A STUDY ON ENVIRONMENTAL HABITABILITY OF CORE RESIDENTIAL NEIGHBOURHOOD IN AKURE, NIGERIA

OWOEYE, Julius Oluranti
Department of Urban and Regional Planning, Federal University of Technology, Akure
PMB 704, Akure Ondo State, NIGERIA; ***E-mail:*** *rantiowoeye@yahoo.com;* ***Tel:*** *+2348039179250*

ABSTRACT
The environment in which people live and how it is organized has profound consequences, both for the society and individuals. This paper, therefore, attempts to examine the relative environmental habitability of a residential core area of a medium city in Nigeria. The study investigate the quality of residential neighbourhood by looking at the characteristics of housing system and the condition of infrastructural facilities needed for comfortable living. It examined the socio-economic status of the residents in the area, their perception of the living environment and problems experienced. For proper investigation of the variables examined in the study, several research instruments were employed to obtain relevant information, which include questionnaire administration, direct observation, photograph, housing demographic and facility surveys. Findings from the study revealed that the neighborhoods lack basic infrastructure facilities and crowded with derelict buildings that lack essential household services. The environment is generally filthy and drab due to laizzez-faire attitude of residents, poor maintenance and the neglect of past government administrations. However, some recommendations in the form of policy guidelines were proffered, which essentially include extensive redevelopment and upgrading programmes under the auspices of Urban Basic Service Programme (UBSP). This is to be assisted with improved sanitation strategies for sustainable management of the area.

Keywords: *Environmental habitability, core, residential neighbourhood, housing system, degraded.*
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1.0 INTRODUCTION.

Environment is the totality of all external condition and influences to which an organism is subjected. It comprises, primarily, the man and his cultural and socio-economic lifestyles, the condition of housing, other environmental sub-systems, and the concern of various institutional managements. Housing, as a substantive unit of the environment is described as residential environment. This includes the physical structure used for shelter, all necessary services, facilities, equipments and devices needed or desired for the physical and mental health and social well-being in the family and individual (Aribigbola, 2001; Adedeji, 2008; Owoeye and Sogbon, 2012a). The United Nations Ad-Hoc Group of Experts on Housing and Urban Development define it as physical environment in which a family must develop, being the basic unit in the society. It was further asserted that housing is not mere shelter or household facilities alone but comprises a number of facilities, services and utilities which link individuals and his family to the community in which it evolves. It is universally acknowledge, therefore, as one of the most basic needs with a profound impact on the lifestyle, health, happiness and the productivity of the individual (UN Habitat, 2003; Owoeye and Sogbon, 2012b).

Omole (2001) describe housing as a residential environment which man uses for shelter and the environs of the structure designed for his physical health and mental well-being. A civilized society therefore, should see it as an inherent right of every family to live in a decent home at a reasonable cost and in a desirable community where all the necessary facilities needed for comfortable living are provided. This is simply because a man's home is next to his physical person and contributes to his comfort or discomfort, strength or weakness, accomplishment or personal defeat (Modupe, 1986). But very unfortunate, the bulk of the population in developing countries lives according to the situation they find themselves. However, the concept of habitability explains the level of satisfaction derived by the residents from their respective abode and their willingness to continue living in the environment where they are presently located. It shows the interface that transpire between man and his physical environment in terms of structural condition and location of his dwelling unit, the condition of facilities available, and the managerial arrangement put in place to sustain regular functioning of the system so as to enhance his maximum satisfaction, comfort and productivity. In this regard, Omole (2001) identify some variables of this concept to include the socio-economic characteristics of the residents as well as the cultural group to which they belong. It also includes the physical design of the building, the adequacy of household facilities provided, and the reliability of essential services in the neighbourhood that will enhance efficient security, comfort and healthy living of residents. Finally, the concept also identifies the environmental sub-system, in terms of roles of physical planning in housing delivery, the location and the density ratio.

