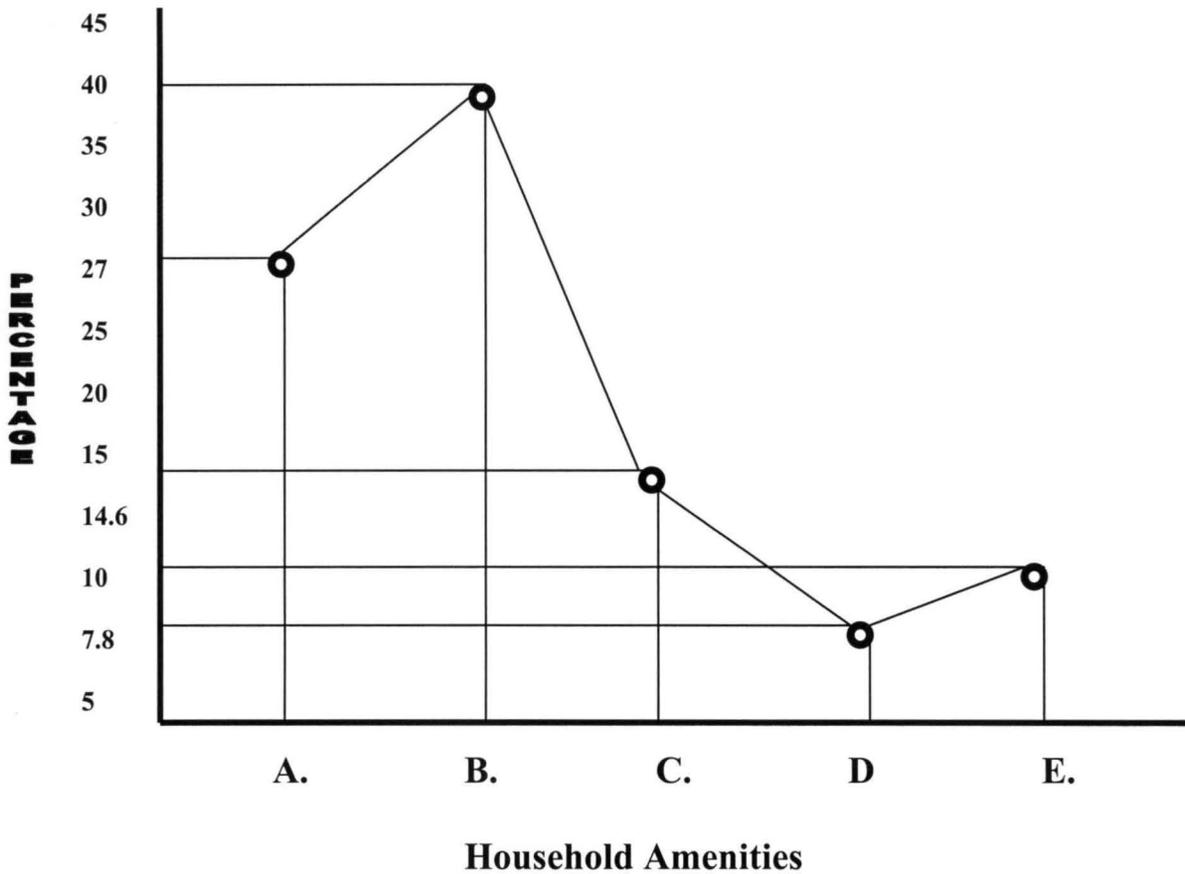
In the dwellings have one or two small windows. It also indicates that 45 percent has two windows. Houses located in the slum areas are known to be poorly ventilated. The vast majority of the rooms in the dwellings have one or two small windows.

AVAILABILITY OF KITCHEN, TOILET AND BATHROOM

The graph also indicates 86 percent of the dwelling do not have Kitchen, toilet and Bathroom. It also indicate, that 27 percent has kitchen, toilet & Bathroom. The remaining dwellings have a combination of only two of them.

- A- Has Kitchen, toilet & Bathroom
- B- Has Kitchen & toilet
- C- Has kitchen & Bathroom
- D- Has toilet & bathroom
- E- Has no kitchen, toilet & bathroom

Fig. 4.17



TYPE OF SEWAGE DISPOSAL FACILITIES.

