PROBLEMS OF ENVIRONMENTAL DEVELOPMENT IN A DEVELOPING NEIGBOURHOOD (A CASE STUDY OF SAUKA-KAHUTA) MINNA.

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DECLARATION

I ABDULKADIR HUSSAINA hereby declare that this thesis entitled: "problems of Environmental Development in a developing neigbourhood a case study of Sauka-kahuta in Minna" is a product of my own research under the supervision of Mallam Salihu.

Akadir 6/01/2025.....

NAME

CERTIFICATION

We certify that is research work was originally carried out by ABDULKADIR HUSSAINA with registration number PGD/GEO/2003/2004/293 and approved as meeting the requirement for the award of postgraduate Diploma in Environmental management in the Department of Geography, Federal University of Technology, Minna.

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DEDICATION

This project work is dedicated to my lovely children Ibrahim and EL-Ameen Abdulkadir for their words of encouragement and provision of conducive environment for me to undertake the programme.

ACKNOWLEDGEMENT

First and foremost, I give thanks to Almighty God for the opportunity given to me to run this programme.

Also my profound gratitude goes to my confidant in person of Dr. Mustapha Zubain of the department of Urban and regional planning department FUT Minna for his unquantifiable assistance in the course of the study.

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May God Almighty reward you all.

ABSTRACT

This project is prepared to look in to a neighbourhood as a concept, taking Sauka kahuta as a case study. The physical developments which involves the Housing structures, set backs of house to access roads, housing and environmental infracstructures available, accessibility of various houses in the neighbourhood, the drainage facilities available, refuse and sewage disposal and governmental influences on the study area shall be critically looked in to.

From the study, it was discovered that Sauka kahuta as a residential neighbourhood once had an industrial layout. The residential neighbourhood has been suffering from sham with the existing problems of poor roads, poor social infrastructures, existing of some old and dilapidated buildings, poor housing facilities and structure encroachment of buildings, problems of portable water for drinking and washing, poor drainage facilities, inadequacy of neighbourhood facilities like primary schools, health centers; recreational centre, to mention a few and poor maintenance of the facilities available.

Furthermore, there is poor sales and leasing of property due to low level of physical development in the neighbourhood which is evident in adequacies in the housing units and housing available.

In carrying out this dissertation, some techniques were chemically and carefully applied which include collection of data through both primary and secondary sources of data collection. In primary source of data collection, reconnaissance survey was carried out to know. The physical problems facing the area. Questionnaire administration was used to determine the condition of buildings, their types and age to determine the level of obsolescence and state of structures of the buildings in the study area of Sauka kahuta. The type of occupiers and

their level of income and the problem they face unravaged vis-à-vis the problem of the physical development in the area.

The use of secondary data was of great benefit in enhancing the preparation of the literature review for the study area and various solution were later prescribed in chapter four of this project. To every problem there is a reasonable alternative which when applied turns out to be a solution and improvement in the area where they are applied.

The prospect of physical development in Sauka-kahuta community is bright and can lead to a beauty in the eyes of every beholder if the suggestions made will be critically looked in to and applied. The suggestion will be to a great extent economical and beneficial to the study area and will perform a coordinating in ensuring an ordering, healthy and aesthetically pleasing environment.

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CHAPTER ONE

1.0 INTRODUCTION:

Development is a function of settlement size and a settlement is like organism, which grows from it's simplest and smallest from a farmstead to the largest unit of settlement over a period of time.

As a form of development, environmental development is the activity carried out by man in the environmental and which also affect other activities of man. It involves other activities like mining, engineering work felling of trees.

As the socio-economic, political, physical and cultural need of man changes, man's activities to exert changes in the environment development increases and this cannot be over emphasized. The environment in which a person as a being finds himself by nature and where a development is sited by decision of man is a composite of both natural and human factors.

Human beings by their activities through urbanization and civilization have been able to mould the environment through planning and provision of basic amenities. The quality of a neighbourhood is determined by a number of factors. These included the following.

1. Availability of good drainage systems
2. Availability of good water supply
3. Availability of waste disposal system
4. Toilet facilities
5. Availability of good road network
6. Condition of houses in an environment
7. Good planning standards and regulation

The existence of the aforementioned has contributed to rich texture of interesting urban diversity. While their absence has resulted in to environmental problems.

1.1 STATEMENT OF THE PROBLEM:

Generally, the study area Sauka-Kahuta is characterized by degenerated, dilapidated, congested and obsoletes features. Apart from the poor quality of environment, it is evident that a very large proportion of these houses lack the basic amenities and facilities needed by the general community private, internal users and for individual conveniences.

Hence after carrying out a reconnaissance survey of the study area the following defects were noticed in the neighbourhood and they include.

Lack of hygienic and acceptable method of waste and sewage disposal system (e.g) unplanned refuse pyramids all over the place basic amenities like pipe borne water, electricity and proper layout (good road network) coupled with in proper drainage system owing to the expanding nature of the area, public facilities such as school, health clinic police post, market are still lacking in the area.

1.2 AIM AND OBJECTIVES OF STUDY:

The aim of the research work is to critically study the emerging environmental problems due to the on going development of Sauka - kahuta neighbourhood in Minna in order to transform it to a habitable environment.

To achieve the stated aim the following objective were critically examined.

1. To assess the existing environmental conditions of the study area.
2. To identify the problems militating against environmental development in the study area.
3. To make appropriate proposals and recommendations that will improve or up grade present situation of the study area.

1.3 JUSTIFICATION OF THE STUDY:

Development particularly physical developments of neighourhood that are unplanned are usually associated with series of environmental problems ranging from housing conditions, wastes and accessibility to general sanitation. Improvement up grading of such condition will largely enhance the living standards of the people in such communities and in crease their productivity as in case of Sauka-kahuta.

1.4 BACKGROUND OF THE STUDY AREA:

LOCATION

Minna the capital of Niger State lies at latitude 9^0 37 North and longitude 6^0 33 east on a geological base of undifferentiated basement complex of mainly gneiss and magmatite (Maxlock 1979).

Minna is presently sharing boundaries to the east by Munya Local Government Area, to the west by Bosso Local Government Area, to the south by Paikoro Local Government Area and Territory Abuja. The location of Minna in the context of Niger State and the relationship of Minna to Abuja is shown in map 1,2, and 3 respectively Maxlock (1979) estimated the land area of Minna to be about 884.0 hectares.

CLIMATE

Minna experience two distinct seasons, dry and wet the wet season starts on average between 11^{th}-20^{th} April and last between 190 and 200 days (Maxlock 1979).

The town has a mean annual rainfall of 1334mm taken from an exceptionally long record of 554 years. The highest mean monthly rainfall is in September with almost 300mm (11.7 inches). The mean monthly temperature is highest in March at 30.5^0c (87^0 f), just before the rains, after which the temperature due lines throughout the summer

months. The lowest mean monthly temperature is experiences in August the maximum temperature starts to rise, while the minimum continues descending to its annual low in December.

TOPOGRAPHY

As mentioned earlier, Minna is on geological base of undifferentiated basement complex of mainly gneiss and magmata. To the north-east of the town a more or less continuous steep out crop of granite occurs. This out crop forms the principal physical development constraint on the east side of the town (see map 4^0). A major drainage valley flows from the center of the town south-west wards with many minor drainage channel feeding in to it with storm water run-off from the hills to the east. In places, these streams from longs area of flood land. To the south the land offers reasonable development possibilities but is curtailed by the Chanchaga River. On the east side there is a series of small hills, are of which was built on as the old G.R.A making use of the excellent breezes that waft over the escarpment and also has the town water storage built on it.

HISTORICAL BACKGROUND

Minna is basically a Gwari town and takes its name from a ritual performed yearly by the Gwari founders of the town to observe the beginning of the New Year. The word itself in Gwari means to spread fire, it came in to existence because the Gwari used to put out every bit of fire in the area which were collected from Lafiyagi (Gwari-speaking village in the Nupe emirate) about 60km away even in all the kitchens in the town to mark the start of the new year. This ceremony eventually became synonymous with the town and consequently gave it the present name.

However, before the town become the modern city that it now is it went through four (4) metamorphoses or phases of development. The

first phase of development started in 1905 when the construction work of the rail-line reached the area.