Housing problem in Nigeria is not significantly different from those of other developing nations of the third world (Abiodun, 1985; Adedeji, 2006; Owoeye and Omole, 2012a). The type and quality of shelter available for occupation of the people reflects the development of the country. This is because it has a profound influence on the health, efficiency, social behaviour, satisfaction and general welfare of the community. Onibokun (1985) argued that decent housing is the right of every individual, but a large proportion of Nigerian live in substandard housing, most of which are located in deplorable environments. Sufficient healthy liveable dwellings, clean surroundings of minimum acceptable standards of spaces and environment with essential facilities are particularly lacking in core areas of towns and cities in Nigeria. Where these facilities are available, they are either obsolete or substandard or inadequate (Owoeye and Omole, 2012b). While basic urban facilities like pipe borne water, good access roads, access to good education and health facilities are assumed in developed countries, they constitute variables of well-being or poverty in Nigeria (Olanrewaju, 2004) which are not to be taken for granted. The problem of low income leading to low capital formation enhances high poverty rate among the people. This deprives them of having enough resources to utilize for proper maintenance of these essential facilities as well as improving their dwellings and keep their environment healthy for human habitation. This is the reason why six to ten persons live in a room (George, 1999; Onibokun and Kumuyi, 1996). The core residential neighbourhoods of Akure exhibit these sub-humane conditions, where substandard houses are prevalent in unkempt environments. The focus of this paper, therefore, is to examine the condition of

housing system in the core neighbourhoods of Akure as well as the state of infrastructural facilities, the environmental perception of the residents and problems experienced with a view to determine the level of satisfaction enjoyed by the residents and the willingness to continue living in such degraded area.

2.0 THE STUDY AREA – An overview

Akure is one of the notable towns in the old western region in Nigeria, situated on latitude 7^0 15^1 N and longitude 5^0 15^1 E. It is the administrative headquarter of the Akure South Local Government and the capital of Ondo State, Nigeria. Specifically, this study was carried out within the core residential area of the city, comprising of five neighbourhoods namely Araromi, Oja Oshodi, Odokoyi, Isolo and Ijomu. The area has a land expanse of about 3.6 km^2 with a population figure of 43,191 (NPC, 2006). Several researchers who worked on urban development of the city like Olanrewaju (1990, 2004), Olanrewaju and Akinbamijo (2002), Owoeye (2006, 2010 and 2012) among others affirmed the area of having physical evidences of slum condition. According to them, the area has the greatest concentration of the poor and the illiterates with inadequate means of livelihood. Due to increased urbanization rate, the area exhibits high population and housing densities of about 100 to 120 houses with population of 800 persons per hectare. The land use is largely residential with little commercial activities around the CBD.