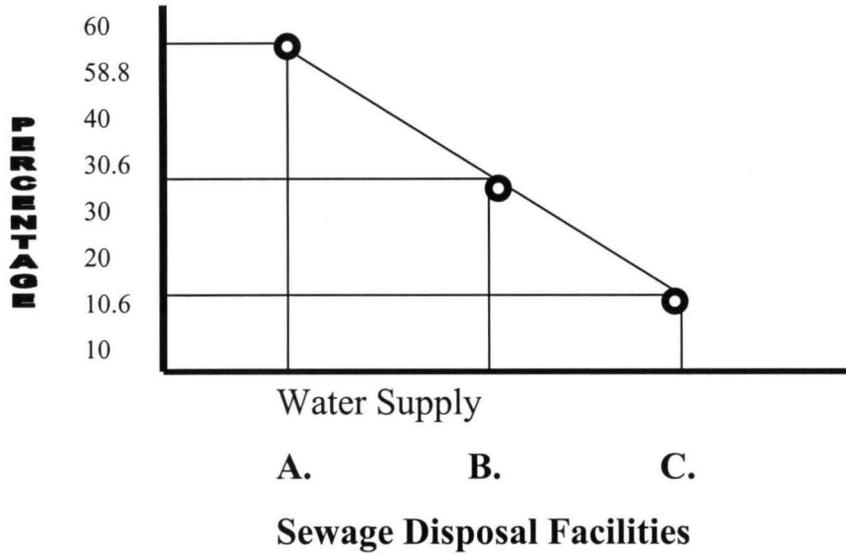
The analysis of the type of sewage facilities used in those dwelling indicates that, the pit latrine is the commonest form of sewage disposal facilities. Septic tank account for less use.

