HOUSING CONDITIONS AND RESIDENTS' HEALTH IN THE RURAL AREAS: A FUNCTIONAL INTERPLAY IN IJEDA AND ILOKO, OSUN STATE, NIGERIA

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ABSTRACT

The main aim of this study is to examine the functional interplay between housing condition and health of the rural dwellers focusing on Ijeda and Iloko Ijesa. The data for the study were sourced from both primary and secondary sources. The primary source of data include the administration of structured questionnaires to 25% of the residents of the two communities using multistage and stratified systematic sampling methods. A total of 234 questionnaires were administered on the major stakeholders in the study areas. The secondary data were sourced from the local government council office, journal, textbooks, magazines and National Population Commission office. The study revealed that the age of the building was found to have significant relationship with the health of residents in Ijeda; while the reverse was the case in Iloko. The study further revealed the occurrence of malarial with 49.3% and 57.3% in Ijeda and Iloko respectively as the most reported ailment in the two communities .This is followed by dysentery with 19.6% and 20.8%; while typhoid and cholera were also reported in the two communities. Significant relationship was found between building type and health of the rural dwellers in Iloko than Ijeda; while occupancy ratio had effects on residents of Ijeda. The paper therefore recommends among others that the general public should be enlightened about the causal relationship between housing conditions and health of the residents, enforcement of development control, designing of master plan and implementation of housing policies.

Keywords: *Traditional compounds housing conditions, residents health, functional interplay, rural communities.*

1.0 INTRODUCTION

Housing is one of the basic necessities of life; it plays a vital role in the human society. Housing is not only a shelter, but part of the fabrics of neighborhood life and of the whole social milieu (Ajanlekoko, 2001; Adaramo, 2005; Ayobolu, 2010). According to the 1948 Universal Human Right (UHR), everyone has the right to a standard of living, adequate for the health and well being of himself and of his family including housing, medical-care and cloth. In achieving these, housing is seen as the central hub of everyday living. However, it has environmental unit with a profound influence on the health efficiency, social behaviours, satisfaction and general welfare of the community (Ogunshakin, 2010). It reflects the social, cultural and economic value of a society, as it is the best physical and historical evidence of civilization in a country, therefore; many housing conditions can have a severe impact on the health of the occupants, particularly the young and the elderly person (Alagbe, 2011). Also, housing conditions are determinant for quality of life and wellbeing (Lawrence, 2004). The multiple component of residential environment, including outdoor areas should be considered in term of their potential and effective contribution to physical, health, social and psychological wellbeing. Hence, healthy housing environments provide decent livable dwellings, clean surrounding of minimum acceptable standard of space and environment (WHO, 1998). Scientific evidence gained in the past decades have shown that various aspects of the built environment can have profound measure on both physical and mental health outcomes, particularly adding to the burden of illness among the residents, (Wahab 2007, Adesanya, 2014). This is more pronouncing in the rural areas where majority of residents do not have access to qualitative housing and limited access to health care. In Nigeria, poor quality and inadequate sanitation mismanage or unmanaged waste and insect infection which are all correlated with rural poverty and lack of environmental services. As housing is a complex issue, it is intended that the development of a set of core indicators for housing and health should be investigated

(WHO, 2003). Hence this study is interested in determining the nature and relationship between housing and health of the rural residents with a view to evolving physical planning framework for future policy recommendations.