In 1908 the second face life of the town took place when an Alkali (judge) was provided for the camps. A permanent house for the Alkali was built and within the compound there was provision for a prison later, the first contingent of police was introduced. The third metamorphoses was in 1910 when the Gwari inhabitants decide to move from hill top to settle down on the area of the present Paida, one of the wards of Minna and thus the abode of the founders of the town.

The fourth phases of development that change the status of the town came in February 1976 when Minna become the capital of the newly created Niger State from the defunction north-was tern state by the late Head of state, General Murtala Ramat Mohammed. Since then the Government has been battling hard to give Minna a face lift and appearance benefiting a state capital.

At the inception of the military regime in 1984, all the newly civilian created local government in Niger State (Chanchaga local government with headquarters at Minna inclusive) were dissolved and old local government was divided in to two (2), giving birth to Minna municipal council with headquarters at Minna while Kuta remained the headquarters of Chanchaga local government.

In 1987 however, Minna municipal council was renamed Chanchaga local government and the former Chanchaga local government was rearmed Shiroro with Kuta being retained as headquarters of the local government.

In 1991, the then president-General Ibrahim Badamasi Babangida created nine states and more local government n the country. Since then Minna plays the dual role of a state capital as well as a local government headquarters.

Minna, today is widely dispersed along the main spine dual carriage way (Bosso road) from Chanchaga in the south to Bosso in the north, a distance of about 16 kilometers.

PEOPLE

According to the national population census exercise conducted n 1991, the population of Minna local government area was 143,896 but the national population commission project of 1996 estimated the population of Minna to be 166,092 (national population commission). Based on the established growth rate of 2.9 for the local government area, the projected 1998 population is 189,594 while for the year 2,000 is 190,977.

Though the town is mainly a Gwari settlement, it has since become heterogenous in terms of people of various ethnic origin Nupe's, Hausas, Fulani's, Yoruba's, Igbo's, Edo's, among others. Diversity of ethnic composition due to the immigration has impact on housing types in the town. The Gwari's who are main farmers detest urbanization culturally and hence they build their traditional compound houses at the periphery and isolated locations outside the high-density area. The likes of these location include-Barkin sale, Sauka-kahuta, Auguwan Kaje, Kpakungu, Padukwai and some part of Shango respectively. The Yoruba's and Igbo's who are mainly traders, drivers and federal civil servants livers in room and palour apartments or modern flats depending on their status. The Nupes and the Hausas who are also traders, farmers and civil servants are mainly found in enclosed compound houses with an opening into a common courtyard and one major entrance commonly referred to as Zaure, in most northern part of the country.

The male and the working age group of the people of Minna constitute a higher than average proportion of its total population (National population commission year).

As for the religion of the people, almost all the in habitants of Minna are either Muslims or Christians with very few traditional religionists and pegan this could in fact be testified by the ever increasing number of Churches and Mosques.

EXISTING LAND USES

The various existing land uses to be diseased.

a. Residential land use
b. Commercial land use
c. Industrial land use
d. Institutional land use
e. Agricultural land use
f. Recreational land use

RESIDENRIAL LAND USE:

Residential land use in Minna just like any other urban centers in the country covers the greater percentage of the total area and comprises of dilapidating houses at the Minna core area and housing estate, flats, bungalows which are of good condition at the periphery of the study area. The core area of the town needs to be upgraded (urban renewal scheme) because of the lack of motorable access, safety convenience and esthetic of most part of the environment.

COMMERCIAL LAND USE:

There are many commercial land use scattered all over the town. However the greatest concentration of commercial activities are found at the Minna core area near mobil filling station round about. This is where commercial land uses such as market, mobil filling station taxi traffic terminal, motor parks Niger State Transport Authority (N.S.T.A) Super Markets, Business Centers, Commercial Banks such as Intercity Bank, Wema Bank e.t.c are all located.

INDUSTRIAL LAND USE:

The only major productive industrial lay-out found in the area is in Sauka-Kahuta. The site was chosen because it has a good access (close to by-pass), its close to the National Electric Power Authority (N.E.PA.) supply, it drains away from the town and the town is not affected by air pollution despite the locational advantages of the site, it is yet to be fully developed. However, there are many small-scale industries such as block industries, bakery production among others that are scattered all over the town.

INSTITUTIONAL LAND USE:

The various institutional land uses (both public and private) found in the study area could be divided in to three (3) main categories.

Government/Administrative Institution

This includes Government house, Federal State and Local Government administrative complex (secretariats), police establishment (police stations and barracks), educational institution (NECO, Brighter Nursery and Primary school) among others. It is work to note that most of this institution are located at the periphery of the town.

Health Institution

It comprises of general hospital, which is located at the northern part of the town family support programme (F.S.P.) clinic outfit and all the numerous all over the study area.

AGRICULTURAL LAND USE:

Due to the urban status of the study area, most of the few agricultural activities found in the area are subsistence in nature. The most conspicuous farm areas are those areas west ward of railway station (along the area of Lagos and Baro railway lines), some portion of the present Ibrahim Badamasi Babangida (I.B.B.) sport complex and Padukwai in the western part of the study area. There also some fadama

farms the scattered all over the town especially along the Julius Berger drainage channel (west of the town).

RECREATIONAL LAND USE:

In view of the enormous recreation potentials in study area, it is quits regrettable to note that most of these recreational centers especially recreational parks such as former David Mark square, now Obasanjo Shopping Complex, Murtala park civil service park which are suppose to be developed and maintained by the Niger State tourism corporation and maintained by the Niger State tourism corporation are totally neglected and they are not receiving the due attention they deserved.

However, there are few open spaces specifically reserved for sporting activities and tourist centres that are fully developed. Some of these centers are U.K Bello Art Threatre, Museum, Archires, Bako Kontagora Stadium, e.t.c. Maxlock 1979, proposed that the old airport site should be converted to a major open space for Idi prayers, the new stadium, a race course and all seaports facilities.

Since then there is no any meaningful development that was made in the Ibrahim Babangida sport complex (old airport site) maps shows the various land uses in the study area.

1.5 SCOPE AND LIMITATIONS:

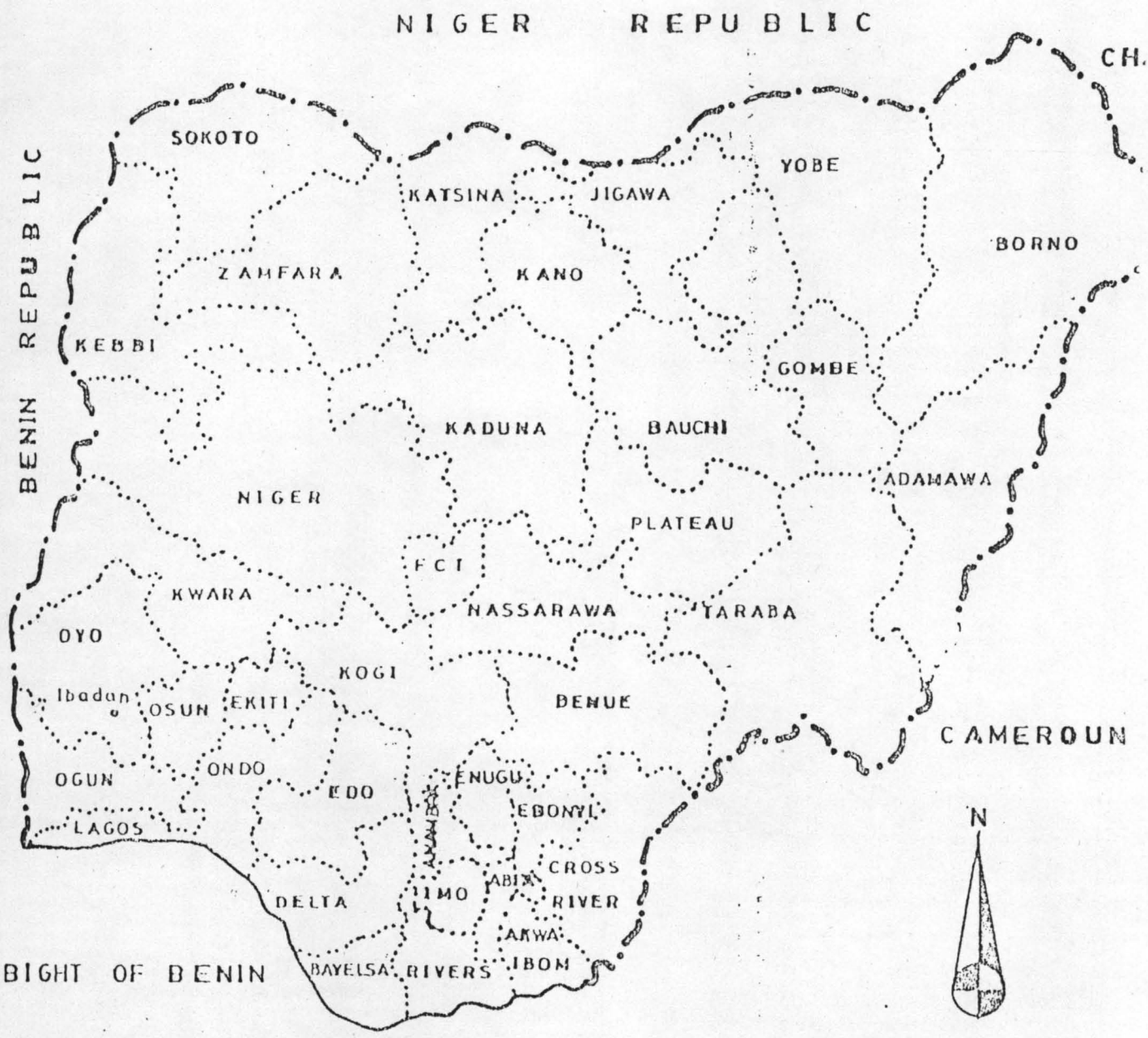
The operation of this study is precisely restituted to cover Sauka-kahuta neighbourhood as the selected area of study. The environment condition, social infrastructure available, problems confronting the area and ways of improving the socio-economic life of the inhabitants of the area.