A= Latrine

B= Septic tank

C= Others

Fig. 4.18

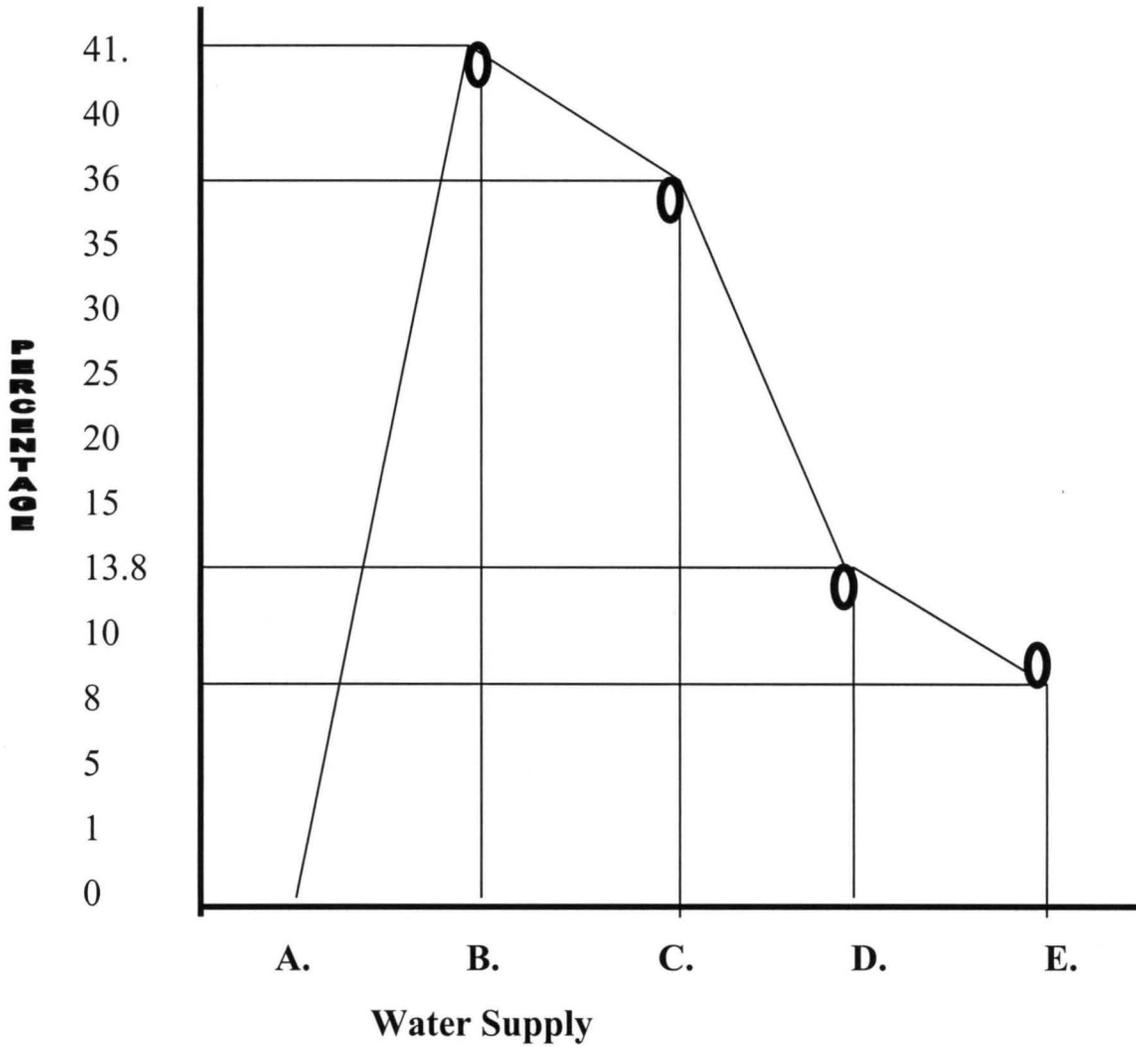


TYPE OF WATER SUPPLY AVAILABLE IN DWELLING

The graphical analysis indicates that pipe born water connected to individual is not common. The main sources of water for most

- A= Pipe born water commending to dwelling
- B= Public taps
- C= Walls
- D= Rivers
- E= Others

Fig. 4.19



of the dwellings is through walls and river (seasonal).

REFUSE COLLECTION POINT

The graph indicates that most of the dwellings in the various squatters areas do not have easy accessibility to refuse collection points. However, majority of dwelling are:

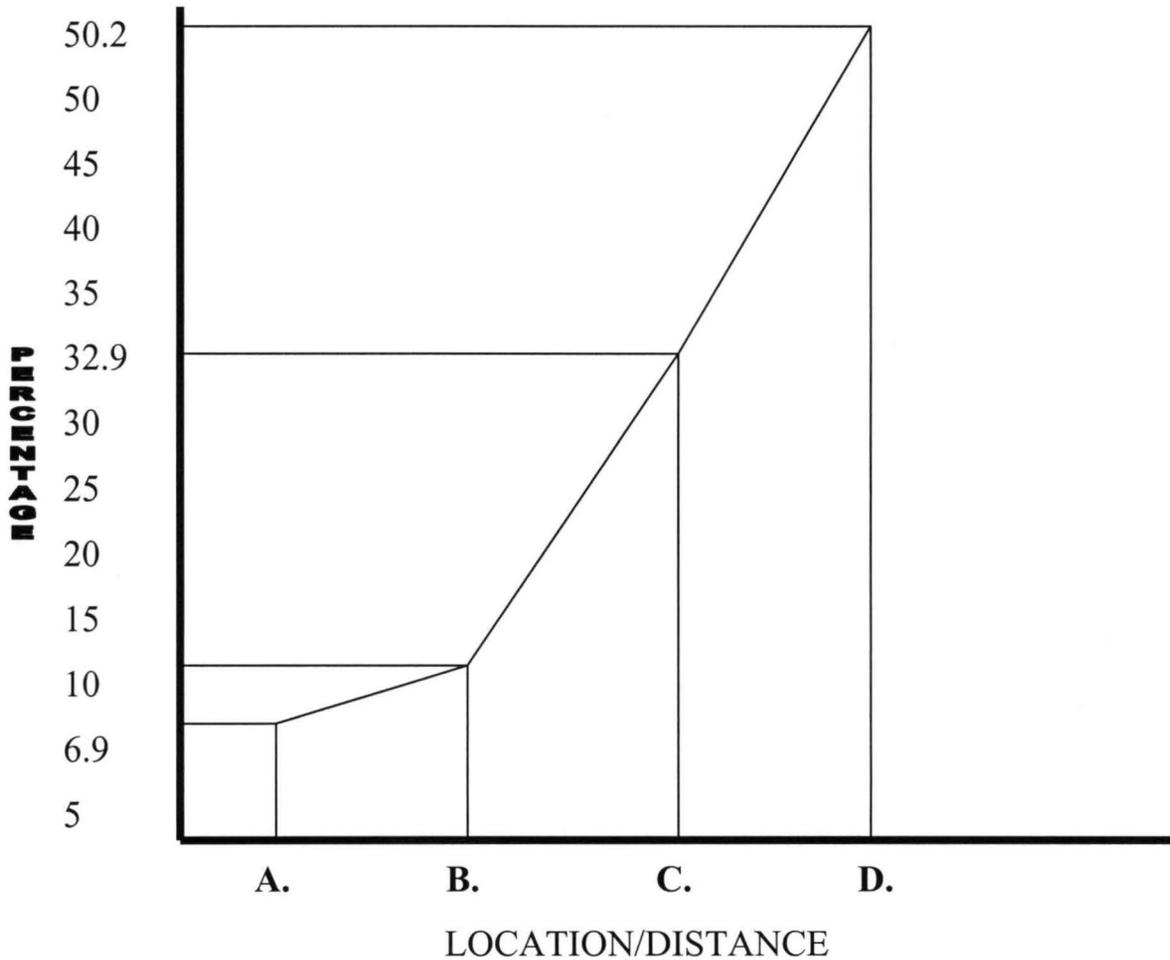
A= within 100m

B= Between 100 – 200m

C= “ 200 – 300m

D = over 300m

Fig. 4. 20



Location more than 300 metres from the refuse collection points.

ACCESSIBILITY TO MOTORABLE RAODS

The graph indicates that only few dwellings in these areas are adjacent to motorable roads majority of houses are seen to be far away from the road.