2.0 CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Concept of Habitability

The concept of habitability reveals the level of satisfaction derived by the tenant or residents. The concept of habitability shows that housing is more than shelter. The components of housing are the people, the shelter, the institutional arrangement and environmental. These four components interact actively to produce the level of satisfaction in turn determines the level of housing needs in a given place (Onibokun, 1985). However, habitability as used in the system approach assure the fact that what constitute habitability varies according to the habitability of a housing at a particular point in time can only be defined meaningfully in the relative terms of sense rather than to the absolute sense (Alalade, 2008). Considering man who is the occupant of the house for instance, some of his socio-economic attributes such as marital status, family size, income level, the culture of the group to which the occupant belong needs to be examined. There is also need to consider whether there is overcrowding of people living together this affect privacy and of course satisfaction and productivity. Considering the shelter aspect of the concept there is need to study the adequacy or otherwise of the physical design of the house in term of ventilation, number of rooms, size of rooms, toilet and storage facilities and enhancement of privacy of individual and family. Considering the institutional arrangement, this composed of the management and maintenance of housing, for example we can talk of about how reliable the essential services such as water, electricity, access road and protective services such as security, mortgage services, and cleanness of the neighborhood by authority concerned will enhance healthy living. Considering the environmental sub-system of the concept, this tends to emphasize the role of physical planning housing. For instance we need to consider whether the houses are located in the slum or square environment. Also the density is important, whether high, medium or low density. There is need to know whether there is open space, parking space, recreation, good roads, shopping centers and other environmental amenities likes school, post office, club, cinema, night club, among others. This is one of the most outstanding environmental problems associated with the pattern of residential land in rural areas and the predominance of sub-standard housing built largely in areas having no accessible streets.

Several literatures have affirmed the inextricably linkage between health and housing of any nation. The evidence base for the complex effect of housing condition and health of occupants is growing they include work of Lowry, 1991; Ranson, 1991; Incichen, 1993; Burridge and Ormandey, 1993; Raw and Hamilton, 1995; Feedler, 1997, Dun and Hayes, 2000; Fuller, Thomson et al, 2002; Mackenbach and Howden-chapman, 2000; Bonne Foy et al 2003; Evan 2003; Thomson et al 2001; Shaw, 2004 and WHO Regional Office for Europe, 2004.

Egunjobi (1997) Observed that a consideration of health issue in housing has been recognized in the urban and rural development field. The importance of this association between housing and health shows itself in the value it places on the promotion and maintenance of good quality of life and emphasis it places on preventives rather than therapeutic measures.

Lately, the worsening plight of the hundreds of millions of people living in an appalling shelter conditions has been recognized as one of the major challenges facing mankind. This problem further compounded by the high rate of poverty which grouping rate of urbanisation continues to stress and deteriorating the existing infrastructure in sub-Saharan African. Housing and health problem in the developing countries are divers, complex and particularly acute in urban centres due to pressure of insanitation. The resultant effects of the pressure of insanitation coupled with high population growth are manifested in housing problems among which are slum and squatter housing an offshoot of overcrowding, homelessness and substandard living environment which has negative effects on people's health (HABITAT, 2005 and Nwaka, 2005).

Housing conditions has major public health importance. Healthy housing is one that satisfies the basic physiological and psychological needs of human being and that

do not expose him to environment hazards (WHO; 1967). The world bank estimates that over 50% of the third world population live in conditions of extreme poverty and that nearly one quarter of the world's population live in shelter that do not satisfy the basic needs of housing (Work Bank 1990; WHO; 1998).

Traditional housing and health issue associated with ill health affect developing countries and the rural poor most. The impact of unhealthy accommodation exceeds that of modern health hazards by a ratio of 10 for Africans, 5 for Asians countries (except china) and 2.5 for middle cast (Agbola et al; 2007). Water borne disease caused by inadequate water supply and sanitation impose on especially large health burden in the African, Asian and Pacific regions. In Indian alone more than 700,000 children under five years old die annually from diarrhea. In African alone, malaria associated with stagnant water and clogged storm drains are responsible for about 800,000 deaths annually (Agboola, 2007). Conversely modern threat to human housing and health prevail in industrialized countries that have managed drastically to reduce the exposure of their citizens to traditional housing and health environmental hazards (World Bank, 2001).