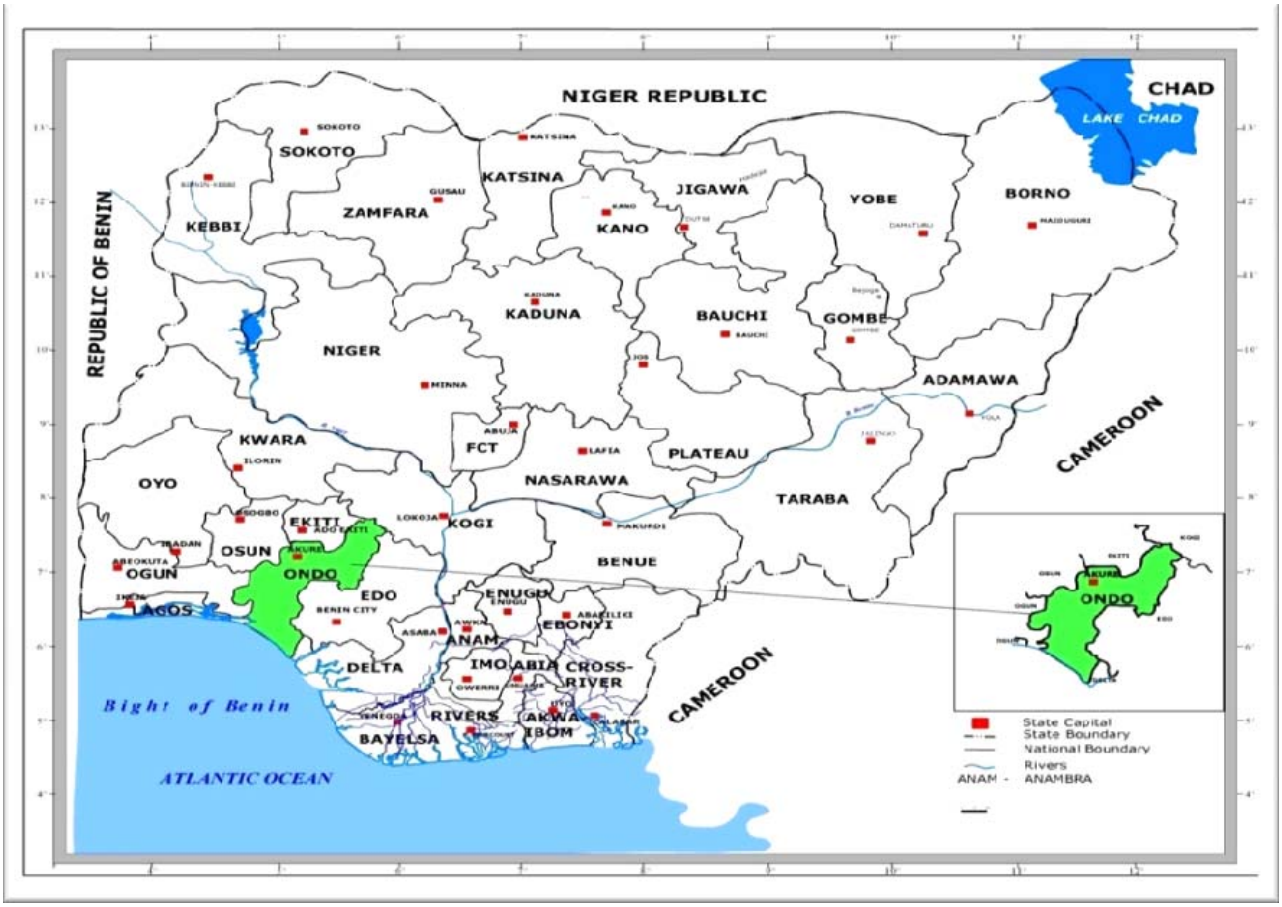

Figure 1a: Map of Ondo State in the National Setting
Source: Ondo State Ministry of Lands and Housing, Akure; 2010