EXPECTED FINDING

The working hypothesis/assumption here is that there is a direct connection between the environment and the problems of a developing neighbourhood, we may however see that the environment occupies a key function in determining a lot in relation to any development activity.

1.6 ORGANISATION OF THE THESIS:

This thesis has been organized and written in five chapters. Chapter one, being an introductory chapter, discusses aim and objectives of the study statement of problem, historical back ground of the study area. While chapter tow deals with reviewing various texts relevant to the subject matter of the research work chapter three deals with the methodology employed in gathering data and analytical techniques for the work. Chapter four deals with data presentation and analysis of results chapter five is the summary of findings conclusion and recommendation or solutions proffered.



LEGEND

National Boundaries . . . . . .

State Boundaries . . . . . .

Study Area . . . . . .

Map 1: MAP OF NIGERIA SHOWING NIGER STATE.

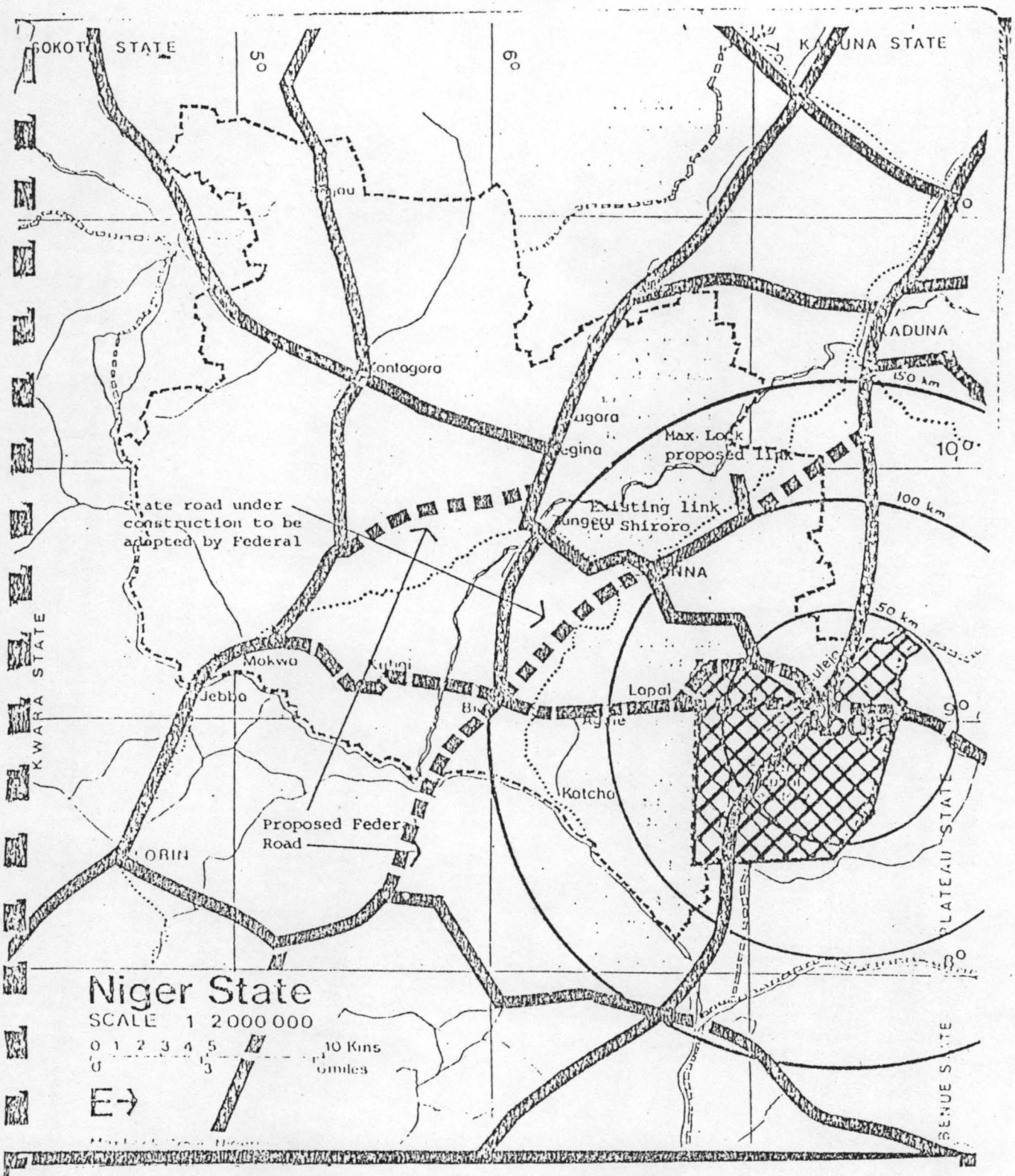
REFERENCE

International Boundary —+—+—+—

State Boundary —·—·—·—

L.G.A Boundary —·—··—··—

Map 2 MAP OF NIGER STATE SHOWING MINNA LOCAL GOVERNMENT AREA.



MAP 3 SHOWING RELATIONSHIP OF MINNA TO ABUJA

Federal Trunk Roads
Existing

Upgraded

New alignments

CHAPTER TWO

2.0 LITERATURE REVIEW:

2.1 DEFINITIONAL ISSUE:

The problems and prospects of development in the developing neighbourhood cannot be fully analyzed outside it's social economic and geo-political environment. But because of the wide scope and the need for realistic approach most writes focus or selected elements within it's environment.

Habitat and the environment are in extricable linked. One of the main environmental problems at present in the habitat of large number of the urban poor who lack accessible and secure land, water, sewerage facilities, health and basic service and access to financial and material resources to meet their basic needs. This implies the recognition of the right to a place to live in peace and dignity and to a health and affordable habitat or environment.

Turner (1990) in his lecture titled "the neighbourhood, the architecture of community", reflected the relationships of people, the way in which people work and use the earths resources and the relationship between human society and nature.

Human settlement require integral development and upgrading of all physical infrastructure component, if satisfactory living condition are to be achieved and social-economic development of the people promoted. In efficient use of natural resources by burgeoning population is putting resource system under stress in a broad range of settlement, most visible in large urban areas. In devastated nieghbourhood it is popular refer to the impact of human settlement on the environment as thought the environment were some independent entity separate from human beings and their way of life.