Linkage also exists between deficient infrastructure and the poor health outcome of Nigeria citizens, as posited by Arimah (2002) major implications of the patterns of development as seen by the third world nations concern the need to provide adequate infrastructure. The rapid pace of urbanization in developing countries would presuppose an increase in the provision of infrastructure. This has not been the case as many emerging cities lack the financial resources and institutional capacity to provide even the most basic infrastructural facilities. Inadequate infrastructure is widely represented in term of inadequate supply of potable water, sanitation and housing which contribute to the risk of human health and the environment in general. Also, as with many health determinants the quality of accommodation is strongly related to income. Minimizing the effect of poor housing remains a major challenge for national government, local government and other agencies. The inability of low income earners to find decent housing that is affordable contributes significantly to national health care cost and health burden. In the process of meeting their shelter need, the low income group look for less expensive housing that is most often than not characterized by deplorable physical conditions and located in environmental hazardous neighbor some low income group cannot of themselves afford any type of accommodation, therefore, to avoid home laziness, they often resort to moving in with friends or relatives, many of who live in substandard housing plagued by crumbling plaster, leaking roofs, plumbing problems, poor wiring, and hazardous environment, as a result of this number of people per room increase leading to mental and emotional stress, respiratory diseases and meningitis (Patrick et al, 2003 and Nwaka, 2005). In order to meet the demand for quality housing and health in Nigeria; Agbola (1998) concluded that housing development is a long process involving a plethora of activities ranging from land assemblage to actual construction of building. Each of these activities requires the formulation of policies, setting up of strategies, plans and programs of implantation. In all of these activities just as in all human endeavours, it is always desirable to set up machinery for carrying out policies and executing strategies.

3.0 THE STUDY AREA

The study areas are Located under Oriade Local Government Area of Osun State, South-West Nigeria. Ijeda-Ijesa lies between $7^0$40'. South East of Ijebu-Jesha, the head-quarters of the Local Government and Longitude $4^0$50'. IlokoIjesa on the other hand is about 5km to the Local Government headquarter and fall between latitude $7^0$36' North and $7^0$40' North and longitude $4^0$84'. The study areas have tropical continental climate characterized with moderate temperature and heavy well distributed rainfall throughout the year, the mean monthly temperature is about 27^0C with little variation. The inhabitants of Ijeda and Iloko are into a variety of economic activities that are directly based on the exploitation of land, therefore; a very large proportion of working population engages in primary activities such as hunting, craftworks and the likes.

4.0 RESEARCH METHODOLOGY

Data for this study were generated from both primary and secondary sources. The primary data were used to solicit information from the sampled population in the study areas through the use of structured questionnaires. (234) questions were administered in the two communities. Ijeda-Ijesa and Iloko-Ijesa.

Twenty five percent (25%) of the occupied houses in each of the study areas were chosen. This translated to one hundred and thirty eight (138) houses in Iloko and nine six (96) houses in IjedaIjesa, which makes a total of two hundred and thirty-four (234) houses from both villages. Multistage Random Sampling Techniques was used to stratifies the houses in each of the two villages into different strata. Iloko-Ijesa was divided into twelve (12) strata using compound names and Ijeda-Ijesa was divided into eight (8) strata. A systematic random sampling method was adopted in the administration of questionnaires which was based on the principle that one in every three building is selected others subsequently flows in a sequential pattern. Household head were interviewed. The in-depth interview guide were also adopted in obtaining information from the health centres to know the hospital records, drug use and health facilities patronage. Simple tabulation methods were used for the Analysis of the collected data and the hypothesis was tested using chi-square test.

5.0 RESULTS AND DISCUSSIONS

The study discuses the relationship between housing condition and health of the residents of the study areas using indices such as type of building, age areas using indices such as type of building, age of building wall materials, roofing materials, flooring type and others.

Table 1: Types of building in the study area

Building type	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Bungalow	112	81.2	85	88.5	197
Story building	25	18.1	10	10.4	35
Trad. Comp	1	0.7	1	1.0	02
Total	138	100	96	100	234

Source: Author field survey, 2015.

