Analysis of Housing Condition and Neighbourhood Quality
of Residential Core of Akure, Nigeria

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Abstract *The hearts of many cities in Nigeria are like island of poverty in seas of relative affluence, which does not require any professional skill in environmental studies to note the difference between residential environment and the overall physical structure of the central parts of big cities and their suburbs. Well-designed and relatively well-maintained buildings in the suburbs and other parts of these cities are inhabited by the affluent, the middle-class and the privileged. But the cores are where the majority of the urbanites live, under sub-humane conditions in unkempt environments. However, the examination of some of the variables that determine urban housing and neighbourhood quality as it relates to the city of Akure is the major thrust of this paper. The study sampled five neighborhoods in the core of the city in order to examine the problems using questionnaire administration, housing demographic and facility survey as well as physical observation as instruments for data collection. The results were analyzed with the aid of multiple linear regression models. It is observed from the research findings that poor housing system, lack of neighborhood facilities and insufficient household services contribute 52.3% significant impacts to the poor quality of the environment in the city´s center. It is however suggested that extensive urban renewal programm in the form of provision of basic services be carried out in the area, which should be supported with improved sanitation strategies for sustainable management of the area.*

Keywords: *Urban housing, neighbourhood quality, inner core, sanitary services, environmental facilities.*

1. Introduction

Contemporary West African cities are characterized by poor housing, water sanitation, and public health infrastructures. Shelter is universally recognized and acknowledged as one of the most basic human needs, second only to food. From time immemorial, mankind has had to adapt to hostile environment and building innovative shelters. Growing population and rapid urbanization has made housing problem a global issue, which both the developed and developing countries have to face, although with varying degree of severity.

Generally, housing condition can be defined as the totality of the state of the physical, environmental and the satisfaction level of a particular dwelling unit measured against some variables of livability at a particular time. Such variables include the age of dwellings, types of building, materials used for construction, variety and adequacy of facilities provided in the dwelling, and the mode of handling various aspects of housing construction such as site preparation, lying of foundation, construction of walls and roofing and the roof types (Omole, 2000; Owoeye, 2010). In Nigeria, there are regulatory measures formulated by government to manage housing development. Despite the existence of these measures, unregulated housing has created negative impacts in the national urban environments. Such impacts adversely affect the quality of buildings and the living environments. The problems, according to Ede el tal (2007) include poor condition of buildings, high building density, high occupancy rate, inadequate sanitary services, deficient public utilities, poor accessibility, unsatisfactory waste management systems, inadequate housing finance, lack of easy access to land, and high rent. The inner residential core of Akure is an epitome of urban decay. With high level of blighted features and practical poverty level of over 40.0%, the city center is replete with notable environmental problems ranging from slum and squatter settlements, through transportation and infrastructure problems, to low productivity, crime and delinquencies.

2. Literature Review

The work of Olanrewanju (1990, 2004); Olanrewaju and Akinbamijo (2002); Adedeji and Owoeye (2008); Owoeye (2006,

2010) and several other authors who worked on Akure urban development attested to the reality of the layout of neighbourhood of the inner residential core of Akure been generally appalling. The buildings are closely built and overcrowded. They experience varying degree of obsolescence, leaking roofs, cracked walls, broken windows and peeling paints with toilet and bathroom facilities either totally absent or inadequate and substandard. The land–use is largely residential and the buildings are of roomy apartments which, in most cases, have no approved plan. Contrary to planning law, there are no provision for open spaces and no well–defined property line for the area. The buildings are made of low quality materials like mud blocks, zinc or aluminum sheets, and wood or ordinary planks. This generally affect the durability of the buildings, while some were constructed without due regard for roads accesses, adequate air spaces, building lines and provision of conveniences and utility services. The existing infrastructure facilities and services like security, schools, hospital and water among others could not sustain the enormous helpless population of the area. Most of the facilities have over a long time been overstretched and put out of use without replacement, especially the pipe-born water supply The electricity supplied to the area is erratic and epileptic in nature due to lack of electric transformer equipment.