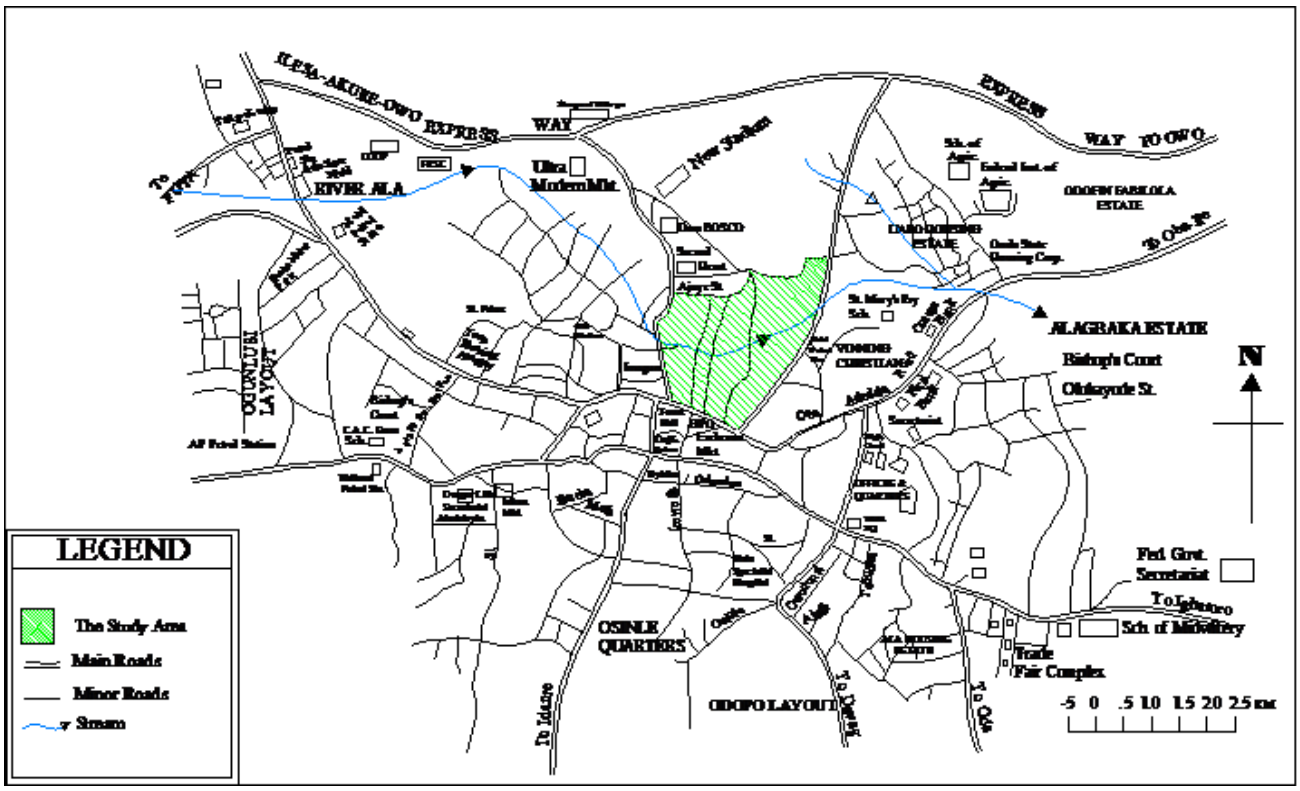

Figure 1b: Map of Akure showing the Study Area
Source: Ondo State Ministry of Lands and Housing, Akure; 2010

3.0 RESEARCH MATERIALS AND METHODS

Different research methodologies were used in the study. The primary data were sorted and gathered using direct observation and questionnaire administration to sampled households in the study area. Beside these, building demographic and facility survey was carried out to determine the actual figure of existing buildings and condition of essential facilities available in the area. Altogether there are 1306 buildings in the study area out of which 48 are non-residential. A sample size of 20%, amounting to 250 was taken from the remaining 1258 residential buildings, which is considered reasonable for the study. Using systematic random sampling approach to select respondents in the area, every 5th house in each of the five streets involved was taken for questionnaire interview. Meanwhile, only a household was interviewed in each of the building selected. Secondary data were gathered from various relevant ministries, particularly the base map. Hypothesis tested to validate findings in the study is stated thus:

H_o: Poor housing condition and inadequate facilities are not significantly related with environmental habitability.

H_1: They are significantly related.

4.0 RESEARCH FINDINGS AND DISCUSSIONS

Out of 250 questionnaires administered, only 230 copies in adequately usable forms were retrieved. This amounts to 92.0% of the expected responses, which is still considered reasonable given that residential core areas of a city possess homogenous attributes. However, the result of the research findings is presented in two different perspectives with a view to establish the relationship between housing-facility

condition and environmental habitability of the study area. This helps to determine the level of satisfaction enjoyed by the residents.

4.1 Housing Condition and Infrastructural Facilities.

The quality of housing in the study area, as shown in Table 1 and Plates 1a and 1b, is very low due to poor quality materials used for construction, the inadequate technology and poor planning standard in handling the building components. Fadamiro (2002) established the average life span of traditional mud building to be 50 years out of which over 80% of the buildings in the study area have spent 30 years. Only 10.5% of the total housing stock in the area is building of recent construction, which are below 20 years. In his argument to establish a correlation between relative habitability of the housing and their ages, he affirmed that buildings erected in more recent time tend to be more habitable than those built much earlier. Thus, a large number of the housing stock in the study area has low relative habitability which has direct effect on the state of health, socio-economic well-being and emotional stability of the residents.