However, it is important to recognize that besides the natural and physical resources there are many other entry point in the livelihood and environmental improvement, infact central point is that the process whatever the entry point, does not stagnate, that it goes beyond the original issue into an upward spiral of learning activities for integral development.

2.1.0 **ENVIRONMENT:**

New collegiate dictionary defines "environment" as the aggregate of all external conditions and influences affecting the life and development of organization. The new book of knowledge says "environment" is the earth. This environment includes everything in our surrounding and all the conditions that affect our lives. Modern dictionary of geography, defines "environment" as the surrounding within man, animal and plants lives. Associated terms are natural or physical environment lives associated terms are natural or physical environment embracing climate, landforms, soils and vegetation and human or social environment which includes the effect of phenomena created by man, such as town and cities industrial area, and social and political organisation.

Strahler et al (1973) says mains environment in made up of the atmosphere, earth crust and the various forms of the life that exist in the zone 600 meter above and 10,000 meters below sea level.

Keder (1976) says "environment" is the total set of circumstances that surround and individual or a community, where Abrahams sees 'environment" as the sum total of all external conditions influencing the growth and development of an organism.

The term environment, on the other hand is used in its restrictive physical sense (rather than the broad socio-anthrophogical sense it

connotes the component and system of the geosphere biospheres soil, ftora, climate) as commonly applicable in the natural sciences (Turnerll, et al, 1990). The environment in this context is a reservoir of resources on which man draws to sustain his economic activities, and assure his survival and well-being.

Environment simply defined in surrounding especially those affecting people's lives. The saying that health in wealth in much true.

2.1.1 DEVELOPMENT CONCEPT:

In order to plan effectively for development including it's measurement, there in need to define precisely what the term development means.

There in no universal definition of what the term development is, some definition are based on political consideration, economic, and social condition. Most economists define development from a growth perspective. They are of the view that if an economy is growing, say at the rate of 3 percent per annum, then the general socio-economic well being of the population will improve, in other words, there is development.

Sociologists have emphasized the social aspect of development in there definition, Omuta et al (1986) noted that development encompass numerous processes of change which are frequently associated. These include spatial mobility, occupation change, changes in roles, expectation, needs, behaviour association and identity. In other wards, development implies the process in which major cluster of old socio-economic and psychological commitments are eroded and broken people becomes available for new patterns of socialization and behaviour.

Omuta (1986) also explained while quoting Nyere (1969) that political scientists of various ideological beliefs have also defined development as "the development of people". He was of the view that roads, building the increase in out put and not development only if these building can be and are being used to develop the minds and the understanding of people.

Furthermore, Todaro (1979) perceives development as a multi dimensional process involving the reorganization and the reorientation of the entire economics and social system. In addition, it typically involves radical changes in institutional social and administrative structures as well as in attitudes and some times even customs and belief.

2.1.2 **MANAGEMENT:**

Management is the art and science of getting things done through others, it involves the efficient and effective use of human and non-human resources, it is a process that involves the guidance or direction of a group of people toward organizational goals. Management involves coordination of human and material resources towards accomplishment of objectives management, is the process consisting of planning organizing activating, and controlling preferment to determine and accomplish stated objectives by the use of human and material resources.

2.2 **ENVIRONMENTAL MANAGEMENT:**

The new colligate dictionary define environment as the aggregate of all external condition and influences affecting the life and development of organizations. Osuntoki (1998) explained environmental management as the various mechanisms put in place to prevent, mininise, rectify, reduce or eliminate on a continuous basis, the impact of environmental

deterioration. In the last two decades people have become aware of a wide range of environmental issues. All sources of air land and water pollution are under constant public scrutiny. Increased numbers of professionals are being confronted with problems related to pollution control. Because many of these issues are of relatively new concern, individuals must develop a proficiency and an improved understanding of technical and scientific, as well as regulatory, issues regarding pollution prevention and remediation in order to cope with these challenges.

The past two decades haven been filled with environment tragedies as well as with heightened environmental awareness.

The oil spills of the bixon Valdez in 1989 and in the gulf war of 1991 showed as how delicate our oceans and their ecosystem truly are. The realization of love canal in 1978 and time beach in 1979 made the entire nation aware of the dangers of hazardous chemical waste. The discovery of acquired immuned deficiency syndrome virus (aids) and the beach washups of 1985 brought the issue of medical waste disposal to the fore front-sources Nigeria environmental study action term NEST (1991) Nigeria threatened environment.

However, in the faces of these disasters, great advances occurred in the area of environmental regulations. The clean water act of 1977 enforced safe drinking water standards. The clean air act was passed in 1970, which was a first step towards reducing pollutants being released in to the air we breathe. This act has been amended several times to address additional sources of air emission. The resources conservation and recovery act (RCRA) was developed in 1976 to regulate solid and hazardous waste facilities. As an extension of RCRA. Superfund as enacted in 1988 for clean up of uncontrolled hazardous waste sites. Twelve hundred, thirty-six hazardous site were identified which require remediation. Recent legislation regarding solid waste has emphasized

the practice of re-use, reduction and recycling in order to decrease the amount of waste currently requiring landfill or incineration.

Nevertheless, Nigeria made some effort by embarking on some programmes to contribute to environmental management. Some of these were successful while some failed.

Establishment of environmental protection and management laws in Nigeria. The overriding status of federal environmental protection Agency act cap 131 law of the federation 1990. as amended no 59 of 1992, amidst constitutional legislative powers of status and local government on environmental matter, rises constitutional issues of conflicts that question the very basis of Nigeria federation.

In face of a true federal constitution like 1979 constitution of the federal republic of Nigerian which contain over lapping areas of jurisdiction across the three tiers of government constitutional functions hinging sewage and refuse disposal. The presences of numerous ministries and parastatals with enabling enactments mandating environmental protection and management are inevitable.

The financial handicap of states and local government in face of ever increasing tonnage of waste generation, and advanced technological equipment required for modern environmental production and management, raises loudly, the question of funds, its only availability monitoring and compliance measures can yield desired results.

The shocking discovery of illegal damping of about 3800 tons of toxic and hazardous waters of Italian origin in Koko, Delta state in 1988 more than any other factor aroused environmental interest and consciousness of Nigerians. The government immediate action resulted in the promulgation of decree No 58 of December 30 1988, low federal environmental protection Agency act, cap 131 laws of the federation

1990 as amended by decree No 59 of 1992. The agency was created by decree No 58 of 1988 as a parastatal of the federal ministry of works and housing.

But human development does not end there additional choices, highly valued by many people, range from political, economic and social freedom to opportunities of being creative and productive, and envying personal self-respect and guaranteed human right.

Human development has two sided: The formation of human capabilities such as improved health, knowledge and skills and the use people make of their acquired capabilities for leisure, productive purposes or being active in cultural, social and political affairs, if the scale of human development in environment do not finely balance the two sides, considerable human frustration may result.

According to this concept of human environmental development, income in clearly only one option that people would like to have albeit an important one. But its not the sum total of their lives. Development must, therefore be more than just the expansion of income and wealth it's focus must be people.

2.3 URBAN PROBLEM:

There many urban environmental problems. Pollution is one the problems and it is by definition, any accumulation of harmful substance of effects in the environment. We can also say pollution means to defile or make impure. In a simpler form pollution is the release of dangerous materials in to the environment of man.

A modern dictionary of geography put pollution as the disturbance of the natural environment resulting directly and indirectly from human activities often involving substance being in the wrong place, at the

wrong time, in wrong amounts and in the wrong chemical or physical form.

Mannion and Bowlby (1992) define pollution as the delibrate or accidental contamination of the environment waste from human activities. It includes the release of substances, which harm the quality of air, water and soil destroy perfurb by boigeo chemical cycles (linking people to animals and plant) and which damages the health of human taking decades or generations to produce terminal diseases.

A pollution is any form or energy or matter that causes pollution. It is a substance that, because of it's physical properties or because man has concentration in environment and will disturber or injure living things botkin and Keller (1982) say a pollutant in most supply defined as any factor that has a harmful effect on living organisms or their environment. There are various forms of pollution and few of them will be discussed here.