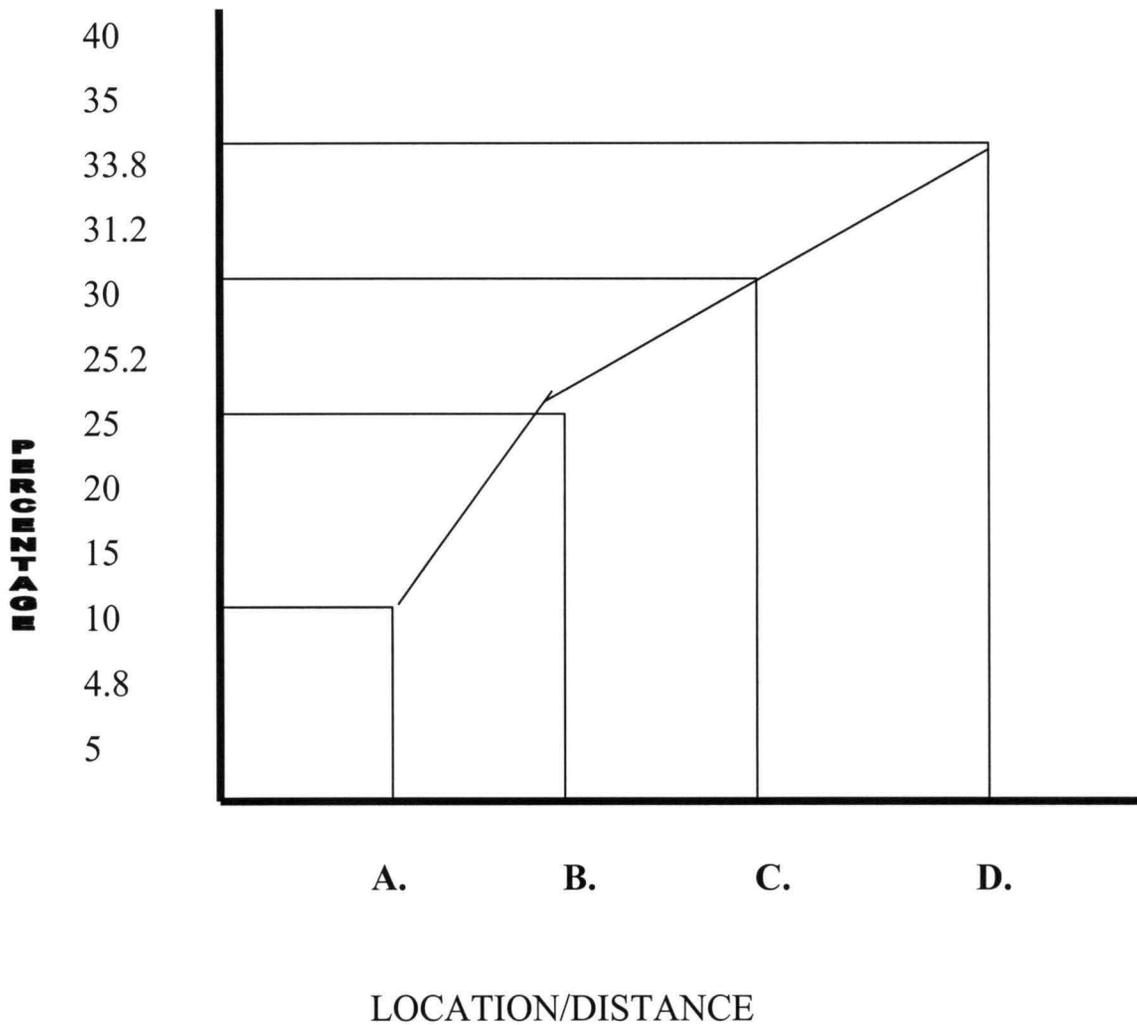
A=within 50m

B= between 50-100m

C= “ 100 – 150m

D= “ 150 – 200m

Fig.4.21



ACCESSIBILITY OF DWELLINGS UNIT TO PRIMARY SCHOOLS

The graph indicates that most pupils in the slum areas walk long distance before getting to school which, in most cases, is located few away from them. Lack of space for the location of a school is largely responsible for this.