Beside these, non-conforming uses of land are prevalent. There are cases of grinding mills in the midst of residential houses, causing noise pollution and electric outages. Over-spilling of domestic activities are rampant as well as mixed and irrational uses of land. Refuse and sewage are disposed off openly near the residences as a result of non-availability of organized refuse dumping site. In most cases, bathroom and pit latrines are built outside the dwelling units with open roofs, thereby polluting the environment and make it susceptible to outbreak of diseases. The work of Olanrewaju and Fadairo (2003) on neighbourhood in Akure further corroborates the above submissions. In their research, they identified poor state of streets as a problem which does not give room for efficient evacuation of solid waste. Their study equally pointed out that only a few roads were tarred with side paved gutters, while roads in many other residential quarters were neither tarred nor provided with appropriate side drainages. The poor condition of roads in the high density residential neighborhoods of urban centers adversely affect the quality of housing in Nigeria as people cannot move from one place to the other with ease. In this wise, Oyesiku (2003) attributed incessant traffic congestion, awkward parking system and environmental pollution in many urban centers in Nigeria to continuous deteriorating condition of roads that slow down traffic. However, the critical examination of these identified problems facing housing and neighborhood quality of the inner residential core areas of Akure shall be the major focus of this paper, with the aim to proffer possible solutions in the form of policy recommendations.

3. Research Setting, Materials and Methods

Akure is currently the headquarters of Akure South Local Government and as well the capital of Ondo State, Nigeria. Its estimated population of 353,211 by the 2006 population census places the city in the category of a metropolitan urban center. However, the study concentrates on an inner residential core area of the city, which comprise of five major streets or neighborhoods including Araromi, Ojaoshodi, Odokoyi, Isolo, and Ijomu (see Figures 1a and 1b below). The land expanse of this area is about 3.6 square km with population figures of 43,191 inhabitants. The land-use in the area is largely residential with a few commercial activities around the CBD. The materials used for data collection mainly include direct observation, questionnaire administration, building demographic and facility survey. Secondary data like base map, population figures and administration of environmental management were sourced from various institutions, ministries and establishments. About 1306 buildings exist in the area, out of which 48 are non-residential, leaving 1258 as target population for the study. From this, a sample of 20.0%, amounting to 250 buildings was selected randomly for questionnaire administration. In selecting the respondents, every 5th house in the five streets involved was taken for interview, usually a household-head per building. The sample size used for this study was determined taking into consideration:

(i)   the level of confidence desired in estimating the sample size, z (a = 0.05, z = 1.96);
(ii)   the sampling error that could be permitted, e (± 0.06);
(iii)   the estimated true proportion of success, p (0.05).