Air pollution is the release of dangerous matter and gases in to the atmosphere. The dangewus matter is referred to as particulates. In other words, the content of the atmosphere particulates matter and gases while particulates consist of in either liquid or solid state.

The Fepa act, as amended by decree No 59 of 1992, accorded the agency virtually unlimited powers and functions for the protection of the Nigerian environment. The emphatic provision of section four and five (4and 5), dealing with functions and responsibilities of the agency, are unmistaken. While the agency is mandated by section 16 and 17 to protect, restore and preserve the entire ecosystem of Nigeria environment. It is in fulfillment of the above mandate that Fepa has issued the following guidelines and regulations.

- The national policy on environment (1989)

- The national guidelines and standards for environmental pollution control in Nigeria (1991).
- National effluent limitation regulations s. 1.8 of 1991
- Pollution abatement in industries and facilities generating wastes regulations s.1.9 of 1991.
- Wastes management regulations s.1.15 of 1991.
- Environmental impact assessment (EIA) decree no 86 of 1992.
- The sector guidelines for EIA.

Fepa has recorded appreciable achievement since her in caption in 1988. in furtherance of her role of co-ordinating environmental matters throughout the country, the agency established national council on environment under the chairmanship of the secretary to the federal government with all states secretary to government and Fepa officials as members. In the same vein, Fepa initiated the conference of general managers consisting of all officials in charge of environment agency throughout the country. Fepa has also established zonal offices in Kaduna, Kano, port-Harcourt, Maiduguri, Oweri Jos and Ibadan as well as state offices in Makurdi, Bauchi, Minna and Uyo.

Although much is taken on part of the agency's achievement, much still abide in terms of fulfillment of the country's environmental protection and management expectations. The responsibility of compliance promotion and monitoring the enforcement of environment laws revealed obvious short-comings on part of the agency that no single case has been initiated on behalf of the agency in the face of industrial pollution such as the every day saw-dust experience on third main-land bridge Lagos calls for serious concern. The 5 years moratorium granted to industries to install pollution control and abatement facilities has passed without significant impact on that area source (5) Nigerian environmental study/action team nest (1992).

2.4 ENVIRONMENTAL DEVELOPMENT:

Human development is a process of enlarging choices. In principle, these choices can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long health life to acquire knowledge and to have access to resources needed for a decent standard of living. If these essential choices are not available, many other opportunities remain in accessible.

As examined by Mannion and Bowlby (1992) that it in apparent that atmospheric contamination has been an important local issue for about 2000 years. However, it's serious implication or regional and global scales have only been recognized in recant decades, particularly since the 1970 when exponential projection of fossil fuel consumption predicted unacceptable concentrations of air pollution over the next century. There in a great deal of controversy related to the major sources of pollutants, particularly between domestic and industrial contributions.

However, water is to make impure or defile the sources of a body of water. Water is second to air in the ranking of the three inevitable of living organisms. Domestic, industrial, commercial and agricultural liquid and solid refuse wastes may be disposed off in various ways e.g. ocean, sea, river, sanitary landfill and in to the under ground strata e.t.c but still the commonest way of disposal is into surface water directly or thorough the drains.

Mannion and Bowlby (1992) stressed that water pollution is a serous issue, it involves both thermal and chemical changes, although the later pollutant have traditionally received the most attention, thermal pollution is unwanted heat accumulation in a lake or river when water used to cool heat exchanges at power station) in returned to the natural water body, whoever the consequences of thermal pollution appear

invisible when compared with the more obvious disturbances caused by chemical pollutants in the lakes and rivers.

Moreso, despite considerable effort to reclaim land pollution, large areas of land in the industrialized countries have been rendered derelic. The chicef culprit are the extractive industries such as coal mining iron ore and other metal extraction and quarrying for stone sand gravel and clay. All of these leave large holes in the ground while most extractive industries usually leave heaps.

The coal mining industries make the biggest heaps but coal fired power stations procedures vast quantities of ash.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY:

The aim of the research work is to critically study the emerging environmental problems due to the on going development of Sauka-Kahuta neighbourhood in Minna, in order to transform it to habitable environment.

To achieve the stated aim, the following objective were convivially examine.

1. To asses the existing environmental condition of the study area.
2. To identify the problem mihitating against environmental development.
3. To make appropriate proposal and recommendation that will improve or upgrade the present situation of the study area.

3.1 SOURCES OF DATA:

This refers to the different sources of which data was collected. The two broad categories are primary and secondary sources of data and both are being employed in this research work.

3.2 PRIMARY SOURCES:

Various methods are being employed under this they include oral interview, and personal observation.

PERSONAL OBSERVATION: The researcher has embarked upon several visits to Sauka-kahuta. This was done by the researcher by visiting the area of study in order to have a good picture of happenings record of vital information were recorded.

ORAL INTERVIEW: This is a face-to-face contact means of collecting information. The researcher interview resident of the study area, the assistant village.

Land officer, land surveying department, Minna oral interview gave a very good knowledge of the respondent and first hand information were gotten.

3.3 SECONDARY SOURCE:

Relevant information were also sourced from publication such as text books, journals, lecture note records e.t.c all these supplemented all the information acquired through field work.

3.4 SAMPLING FRAME WORK/TECHNIQUE:

A sampling is a process by which element of the target population is selected with a view of finding out something about them in order to know or show the quality opinion of the whole. The sampling technique adopted is the cluster sampling.

CLUSTER SAMPLING: In cluster sampling a geographical area is subdivided into smaller areas e.g. words or neighbourhood units and few of the selected sub-units any other sampling methods can be used to select the sampling element.

Using this method, Sauka-kahuta was subdivided into smaller units using the 5 streets available in the study area and on each street the systematic radom sampling was employed to selected the sampling elements.

3.5 DATA HANDLING TECHNIQUE:

The data collected in the course of this study formed the basis of in depth analysis. This information were analysed and clearly illustrated for clarity purpose through the use of tables chart, and essay, more over data was collected on socio economic factors, waste e.g. generation, compacted and disposal system and sanitation exercise.

3.6 LIMITATION OF THE STUDY:

The following were constraints to the research work.

- Language barrier
- Finance
- Transportation
- Time

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESULTS:

The aim of the research work is to critically study the emerging environmental problems due to the on going development of Sauka - kahuta neighbourhood in Minna in order to transform it to a habitable environment.

To achieve the stated aim the following objective were critically examined.

1. To assess the existing environmental conditions of the study area.
2. To identify the problems militating against environmental development in the study area.
3. To make appropriate proposals and recommendations that will improve or up grade present situation of the study area.

4.1 HOUSING:

Housing goes beyond the provision of shelter. Housing is one of the basic needs of mankind, a social pre-requisite and a right for everybody.

Housing could be regarded as a bundle of services, that is the structures and surrounding services, such as electricity, water supply, accessible road, refuse disposal facilities, sewage and all facilities that makes living conducive.

4.1.1 WALL MATERIALS:

From the oral survey carried out it was observed that 50% of houses were built with concrete block see Table I

Table 4.1

TYPES	NUMBER OF RESPONDENT	PERCENTAGE
Mud block (plastered)	40	40%
Mud brick	10	10%
Concrete block	50	50%
Total	100	100%

Sources: field survey, September 2004.

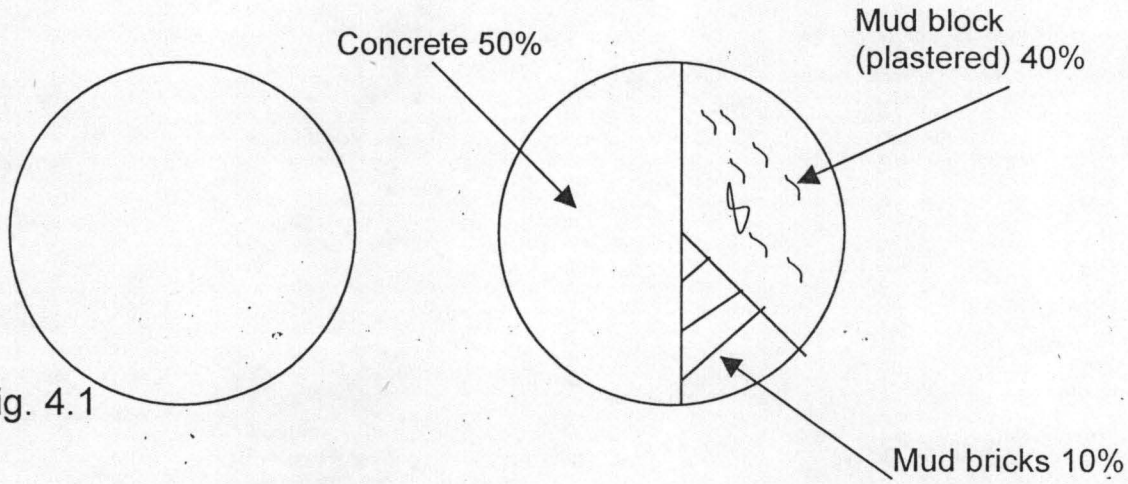


Fig. 4.1

A high percentage of the building stulied are built with concrete block. Some of which are a result of direct redevelopment from mud block (dilapidated) to concrete block.