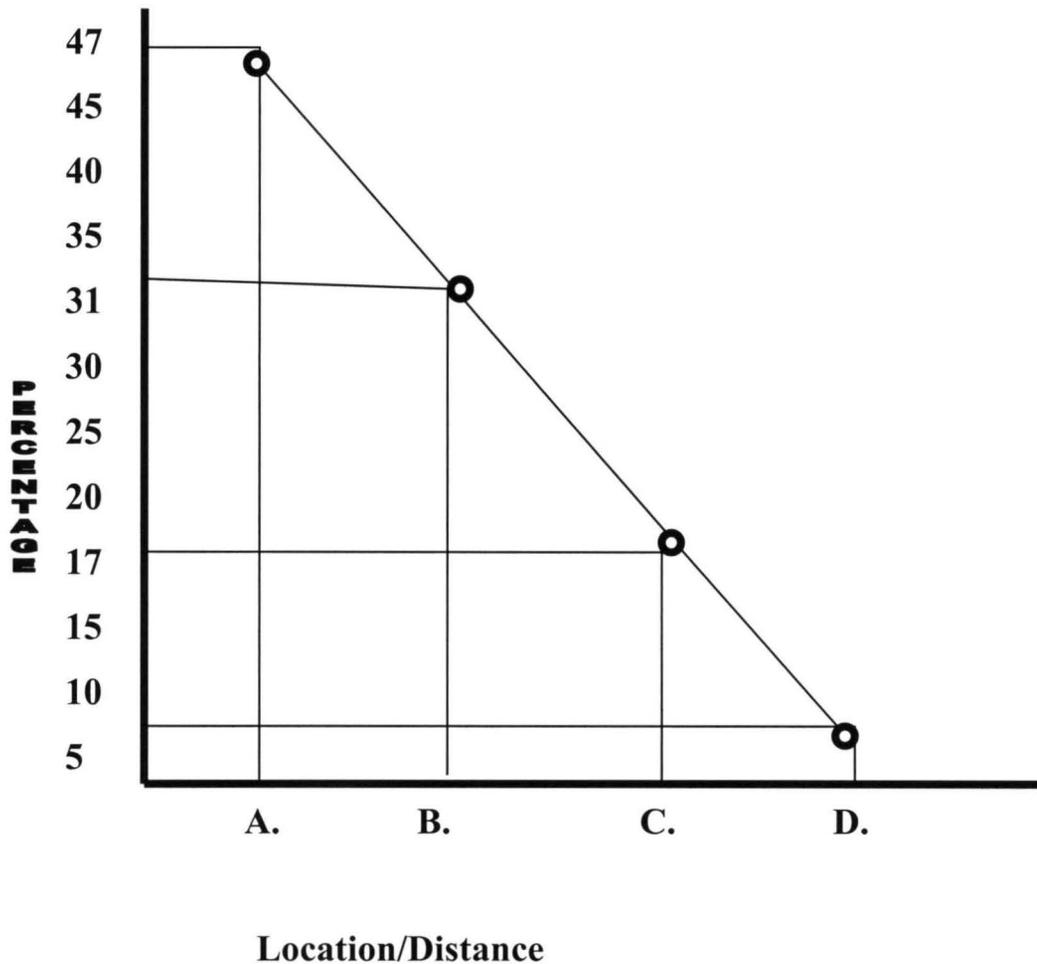
A= Less than 1Km

B= Between 1Km – 3Km

C= “ 3Km – 5Km

D= “ Above 5Km

Fig 4..22



CHAPTER 5
RECOMMENDATION

Comprehensive policy implications of the physical characteristics of the squatter/slum areas of Karimo, Abuja can not be provided until the overall social, economic, political and demographic characteristics of these areas are analysed. However, on the basis of results of the questionnaire survey coupled with other studies of the physical environment in Nigeria, some policy issues can be identified. These policies can be divided into two categories. In the first category, are long term policy issues relating to the prevention of squatters settlement/slum areas, while in the second category are the short-tem policy issues relating to the physical improvement of squatters settlement/slum areas Karimo Abuja.

One of the issues in the first category relates to the reduction of the rate of Urban population growth. It is inevitable that a reduction in fertility is a necessary condition for solving the population resource processors of the Urban centres (Abuja). Generally, the only proved method for inducting a lasting and significant lowering of the birth rate has been to raise substantially a population's level of living, and aspiration for further gains. This process requires the generation and input of considerable capital and consumes much valuable time. Also, there is an immediate need to retared population growth substantially by perfecting the implementation of family planning programmes and to consider even more direct and effective measures.

With respect to the control of rural-urban immigration, It is obvious that the rate of rural-urban immigration will continue to increase, except an effort is made to improve condition in the rural areas. Since one of the factors impelling young rural inhabitants to move to the urban areas is desentiment of the traditional system of social and Economic control exterted by the family and village elders, the

provision of independent economic opportunities which are not subject to the control of elders will reduce feelings of resentment towards them. In this regard, an integrate rural development programme should be adopted and implemented. One is the encouraging the development of medium-size towns in rural areas to facilitate the distribution of social amenities to rural dwellers. Secondly, is the need of improving the income of rural dwellers through major investments in agricultural modernization.

However, the long term policy issues that relates to the generation of urban employment opportunities. The quality of life and urban environment cannot be significantly improved in Abuja without increasing employment opportunities for urban dwellers. Measure which could help to accomplish this objectives can be envisaged, but problems of application in practice are significantly more complex. Employment policy measures usually demand extensive structural adjustments such as agdasian reform, more appropriate predomination techniques, modifications in labour legislation and policies to deal with population and immigration issues. Three major avenue where public policy must focus attention is the industrial development, infrastructure development and the informal sectors.

Furthermore, long-term policy issue relates to developing a sense of belonging and commitment to urban life among the vast majority of urban dwellers. Providing job opportunities and improving the skills of urban dwellers are important ways of assimilating immigrants into urban life as well as improving the quality of life of low-income households. However, there is the important issue of fostering the commitment of immigrants to the improvement of urban areas in which they live rather than focusing attention on their home villages despite the fact that they spend most of their life time in the urban areas.