With the responses, 97.8% of sampled housing units have Zinc roofing materials, and 2.2% has asbestos materials. Besides, 79.1% of the responses have mud walling materials, and about 21.0% have sandcrete blocks. This shows that the level of technology of building construction in the area is rudimentary. Assessment of the maintenances level reveal that over 80% responses need either minor or major repairs out of which 18.3% of the building are completely old and dilapidated. Only 15.2% exhibit evidence of physical soundness, while 62.6% roofing of building examined is patched and leaking.

Table 1: Building Characteristics

Variables	Frequency	Percentage
Material Used for Construction		
(a)Walling – Mud/mud blocks	182	79.1
- Cement/sand-crete blocks	48	20.9
Total	**230**	**100.0**
(b)Roofing – Zinc/corrugated iron sheet	225	97.8
- Asbestos Materials	05	2.2
Total	**230**	**100.0**
Structural Condition		
Physical soundness	35	15.2
Need minor repair	80	34.5
Need major repair	73	31.7
Old and dilapidated	42	18.3
Total	**230**	**100.0**
Age of Buildings		
Below 10 years	11	4.8
10 – 19 years	13	5.7
20 – 29 years	18	7.8
30 – 39 years	55	23.9
40 years and above	133	57.8
Total	**230**	**100.0**

Source: Field Survey, 2010

Plate 1a: Collapsed building along Odokoyi still inhabited by people due to high level of poverty.
Source: Field Survey, 2010

Plate 1b: Collapsed building left uncared for in the study area
Source: Field Survey, 2010

Figure 2 reveal hand-dug well as the major source of water supply in the area of study, which account for 85.7% responses. Only 14.3% enjoy tap water which is reported as not regularly available. This situation does not guarantee supply of quality water in the area. Most of the wells, located in unkempt surroundings, are not treated before used. The rain water used as substitute during rainy season has the possibility of being contaminated as majority of the roofing sheets are rust and dirty.