The table shows the percentage distribution of sample dwelling according to the type of materials used for the wall in the study area. House built with concrete block account for 50%, house built with mud block unplastered account for 40% of houses while 10% of houses were found to be built of mud brick unplastered.

4.1.2 **BUILDING CONDITION:**

From the survey carried out in was observed that 50% of the building were dilapidated, see Table 2.

Table 2:

CONDITIONS	NUMBER OF RESPONDENT	PERCENTAGE
Dilapidating	35	35%
Dilapidated	5	5%
Cracking	40	40%
Good	20	20%
Total	100	100%

Source: field work September 2004.

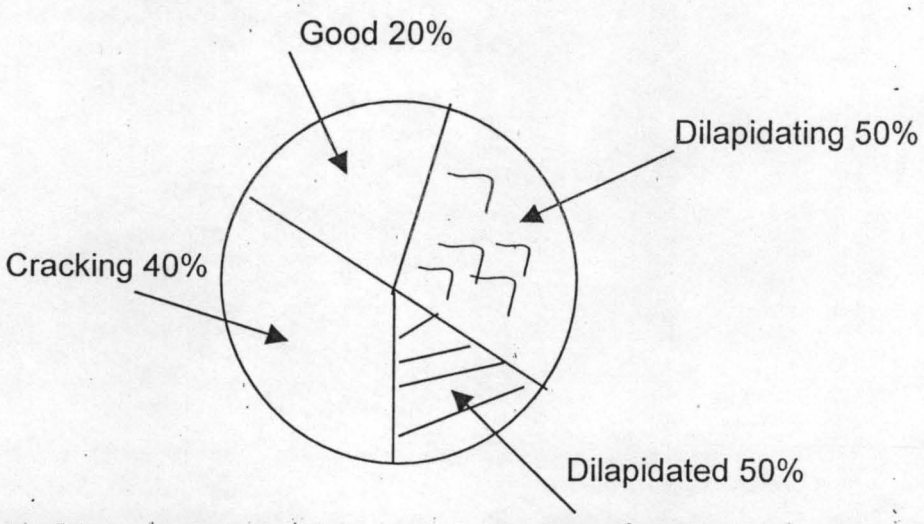


Fig. 4.2

Buildings structurally cannot be discussed in isolation from the quality of materials used, the technology and durability of materials used in the construction. From the above table a total of 35% of the dwelling survey were characterized with dilapidating wall, 5% were already dilapidated 40% of the dwelling survey account for cracking wall, while 20% are in good condition. This is as a result of poor materials, poor construction and inadequate maintenance. This shows the extent of the poor housing and environmental quality see plate I below.

Plate 1

BUILDING CONDITION:

4.1.3. **ROAD NETWORK:**

Road network is very important because a lot of activities would made easy with a good road network such as free and easy movement from one place to another, communication, information would move easily. Tarring of roads makes the road more motorable and adds value to activities around it.

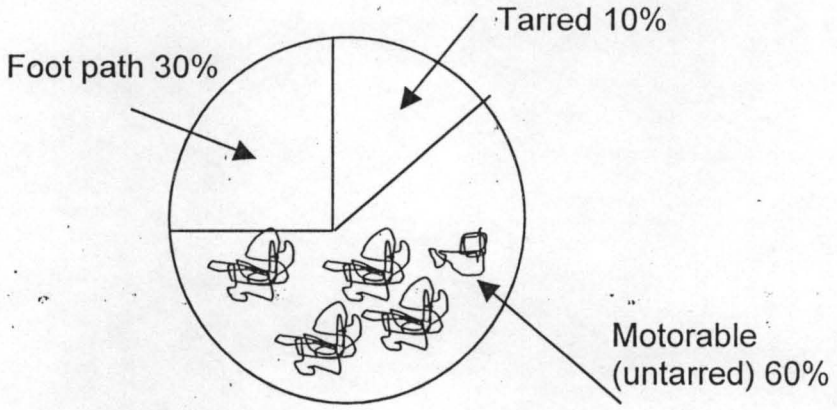
From the survey carried out it was observed that 10% of the road were tarred see table 3.

Table 4.3

TYPES PF ROAD	NUMBER OF RESPONDENT	PERCENTAGE
Tarred	10	10%
Motorable (untarred)	60	60%
Foot path	30	30%
Total	100	100%

Source: field survey, September 2004.

Fig. 4.3



Good accesibility of residential area is important not only for convenience of the occupants alone but also for safety purpose. This is required in case of fire outbreak removal of refuse.

From the survey carried out 60% of the dwelling are motorable and 30% are not motorable, they only have access to their buildings by foot path only. 10% have access to tarred road and it happens to be only one, and is in a bad state due to qully erosion. The industrial layout road in off the western by pass. See plate 2, below in plate 2 showing a poor condition of untarred road.

Plate 2

POOR ROAD CONDITION

4.4.1 WASTE DISPOSAL:

From the survey carried out it was observed that 46% of the residents use pit latrine, see table 4.

TYPES OF TOILET	NUMBER OF RESPONDENT	PERCENTAGE
Water closet	2	2%
Pit latrine	46	46%
Bucket latrine	-	-
Public latrine	-	-
Surrounding bush	52	52%
Total	100	100%

Source: Field survey, September, 2004.

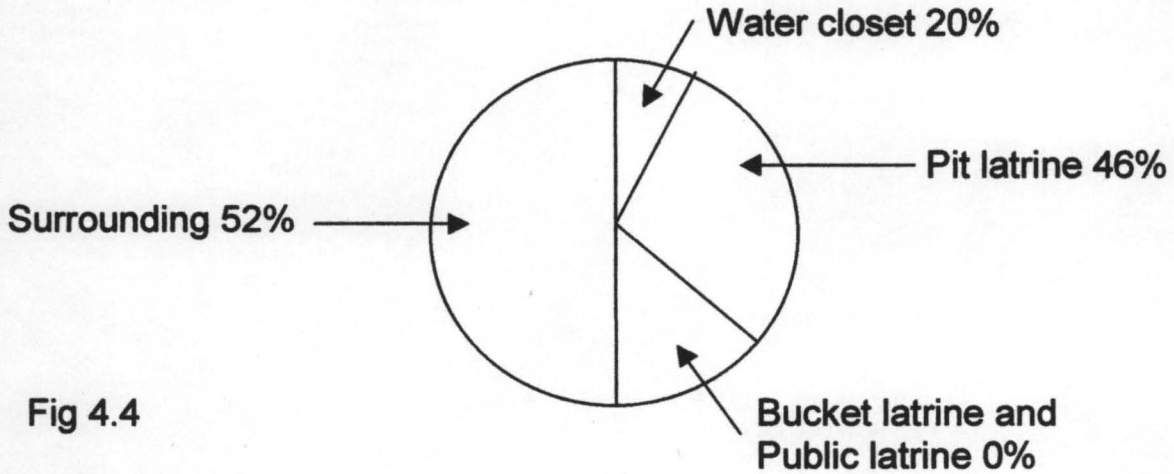


Fig 4.4

In the entire area, there are no public managed latrines; the people make use of privately constructed pit latrines and open space for dumping of waste.

From the survey conducted 2% of houses have eater closet while 46% make use of the pit latrine and the remaining 52% make use of the surrounding bush for the disposing of their waste. See table 4.