The sum effects of slum variables examined on socio-economic status of respondents (x_1), physical environment (x_2) and health condition of the people (x_3) was calculated using multiple linear regression model expressed as $y = a_0 + \sum b_i x_i + b_2 x_2 + \ldots .b_n x_n + e$; where a_0 is constant while b_i, b_2 and b_n are model parameters. Owing to invalidation of some of the questionnaires due to inconsistencies observed in them, only 230 (out of 250 administered) were made available for the data analysis. This represents about 92.0% of the total expected responses and is considered suitable for the study.
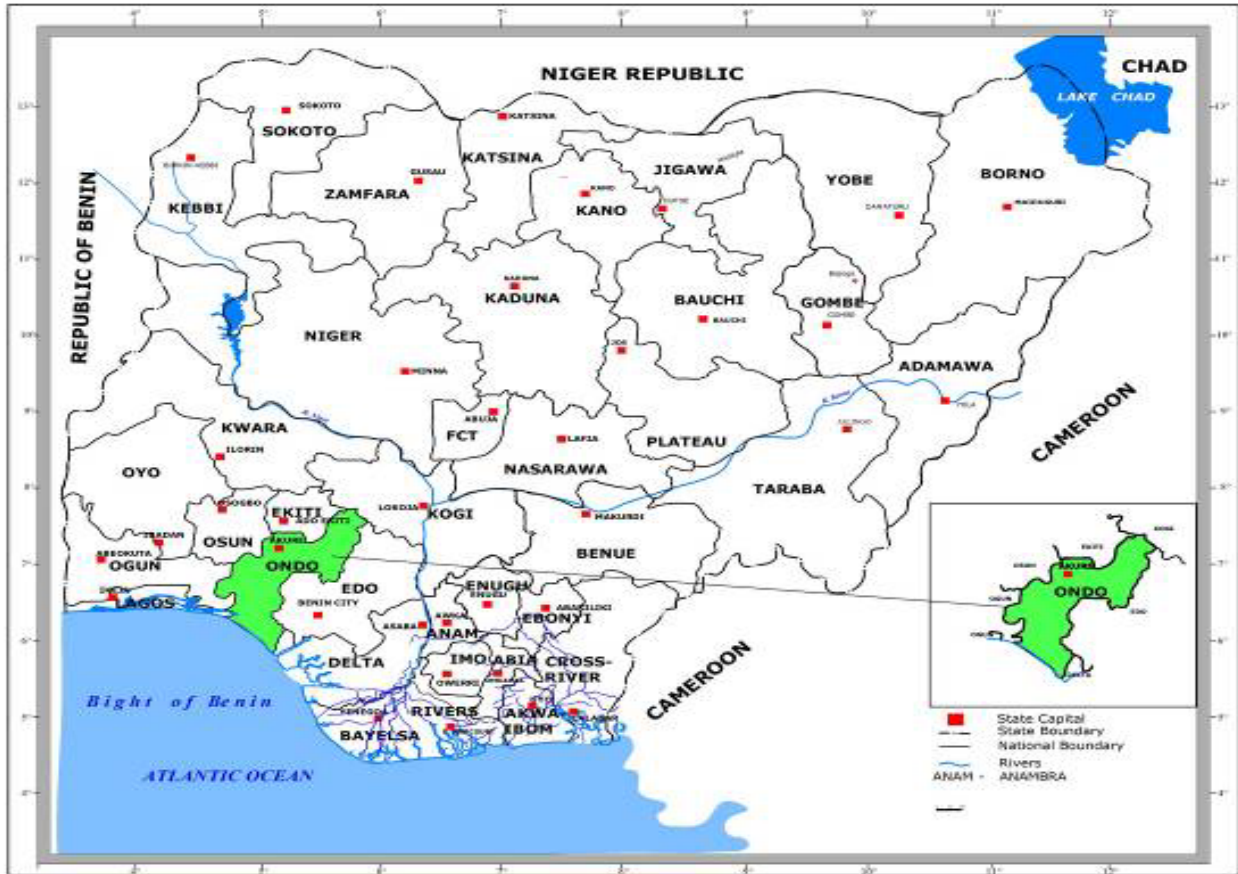
Figure 1a: Map of Nigeria Showing Ondo State
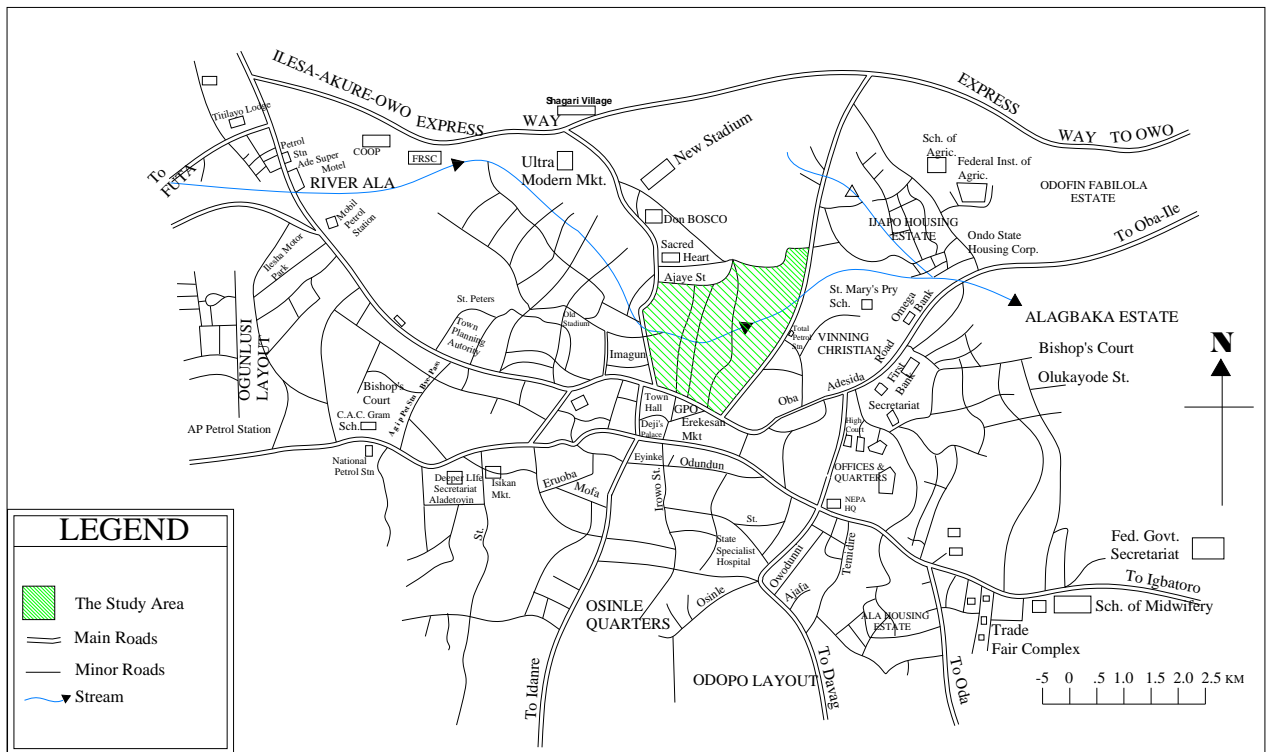Source: Federal Ministry of Statistics, Abuja