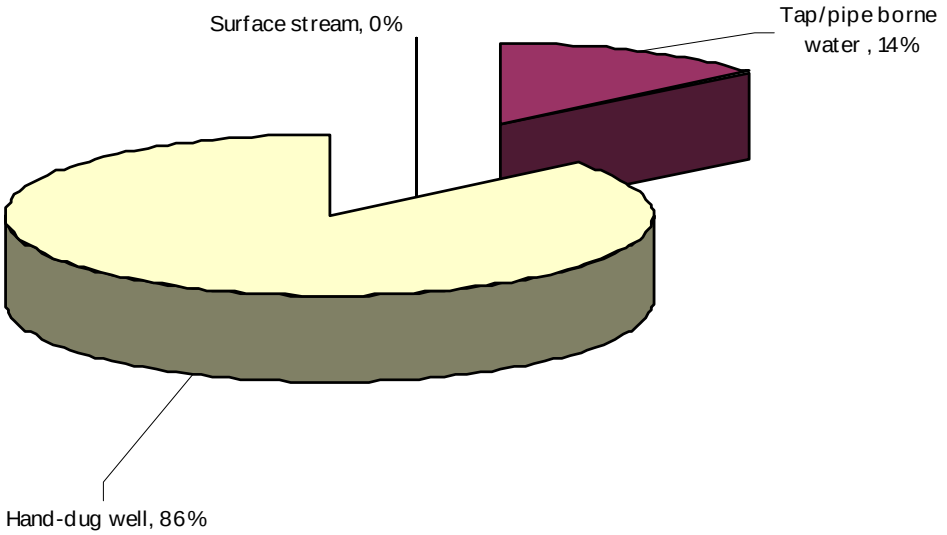

Figure 2: Source of Water Supply
Source: Author's Field Survey, 2010

As shown in Table 2, over 65% respondents used pit latrine for sewage disposal. Only 10.9% used modem water closet while 23.9% do not have any sewage management facility. The alternative method of disposing their sewage materials is either through mobile latrine (4.8%) bush or dunghill (11.3%), streams or drainages (7.8%). This makes the area look dirty, ugly and stinking. Even where toilet facilities are provided, in most cases, they are misused and shared among many households. The method of waste disposal is generally absurd in spite of government efforts to curb indiscriminate dumping of refuse. Although, over 65% respondents used the controlled tipping method provided by the government through the agency of Waste Management Authority, but the remaining 34.8% dispose theirs indiscriminately. About 21.3% responses dispose theirs in open spaces, 11.7% through burning thereby constituting air pollution in the area. Some (1.7%) deposit theirs at the road sides and drainages where nobody cares for them. Such become comfortable breeding grounds for rodents, rats, flies, mosquitoes and other dangerous animals, which contribute greatly to the spreading of diseases. The regular dumping of refuse in Ala River has caused blockage to the free flow of the river thereby leading to seasonal flooding into the premises of buildings around the place as indicated by 20.4% responses. See Plates 2a, b and c for some of these primitive refuse dumping activities in the area.

Table 2: Condition of Household Facilities

Variables	Frequency	Percentage
Sewage Disposal (Toilet)		
Pit latrine	150	`65.2
Water closet	25	10.9
Bucket latrine	11	4.8
Bush / dunghills	26	11.3
Streams and Drainage	18	7.8
Total	**230**	**100.0**
Bathroom facilities		
Indoor – Self contained	10	4.3
-- Shared	124	53.9
Out-door – open court yard	73	31.7
None (Not available)	23	10.0
Total	**230**	**100.0**
Kitchen facilities		
Indoor-- Self contained	12	5.2
-- Shared	145	63.0
Outdoor –open courtyard	65	28.3
None (Not available)	8	3.5
Total	**230**	**100.0**
Waste Disposal Facilities		
Free Range @Road sides	4	1.7
@Open space	49	21.3
Controlled Tipping	150	65.3
Incinerating / Burning	27	11.7
Total	**230**	**100.0**

Source: Field survey, 2010

Plate 2a: Indiscriminate dumping of Refuse in drainages along Odokoyi Street

Source: Field Survey, 2010

Plate 2b: Indiscriminate dumping of Refuse in Open space in the city core
Source: Field Survey, 2010

Plate 2c: Indiscriminate dumping of Refuse in Open space around the city core
Source: Field Survey, 2010

Other essential facilities that are very ridiculous in the area, both in quality and quantity include bathroom and kitchen services, electricity, drainage, health and security. Out of 58.2% respondents that indicate availability of bathroom facility, only 4.3% are self-contained while 53.9% are shared among several households which in most cases are over utilized. Most of these are constructed with ordinary bamboo, palm fronts or rusted iron sheet at the backyard without proper drainage channels. Most of the houses have no kitchen and cooking is done either in the corridor or open places at the backyard with the use of fire-wood or charcoal. An observer can see beads of carbon of smoke on the walls of the corridor. Most of the clay pots used for cooking are not washed and contain dirty water on the surface of which one can see dead flies and cockroaches. Cobwebs are common features of the various corners of the dwelling units. In places where there are purpose made out house kitchens, they are usually not swept and full of obnoxious

odour. Aggravating this condition is the location of uncovered salga (pit latrine) directly behind the kitchens with bits of dried excreta all over the place. Standing water all-ever the places affords breeding grounds for mosquitoes and flies. Most of the gutters are not cemented and full of foul smelling water which creates swimming ponds for pigs and ducks. To walk near the walls of any building is to experience terrible odour of urine disposed here and there by inmates or passersby. As a result of this inhumane condition, about 60% respondents indicate willingness to move out of the area to better places.