As far as short-term selections are concerned, these relate largely to a programme

of selective development of the squatter/slum areas. A large proportion of the housing in the identified squatter/slum areas can be improved by re-roofing, enlarging windows, painting, landscaping and introducing better air circulation and sanitation. The worst parts of the squatter/slum could be cleared to provide space for roads, schools, open spaces etc.

5.1 CONCLUSION

However the most significant source of environmental change in uncontrolled environment/squatter settlement is migratory and natural population growth. Karimo in Abuja provides a useful illustration of this point. Rapid population growth in the squatter region has had two streams of environmental impacts.

The growth of their population helped build and expand a number of small scale industries in and around the region that emit a range of pollutants, for example Karimo Pharmaceutical Industry etc. The second set of impacts stem from the resource requirements of the growing number of city dwellers themselves. Often environmental services and infrastructure cannot be adequately provided by the public sectors and the substitutes provided by the private sector may not be ecologically sound. On the more positive side Karimo development has reduced pressure on rural resources and possibly lessened the degree of human infoingement on ecologically fragile lands. Family planning can have an important effect on such rapid population growth. For example women know about contraception methods while a lower numbers use modern techniques because of problems of access and affordability.

The water supply and its distribution are environmental services. How they are provided has had imported effects. The supply of piped water to Karimo is inadequate, forcing many people to seek costly and often unsanitary alternatives. In most part of the town, small scale industrial growth coupled with dumping of refuse or waste and the absence of conservation measures is having a range of environmental impacts:

- (a) Overexploitation and contamination of ground water reserves.
- (b) Growing competition for water between farmers and the consumers.
- © Increasing costs of additional increments of water supply as in Abuja.

So, the way that water is managed for Karimo development can have important environmental consequences, with associated impacts on human health and productivity.

Sanitation, including wastewater treatment, is an important environmental service that is closely linked to water management. Taking an analysis of the ecology, significant part of water pollution is directly caused by poor management of the sanitation system. In Idu, via Karimo, out fall from the poorly functioning sewage system contaminates the surface of ground and poor sewage coverage results in serious stream pollution, as well as, soil contamination from open defecation in slum areas. The aquifer is being gradually contaminated by seepage from poorly maintained septic tanks. Consequently, I discovered that organic waste from households is the worst pollutant of key water bodies.

The most common forms of human waste disposal are pit, bucket latrines and open defecation. These are slums in the entire areas, where more than half of the children and adults used sewage ditches, and open spaces, and more than half of the population did not live in facilities with a private toilet. Neighbourhoods and slum rely on public latrines without proper flushing sewage connection, or capacity.

The combination of poor management and a low level of services to the poor is that inadequate sanitation can have negative health effects. The neighborhoods in streams areas with high level of inadequate human waste disposal have higher incidences of water borne disease. Karimo, lack of hygiene linked to poor sewage is suspected of contributing the high incidence of gastrointestinal diseases in the municipality. Inadequate industrial social waste disposal creates a range of environmental problems. Karimo solid waste disposal is generally not well handled,

considerable amounts of waste are disposed of in an uncontrolled way by being buried, burnt, thrown on open land, or dumped in drains, canals, and rivers. The land suffer from some leaching that pollutes the aquifers, and methane gas generated by biochemical degradation may constitute an explosion risk.

The nature of transportation and telecommunication system also has important environmental consequences. The un-motorized fleet is growing at a faster rate than the population or the road capacity. In Karimo, the numbers of motor vehicles has increased, Consequently, air pollution from mobile sources has become a growing problem. One particularly downfall aspect of this growth is the becoming of fossil fuel. Ingestion of fuel in the air water and food was the town environmental health problem. Another health related problem associated with this uneven growth is the increasing number of traffic injuries and fatalities Telecommunication are not present in this areas

The variables that link Housing and environmental quality appears to be density, location and quality of construction. Crowding can worsen existing environmental problems in human settlement . Karimo's high occupancy rate of not than 5 person per room in slums puts heavy pressures on showed facilities like kitchens, toilets and bathing areas: these areas often have poor drainage so water accumulates, providing a breeding ground for mosquitoes. Crowding has been associated with an increase in communicable diseases. Low-quality zones so the fragile hill sides are venerable to national hazards.