Figure 1b: Map of Akure showing the Study Area
Source: Author's Field Survey, 2010

4. Research Findings and Discussion

The result of research findings in this study are discussed around four subheadings which shows the prevailing condition of housing and neighbourhood facilities in the area as well as various environmental problems encountered.

4.1 Condition of Building Maintenance

The quality of housing in the study area, as shown in Table 1 below, is very low due to poor quality of building materials used for construction, the inadequate technology, and poor planning standard in handling the building components. Fadamiro (2002) argued that the average life-span of traditional mud building is 50 years. It therefore implies that quite a large proportion of housing stock in the study area are aged as over 80.0% of the sampled buildings have spent 30 years and above. Only 10.5% of the buildings are recent construction, which are just below 20 years. In his efforts to establish a correlation between relative habitability of housing and age, he affirmed that buildings erected in more recent time are more habitable than those built much earlier. Thus, a large number of the housing stock in the area has low relative habitability which has consequent effect on the state of health, socio-economic well-being and emotional stability of the residents (Adedeji and Owoeye, 2008; Oriye and Owoeye, 2010). Plate 1 shows the example of the condition of some of the buildings in the city core.

Table 1: Building Characteristics

Materials used for construction	Frequency	Percentage
(a) Walling – Mud/mud blocks	182	79.1
- Cement/sand-crete blocks	48	20.9
Total	230	100.0
(a) Roofing – Zinc/corrugated iron sheet	225	97.8
- Asbestos materials	05	2.2
Total	230	100.0
Structural Condition	35	15.2
Physically sound	80	34.8
Need minor repair	73	31.7
Need major repair	42	18.3
Old & dilapidated		
Total	230	100.0
Age of Building	11	4.8
Below 10 years	13	5.7
10 -19 years	18	7.8
20 –29 years	55	23.9
30 –39 years	133	57.8
40 years and above		
Total	230	100.0

Source: Field Survey, 2010

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

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

From the responses gathered, 97.8% of sampled housing units have zinc roofing material while only 2.2% has asbestos materials. About 79.1% are made with mud walling materials while about 21.0% have sand-crete blocks. This shows that the level of technology of building construction in the area is rudimentary. The assessment of maintenance level reveals that over 80.0% buildings need either minor or major repairs, out of which 18.3% are completely old and dilapidated. Only 15.2% exhibit evidence of physical soundness, while 62.6% roofing of buildings examined is patched and leaking.

4.2 Condition of Household (Sanitary) Services

-**Water Supply**- Figure 2 reveal hand-dug well as the major source of water supply in the area, which accounts for 85.7% responses. Only 14.3% have access to tap water which is reported as not regularly available. This situation does not guarantee adequate supply of good quality water in the area. Most of the well, located in unkempt surroundings, are without cover while the water is used raw without treatment. The rain water used as substitute during raining season has the possibility of being contaminated as majority of the roofing sheets are rust and dirty.
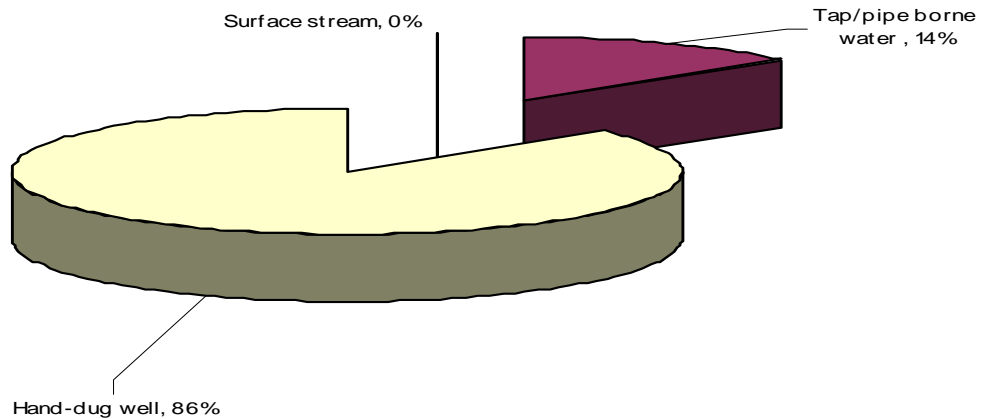
Fig. 2: Source of Water Supply
Source: Field Survey, 2010

- **Wastes Disposal**- The condition of both sewage and solid wastes disposal facilities are shown in Table 2. Over 65.0% respondents used pit-latrine for sewage disposal. Only 10.9% used modern WC system while 23.9% do not have sewage management facility at all. Alternative methods used are either through mobile system (4.8%), bush or dung-hills (11.3%), streams or drainages (7.8%) or squatting in the neighbouring buildings. This makes the area look dirty, ugly and stinking (see Plate 3). The method of solid waste disposal too is generally absurd in spite of government efforts to curb indiscriminate dumping of refuse. Although, over 65.0% 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. Some (1.3%) dispose theirs in open spaces, 11.7% through burning, 1.7% at road sides and drainages where nobody cares for them. Such become comfortable breading grounds for rodents, flies, rats, mosquitoes and other dangerous animals that can contribute to the spreading of diseases and other related hazards in the environment. For example, 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% respondents. Clear evidence of this situation can be seen in Plate 2.

Plate 2a: Indiscriminate dumping of Refuse in drainages
Source: Field Survey, 2010

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

Liquid wastes too are poorly managed. Waste water from kitchen, bathrooms and laundries are not properly channeled into drainages. Standing water all over 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 wall of many buildings is to experience terrible odour of urine disposed here and there by the inmates and passersby. All these create ugly look of the environments and makes it unattractive. As a result of these inhumane conditions, about 60.0% of the respondents are willing to quit the area to better places within the city.