Also refuse dump is of the open type, these unkept open dumping ground now serves as hide out for breeding of rats, mosquitoes and virus of various types which are harmful living see plate 3.

4.5.1 **DRAINAGE:**

From the survey carried out it was observed that the inhabitants have no access to drainage facilities, see table 5.

Table 4.5:

TYPES	NUMBER OF RESPONDENT	PERCENTAGE
Open drain	-	0
Covered gutter	-	0
None	100	100%
Total	100	100%

Source: field survey September 2004.

Drainage system is lacking in the study area and this is one of the major causes of erosion problems in the area. The table 5 above explains the lack of drainage system in the study area. Therefore when rainfalls on the land surface and cannot locate a drainage channel where it can pass through it then create a channel for itself any where on the land surface on the road side or in the centers of the road. As a result of inadequate drainage facilities some roads have been badly affected see plate 4.

Plate 4.

EFFECT OR INEFFECTIVE DRAINAGE SYSTEM

4.1.6 HEALTH FACILITIES:

Good health constitute an essential aspect of socio-economic welfare, since it's a major component of the quality of live as well as prerequisites for high level of productivity.

From the survey carried out it was observed that there in only 1 private health clinic in the area see table 6.

TYPES	NUMBERS OF RESPONDENT	PERCENTAGE
Health center	-	-
Health clinic	1	Private
Maternity	-	-
Hospital	-	-
Specialist	-	-

Source: field survey September, 2004.

The only health facility in the study area in Kahuna Primary Health Care which has a clinic and maternity home. It is located along the old filling station road. It serves two main aspect of health care, that is delivery of babies and also preventive and curative services. The most preventive measure include health education towards improving environmental sanitation, immunization against deadly disease, while curative takes the firm of giving drugs and injections to cure illness.

4.1.7 **WATER SUPPLY:**

From the survey carried out it was observed that 30% have access to the pipe borne water, see table 7 below.

Table 4.7

TYPES	NUMBER OF RESPONDENT	PERCENTAGE
Bore hole	5	5%
Well	46	46%
Pipe borne	30	30%
Stream	-	-
Vender	19	19%
Total	100	100%

Source: field survey, September 2004.

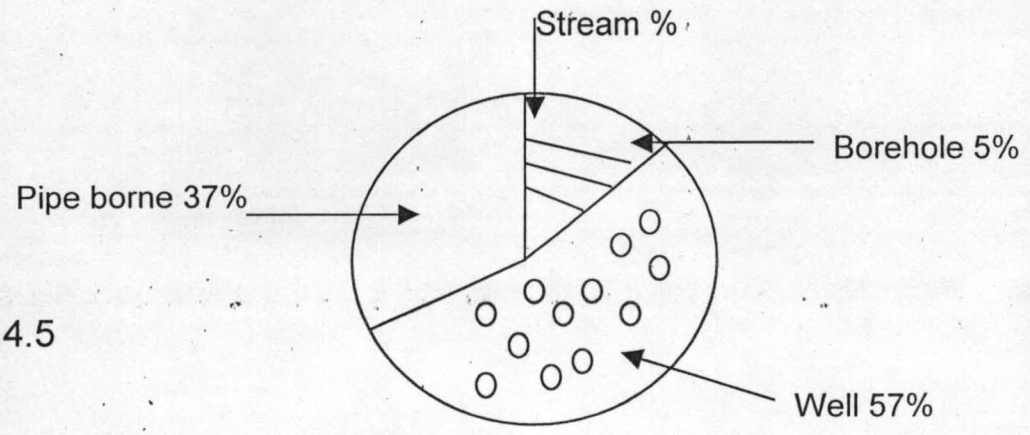
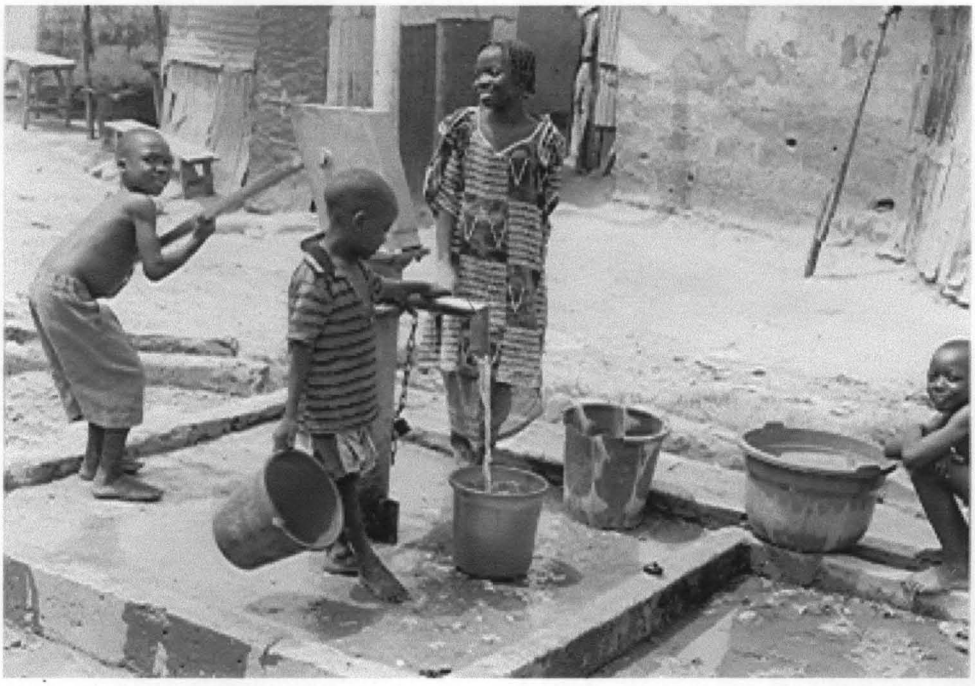


Fig. 4.5

Water supply is another facility that is required in any area, because of it's usefulness. The table above shows the source of water supply be available in the study area.

From table 7 it can be seen that majority of the respondent through oral and verbal interaction makes use of well water, 46% make use of well water, 30% are connected to pipe borne water, 19% buy water while the remaining 5% use water from borehole see plate 5.

Plate 5.



4.1.8 POWER SUPPLY:

Electricity supply is another major facility required in the area. If not provided would have make the functioning of certain activities difficult such as hair dressing saloon, business centers etc. the study area have access to electricity supply and this is very regular due to the pressure of the NEPA sub-station and two transformers serving the study area.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDAITONS:

The aim of the research work is to critically study the emerging environmental problems due to the on going development of Sauka - kahuta neighbourhood in Minna in order to transform it to a habitable environment.

To achieve the stated aim the following objective were critically examined.

1. To assess the existing environmental conditions of the study area.
2. To identify the problems militating against environmental development in the study area.
3. To make appropriate proposals and recommendations that will improve or up grade present situation of the study area.

The previous chapters have described in details the general background of the study area, problems and prospects. All attempts are made in this chapter to give an encompassing summary of findings to make practicable recommendation and concise conclusion.

5.1 SUMMARY:

The following were found:

Poor roads: The roads and drainage system in the study area were found to be bad, the only tarred road have been affected badly by gullies and untarred road also (see plate 4).

The study area also has problem are lacking in qualities, some of the houses are without toilet, the roads leading to these buildings are bad.

The problem of environmental sanitation is one of the most critical problems facing the study area. The absence of any regular system of

refuse disposal renders the environment filthy. The collection and disposal of sewage and other liquid and solid waste is a major public health problem and vital factor affecting the quality of the environment in the study area.

The health institution in the study area is found to be lacking in skilled and qualified staff and inadequate.

Most of the schools are owned by private and the only government primary school was found to be lacking in the facilities required e.g toilet facilities, water supply, inadequate and dilapidated class rooms.

Among the problems identified in the study area include inadequate drainage facilities, lack of co-ordination and charge in government policy and poor finance.

More so, the prospects of the study area among others are availability of land, agriculture prospects, industrial prospects commercial prospects and facilities.