The main source of electricity supply to the area is through the Power Holding Company of Nigeria (PHCN) as indicated by over 90% of the respondents, out of which 89.6% indicated erratic supply of light. One may think this is general experience across the city, but it is more severe and chronic in this area, probably because of caliber of people living in the area who may not be politically influential and generally poor. Over 60% indicate "occasional" or "regular" occurrence of burglary in the neighbourhood which is a clear evidence of the effect of lack of security post in the area. Educational facilities are limited to the preliminary nursery and primary school. There is no single public secondary school within the study area. The state of health facilities too is far below satisfaction. About 73.9% indicated non availability of health institution within their reach while only 26.1% are sure of having at least a chemist store or private clinic within their neighbourhood. This situation is abnormal for comfortable human living environment which make the area unattractive.

4.2 Environmental Perception and Problems Experienced.

The variables considered here reveal the status of people residing in the area. A larger percentage of the people have no formal education as indicated by over 55% of the respondents. Only 7.8% have tertiary education while 12.6% respondents attained secondary education. Their major occupations therefore include trading (30.9%), craftsmanship (19.1%) and farming (13.5%). Only 8.3% are civil servants while 28.2% are unemployed and apprentices. This affects their level of income as only 27% receives above N10, 000 monthly while over 70.0% receive less, out of which 19.1% have no fixed source of income. The possible implication of this is having no sufficient resources to spend on improvement of their dwellings and feeding. Average household size of 5 to 6 persons is predominant with an average of 14 persons per building. However the area was generally assessed to be rowdy by 59.1% and dirty by 28.7% responses. This may be simply because of its closeness to the CBD. Some assessed their areas to be bushy (2.6%) and water-logged (1.3%). Only 8.3% agreed that theirs surroundings is always clean. The attendant results of this deplorable condition are obvious as shown in Figure 3 below:

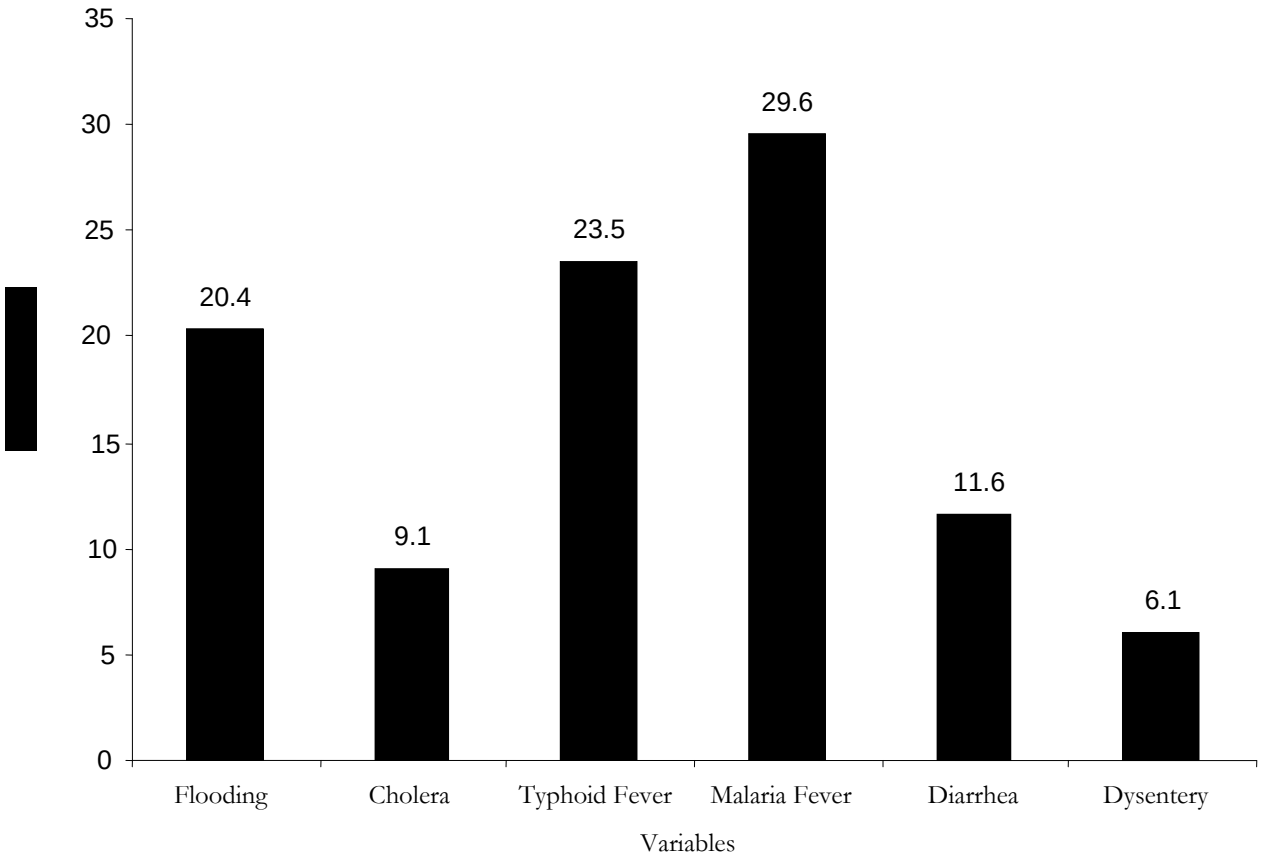

Figure 3: **Environmental Related Problems in the Study Area**
Source: Field Survey, 2010

With these situations, however, the willingness of the people to move out of their area or stay (and continue living there) was investigated. The study reveals that due to unfavourable condition prevailing in the area, 59.1% respondents are willing to move out on several reasons. Some (29.1%) will move as soon as their income improves while 22.6% and 7.0% wants to move because of poor environment and old buildings in which they live respectively. The remaining 40.9% respondents are not willing because 28.3% live in their personal buildings, 5.2% enjoy free accommodation in the area, 2.6% respondents are not willing because of low rentage in the area compared with other parts of the city while 2.2% would not because of family tie and want to live very close to their families.

The regression analysis computed to investigate the relationship of housing-facility condition with the habitability of the environment show a positive significant relationship of 52.3%. This strong relationship establishes the priority of such factors as considered in the study to be a pre-condition for comfortable living environment. The summary is shown in Table 3 below.

Table 3: Regression Analysis (Model Summary)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.723[a]	0.523	0.506	0.20

Source: Computer Print-Out, 2010

5.0 CONCLUSION AND POLICY IMPLICATION.

This research work has identified various factors essential for environmental habitability of residential core areas of a city. Corroborating the submission of Fadamiro (2002), the study has actually showed that the environmental habitability of the study area is relatively low. The bulk of housing stock in the area is old and dilapidated, which lack essential household facilities as well as insufficient infrastructures in the neighbourhoods. This, of course, has the tendency of retarding the socio-economic value, the health and physical well-being of its residents. The study also examined some basic physical and health problems associated with the deplorable condition of the area. However, the followings are the policy implication of this paper. The area is ripe enough for extensive developmental programme which should focus on how to upgrade the physical condition of the area. This should aim at provision of decent and adequate housing units and healthy environment for the dwellers. The assistance of international bodies like the UNICEF and Centre for Human Settlement (UN-Habitat) can be requested in the area of infrastructures through the Urban Basic Service (UBS) programme. Also, provision of good drainages and water channels are recommended, particularly the execution of Ala River Channelization project so as to curb the incessant flooding that plagues the residents around the area.

Although effective and enforceable environmental policies are difficult to develop and implement in many Sub-Saharan countries including Nigeria, this appear to be a viable solution if the country must be environmentally secured. In this wise, the re-introduction of the old sanitary inspectors, locally called 'wolewole' is recommended as a sustainable strategy for any intended renewal and upgrading efforts to be efficient in the area. They are to be empowered with delegated authority to punish any culprit who violates environmental law and order. Along side with this, the people should be educated and trained through enlightenment campaign programmes whereby they get acquainted with the benefits of healthy environments. Meanwhile, the ongoing minimum wage increase should be extended to all and sundry so as to reduce the high rate of poverty that ravages the inhabitants of the study area.

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