- **Bathroom**- A good number of sampled houses has bathroom facility, only that they are rather substandard or inconveniently located. About 58.2% of the sampled buildings have bathroom within, but only 4.3% are self-contained while 53.9% are shared among several households which in most cases are being over utilized. About 31.7% have theirs outdoor, of small enclosure usually made of bamboo, rusted iron-sheets or planks; while the rest do not have provision for it at all. Such people become squatters in neighboring buildings. Plate 3 shows the condition of some of the bathroom in the study area.

Plate 3: Bathrooms and Pit Toilets built outdoor in the city core
Source: Field Survey, 2010

- **Cooking Spaces**- kitchen facilities are provided, only that few (5.2%) of the sampled buildings enjoyed the facility as self-contained while 63.0% have it as shared facility with different households. About 28.3% have theirs outside, usually

at the backyard while 3.5% do not have any. The use of firewood and charcoal for cooking are rampant in the area, except in few cases where kerosene stoves are being used as supplement.

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	10.0
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

4.3 Condition of Neighbourhood Facilities

-Electricity Supply- As shown in Table 3, about 90.9% of the sampled respondents depend solely on PHCN's supply while 1.7% used self-generating plant to supplement their source of light supply. Only 7.4% indicates no other source of light than hurricane lamps. In the area of regularity, about 89.6% indicates erratic supply of light in the area. This problem is more severe and chronic in the study area, probably because of low caliber of people living in the area who may not be politically influential either to secure good transformer or get the attention of the government to their aids.

- Road Accessibility*:* Many of the houses in the study area were built without proper provision for access roads or garage facilities. However, the survey revealed that 68.3% of the buildings are accessible by road out of which 32.2% are not tarred while 29.6% gain access to their dwellings only by foot-paths. Such areas need attention for proper accessibility. Even few that are tarred, some are becoming bad and need rehabilitation with functional side-way drainages.

Table 3: Condition of Neighbourhood Facilities

Variable	Frequency	Percentage
Electricity Supply (Source)		
NEPA (Now PHCN)	209	90.9
Self generating Plant	4	1.7
Hurricane Lamp	17	7.4
Total	230	100.0

Electricity Supply (Regularity)		
Constant / Regular	7	3.0
Erratic / Irregular	206	89.6
None	17	7.4
Total	230	100.0
Road Accessibility		
Yes (Available)	157	68.3
No (Not available)	73	31.7
Total	230	100.0
Condition of Access Roads		
Tarred	88	38.3
Not tarred	74	32.2
Foot-path	68	29.6
Total	230	100.0

Security & Heath Facilities				
Responses	Security Facility		Heath Facility	
	Frequency	Percentage	Frequency	Percentage
Available	1	0.4	60	26.1
Not Available	229	99.6	170	73.9
Total	230	100.0	230	100.0

Source: Field Survey, 2010.

 - Security, Education and Health Facilities*: The area has no police post situated within the neighborhood as indicated by 99.6% of the respondents. The closet police station is about 3-4km away from the area. The effect of this is seen in the responses of the people to the question on regular occurrence of burglary in their neighborhood. About 63.0% indicated "occasionally" while 3.1% indicated "often" (i.e. regularly), giving a total of 66.1%` that witness occurrences of burglary at one time or the other. Only a few numbers has not witness it as at then. Educational facilities available in the area are only limited to preliminary level of Nursery and Primary schools, except Don Bosco School of Technology which is not even functioning as before. Most of these are privately owned by individuals and the available ones cannot sustain the teeming population of people in the area. The state of health facilities too is far below satisfaction, which is either farther away from their dwellings or totally absent within their neighborhood. About 73.9% of the respondents actually indicated non-availability of health institution within their reach. Only 26.1% are very sure of having any within their neighborhood, which majority are mere chemist shops or at most, health clinic.