5.2 RECOMMENDATIONS:

In view of some findings of this research work, the following recommendations are propounded.

i. Tarring and Rehabilitation of Roads:-

It is recommended that the industrial layout road be rehabilitated while other roads within the neighbourhood be tarred and provided with good drainage facilities in order to prevent further erosion on the roads. This rehabilitation and tarring of roads will help to improve the communication system in the area especially during the raining season when most parts of the roads are normally not motorable.

The existing roads (streets) should be well layout to make most of their building within the study area accessible by roads and there should

be opening up of new areas. This will therefore ensure good layout and residential development.

ii. **Provision of Good Drainage System:-**

As a result of the effect of erosion on both housing and transportation route in the study area. It is therefore recommended that good drainage facilities be provided for the streets while the existing drainage system of the industrial layout road should be maintained. The community should endeavour to control this erosion channel by constructing concrete payment at both channel of the erosion.

If all these drainage facilities are provided, it will minimize if not completely eradicate the erosion problems as it affect both housing and transportation.

iii. **Renovation of House:-**

During the field survey it was discovered that some of the house in the study area are in poor condition. Therefore, this recommended that these houses be renovated.

Renovation is the process by which declining area can be restored by degree of modernization of good healthy living and safety standard at reasonable financial expenses. This can be achieved by educating the people on the need to improve their housing conditions and to provide good quality houses and other community facilities.

iv. **Provision of Public Facilities:-**

It is noted that public facilities are substandard and inadequate in Sauka kahuta. There should be an upgrading of the existing facilities and provision made where lacking. A public health centre should be provided with qualified staff.

The existing government primary school should be physically and infrastructurally improve. Provision of more buildings that is classrooms should be provided with adequate staff.

Essential facilities and service like water, toilet and library should be provided for the use of the entire population of the school, there should also be provision for a community centre, the Sauka-kahuta Youth Development Union should make provision for this.

v. **Infractructural Facilities:-**

The non-functional water supply system in most part of the study area has been one of the problems facing the social life of the people, this is to be solved by providing connection pipes, boreholes should be sunk to serve as a means of water supply in case of irregular supply of water.

vi. **Mass Education:-**

Man dictates the pattern of his environment. The educational level of every individual developers influences his or her development.

Educational talks such as open lectures should be organized in order to educate the people of the study area. These could be done by the Sauka kahuta Youth Development Union with the support of the community head, the town planning and professional students, lectures should be base on types of development, changes in development with time, emphases on the changes of the industrial layout design, materials for construction in which the use of local material should be encouraged to reduce the cost of construction.

The dwellers should be lectured on the importance of layout, construction of new access roads, renovation of building. The idea of leaving plots undeveloped should be discouraged. The need for open spaces and landscaping should be emphasized, if these could be done it will and rapid development in the study area.

Further more, since the area is not going to remain static, there is need to build more houses to accommodate the population increase from the time, thus the availability of plain land in the town will

encourage physical development, more so when these areas should be land out properly to eradicate haphazard development.

5.3 CONCLUSION:

In conclusion, every neighbourhood has in it great potentials and opportunities for development of which if well and economically exploited will be of a great benefit to the immediate surrounding and the nation at large.

Sauka kahuta could be a beauty in the eyes of it's beholders if the recommendations propounded are acted upon.

One of the greatest assets available to the study area in land, availability of land. With increased development activities came arise and a boost in economic, social and physical well being of its dwellers there by uplifting the standard of leaving.

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APPENDIX 1

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA.

SCHOOL OF SCIENCE AND SCIENCE EDUCATION GEOGRAPHY DEPARTMENT PGD.

Questionnaire to occupants/habitants of Sauka-kahuta Minna, Niger State for survey on he social infrastructure facilities.

Instruction:

Please tick the appropriate response.

1. Name of respondent……
2. Occupation

a. Farming

b. Civil servant

c. Artisan

d. Unemployed

e. Others specified.

SECTION A.

Survey carried out on the condition of infrastructural facilities in Sauka-kahuta.

1. Indicate the availability of the following educational facilities in the neighbourhood by completing the table below.

No.	Type	No. Available	Distance your house	Owner ship
1.	Nursery			
2.	Primary			
3.	Secondary			
4.	Tertiary			
5.	Quranic			
6.	Other			

2. Are you satisfied with the educational facilities in our area.

(a. Strongly satisfied (b. Satisfied (c. Farily satisfied

(d. Not satisfied

3. If not satisfied state the reason.

a.

b.

c.

d.

e.

4. Do you face any problem concerning the level of education facilities in your area.

(a. Yes (b. No

If yes indicate the problem as below.

a. Inadequate numbers of schools

b. Lack of basic school facilities

c. Long distance to school

d. Lack of teachers

e. Structure at its deteriorating stage

f. Others specify

5. Indicate the availability of the following health facilities in your neighbourhood by completing the table below.

No.	Type	No. Available	Ownership
1.	Health centre		
2.	Health clinic		
3.	Maternity home		
4.	Hospital		
5.	Specialist		
6.	Others specify		

6. Are you satisfied with the existing health facilities in your area.

(a. Strongly satisfied (b. Satisfied (c. fairly satisfied

(d. Not satisfied.

7. If not satisfied state the reasons

a.

b.

c.

8. Do you face any problem with the current level of health facilities in your area.

a. Yes (b. No

9. If yes indicate the problem as below

a. Lack of public health establishment

b. Poor equipment and service

c. Long distance to hospital or clinic

d. Inadequate doctors and health officials

e. Structures at it's deteriorating

f. Others specify

No.	Type	No. Available	Ownership
1.	Playground		
2.	Community centre		
3.	Cinema centre		
4.	Recreational park		
5.	Others specify		

11. Are you satisfied with the existing recreational facilities in your area?

a. Strongly satisfied (b. Satisfied (c. fairly satisfied

(d. Not satisfied.

12. If not satisfied state the reason.

a.

b.

c.

13. Do you have access to pipe borne water in your neighbourhood.

a. Yes (b. No

14. If no indicate the ones available to you.

(a. Borehole (b. well (c. Stream (d. supply from vendor.

15. State the average distance traveled to secure water……..

16. If you depend on water from vendor state the average amount spend on water.

(a. Per day…… (b. per week…… (c. per month

17. Are you satisfied with the existing method of water supply in you area.

a. Strongly satisfied (b. Satisfied (c. fairly satisfied

(d. Not satisfied.

18. If not satisfied state the reason.

a.

b.

c.

19. Do you face any problem with the current level of water supply in you area.

(a. Yes (b. No

20. If yes indicate the problem as below

a. Lack of pipe borne water

b. Poor water supply

c. Long distance track to obtain water

d. Others specify.

APPENDIX 2

Housing Survey Questionnaire:-

The information required is purely for academic use and any information given will be treated confidentially.

1. Street name
2. House number
3. Type of building

(a. Brizilian burgalor (b. Bungalor (c. Flat block

(d. Storey building (e. Mud (f. Others

4. Age of building

(a. Pre -1920 (b. 1920 -1945 (c. 1946 -1960

(d. Post -1960

5. Construction materials

(a. Mud wall (b. Mud brick (c. cement block (d. other

6. Roofing materials

(a. Concrete (b. Asbestor (c. Corrugated iron sheet

(d. Others

7. Wall condition

(a. Cracking (b. Dilapidating (c. Dilapidated

(d. Good

8. Present state of house.

(a. Completed (b. Uncompleted (c. under construction

(d. abeyance

9. Method of liquid waste disposal.

(a. Water closet (b. pit latrine (c. public toilet

(d. Bucket latrine (e. Surrounding bush

10. Refuse disposal method.

(a. Refuse bin (b. open dump

11. Drainage method of road to the building

(a. Open drainage (b. cover cutter (c. None

12. Accessibility to the building

(a. By road (b. By foot path (c. Inaccessible

13. If road, is it

(a. Tarred (b. Untarred

14. Condition of the road

(a. Good (b. fairly good (c. fair (d. bad

15. If inaccessible give reason……

16. Building use

(a. Residential only (b. Commercial only

(c. Service industry only (d. Residential/commercial

(e. Residential/service industry.

17. Number of habitable rooms……

18. Number of people per rooms……

19. Bathroom

(a. Available (b. Not available

20. List facilities you would want to be provide for your house or neighbourhood.

a.

b.

c.

d.

e.