Substandard construction and houses located in unhealthy areas can also be a source of environmental ills. Environmental health problems linked to poor quality housing include:-

- (a) Bronchial illness, colds, influenza and pneumonia from doughty, dampness and lack of ventilation
- (b) Diarrhea and dehydration from inadequate plumbing.
- (c) Bites and the transmission of disease from rats, ticks, spinner's and ideas and diarrhea, dehydration, worms and skin diseases from a lack of sanitation facilities.

They key observation is that, there is a strong link between unplanned/uncontrolled environmental and health case systems. Most of significant disease are associated with poor housing and ventilation, and lack of facilities low waste disposal.

Diarrhea is correlated with poor dentate water and toilet facilities, the infestation of likes in living qualities, and household proximity to litter, Acute respiratory infection is linked to over crowing, unventilated construction, insufficient light, indoor air pollution from smoking and cooking and ambient air pollution.

QUESTIONNAIRE ON RUBAN SQUATTER SETTLEMENT AND THE ENVIRONMENT (CASE STUDY ON KARIMO-ABUJA)

SECTION A (PERSONNAL)

1. NAME OF LANDLORD, LANDLADY AND TENENT.....
2. LOCATION OF TENEMENT.....
3. OCCUPATION.....NATIONALITY.....
4. STATE OF ORIGIN.....RELIGION.....
5. DO YOU WORK IN ABUJA AND RESIDENT/SETTLED IN KARIMO

DELETE YES/NO

SECTION B (TECHNICAL)

6. HOW LONG HAVE YOU SETTLED IN THIS AREA.....
7. HAVE YOU WITNESSED ANY ECOLOGICAL PROBLEM IN THIS AREA

.....IF YES WHAT TYPE OF HAZARD/PROBLE

.....AND WHEN DOES IT OCCURRED

.....,WHAT ARE THE DEGREE OF IT/S SEVERITY DELETE (SERIOUS, LESS SERIOUS AND NOT SERIOUS)

8. WHAT ARE THE SOURCE OF WATER SUPPLY.....WHEN
MONITOR THE PURITY OF IT.....

9. IDENTIFY ANY HEALTH CENTRE AROUND AND ESTIMATE THE
DISTANCE TO YOUR HOUSE OR RRESIDENTIAL AREA.....

AND INDICATE WHETHER QUALIFIED MEDICAL PERSONNEL ARE
AVAIBABLE.....

10. WHAT ARE THE MEANS OF REFUSE DISPOSAL METHOD.....

11. WHO MONITOR SUCH DISPOSAL UNIT/POINT.....

WHAT IS THE DISTANCE OF REDUSE COLLECTION POINT TO YOUR
HOUSE.....

12. HOW MANY NUMBERS OF PEOPLE PER ROOM.....

HOW MANY WINDOWS PER ROOM.....

HOW MANY NUMBERS OF ROOM PER HOUSEHOLD.....

13. WHAT FORMS OF LANDUSE STRUCTURE ARE IN PLACE DELETE
 (RESIDENTIAL, COMMERCIAL, TRANSPORT, RECREATION/OPEN
 SPACE, INDUSTRIAL AND OTHERS).

14. WHAT ARE TYPE OF CONSTRUCTION METERIAL USED.....

15. WAT ARE THE AGE OF STRUCTURE OF THE DWELLING.....

16. HOW AVAILABLE IS THE HOUSEHOLD AMENTITIES LIKE KITCHEN
(INDICATE NUMBER PER HOUSEHOLD)
 BATHROOM.....

17. WHAT ARE THE TYPE OF SEWAGE DISPOSAL FACILITIES AVAILABLE
 DELETE (PIT LARTINE, SEPTIC TANK AND OTHERS).

18. WHAT IS THE DISTANCE BETWEEN YOUR RESIDENT TO MOTORABLE
 ROADS.....

19. WHAT IS THE DISTANCE BETWEEN YOUR RESIDENT TO PRIMARY
 SCHOOL.....

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UNDP Subcontractor wilbur smith and Associates with UNDP project staff
and Lagos State Government, Master Plan for metropolitan Lagos
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