4.4 Environmental Problems Experienced and Residents' Interest in the Area

Various environmental related problems experienced in the area are shown in Figure 3 below. Their suggested causative factors include inadequate sanitary facilities as suggested by 57.4% respondents, poor water supply by 14.8% respondents, and dirty environment by 14.8% and overcrowding by 12.2% while 0.9% respondents suggested lack of good drainage system.
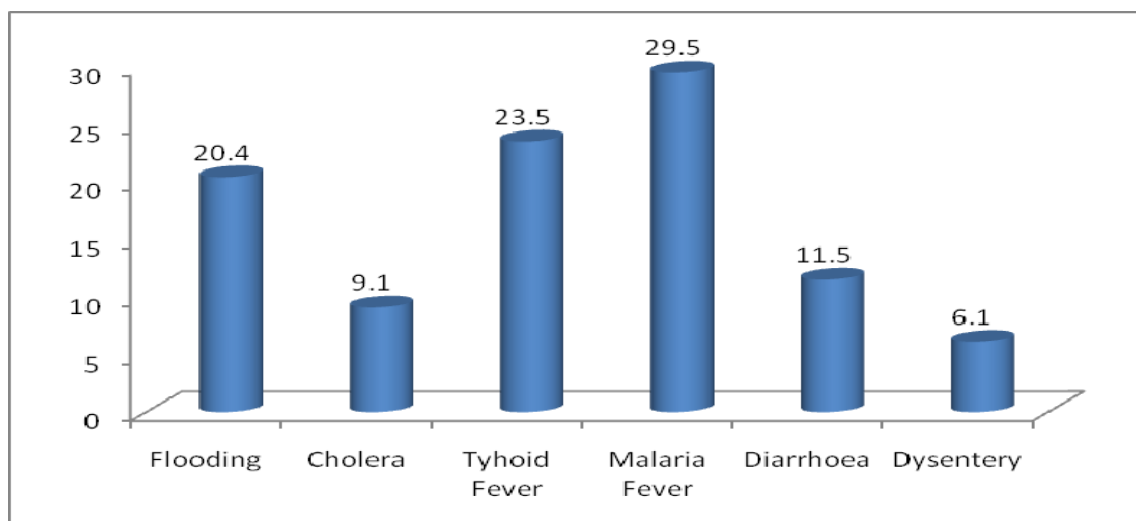
Figure 3 Environmental Related Problems in the Study Area.
Source: Author's Field Survey, 2010

In investigating the interest of the people to continuing living in the area, about 59.1% indicates their willingness to move out on several conditions. Some (29.1%) will move as soon as their incomes improve. About 22.6% wish to move because of poor environment and 7.0% because of old and dilapidated condition of buildings in which they live. The remaining 40.0% will not like to move out of the area because some live in their personal buildings (28.3%), some because of free accommodation they enjoy (5.2%) while 3.0%, 2.6% and 2.2% are not willing because of closeness to place of work, low rentage compare with other areas, and family ties respectively.

The regression analysis computed to validate the relevance of poor housing system and inadequate facilities to low quality of neighborhood show a positive significant relationship of 52.3%. It implies therefore that the area is a typical location of slum since it exhibits degraded features as examined in the study.

Table 4: 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. Policy Implications and Recommendations

The followings are the policy implications of this paper based on major findings in the study. The area is ripe enough for extensive developmental programm 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 infrastructural provision through Urban Basic Service Programm (UBSP). 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, but this appear to be a viable solution if a country must be environmentally secured. In this wise, the re-introduction of the old sanitary inspectors is recommended as a sustainable strategy for any intending renewal and upgrading effort to be efficiently carried out in the area. Besides, the people should be educated through enlightenment campaign programm whereby they get acquainted with the benefits of healthy environments. Since poverty has the tendency to breed such activities that lead to slum formation and growth, the ongoing minimum wage increase is hereby recommended to be extended to all and sundry so as to reduce the high rate of poverty that ravage the inhabitants of the area.

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