Table 2: Age of building

Age of variation	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
<5	7	5.1	18	18.8	25
6 - 10	20	14.5	29	30.2	49
11 - 15	34	24.6	20	20.8	54
16 - 20	17	12.3	14	14.6	31
21 - 25	47	43.1	11	11.5	58
25 above	12	8.7	4	4.2	16
No response	1	0.7	-	-	1
Total	138	100	96	100	234

Source: Author field survey, 2015.

As indicated in table 1, 84.9% of the sampled houses from the two communities are bungalow (81.2% in Ijeda-Ijesa, 88.5% in IlokoIjesa). The traditional compound accounted for the least with 0.7% and 1.0% in the two community respectively. Conclusively the two communities are considered to be purely residential communities.

As shown in Table 2, only 6.4% of the total buildings are 25 and above years of age while buildings that had their ages ranging between 21-25 years had 43.1% in Ijeda and 11.5% in Iloko. The building with 16-20 years of age had more than 22% in the two communities. Owing to the construction methods and materials used, it was discovered that buildings do not last long in the rural communities. Most of these buildings are structurally weak and could promote disease carrying vectors such as mosquitoes and bacteria.

Table 3: Wall material

Materials	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Concrete	55	39.9	42	43.8	92
Block mud	77	55.8	51	52.1	128
Woodmaterials	5	3.6	2	2.1	7
No Response	1	0.7	1	1.0	0.2
Total	192	100	96	100	234

Source: Author field survey, 2015.

Table 3 shows that about 54% of the building in the two communities were built from mud. This is closely followed by concrete block building which account for 39.9% in Ijeda and 43.8% in IlokoIjesa. The wood building however account for the least in the two communities with 3.6% in Ijeda and 2.1% in Iloko. It could however be deduced from analysis that if not properly taken care of building that were built from the mud could harbor disease vectors and rodent which are diseases carriers.

Table 4: Roofing Materials

Roofing Materials	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Corrugated iron sheet	98	91.0	71	74.0	169
Concrete	8	5.8	-	-	08
Aluminum	24	17.4	16	16.7	40
No response	7	5.1	9	9.4	16
Total	138	100	96	100	234

Source: Author field survey, 2015.

The data from table 4 shows that corrugated iron sheets were predominantly the roofing

materials in the study area; 71.0% in Ijeda Ijesha and 74.0% respondents in Iloko Ijesha. This is however followed by Aluminum with 17.4% in Ijeda and 16.7% in Iloko. Concrete roofing materials was the least with 5.8% respondents in Ijeda Ijesha. The analysis implies that the two communities have access to similar building materials possibly due to geographical reasons.

Table 5: Flooring Material

Flooring materials	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Cemented	130	94.2	71	74.0	201
Not cemented	6	4.3	23	24.0	29
System	2	1.4	2	2.1	4
Total	138	100	96	100	234

Source: Author field work, 2015.

The data regarding the flooring materials revealed that 94.2% in Ijeda-Ijesa and 74.0% in IlokoIjesa had cemented flooring. In addition 4.3% of the respondents in Ijeda-Ijesa and 24.0% in Iloko-Ijesa reported not cemented flooring. This is as indicated in Table 5.

Table 6: Ceiling Material

Flooring materials	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Asbestos	118	85.5	59	61.5	177
Sack	3	2.2	6	6.3	09
Wood or plank	15	10.9	24	25.0	39
Not available	2	1.4	7	7.3	09
Total	138	100	96	100	234

Source: Author field work, 2015.

The findings according to table 6 shown that 85.5% and 61.5% of the respondents in Ijeda and IlokoIjesa respectively had asbestos ceiling materials. This is followed by wood or plank with 18% in the two communities. Sack ceiling materials however had the least percentages.

Table 7: Occupancy Ratio

Occupancy Ratio	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
1 – 5	18	13.0	72	75%	9.0
6 – 11	101	73.2	11	11.5	11.2
12 – 17	14	10.1	7	7.3	21
23 and above	2	1.4	4	4.2	06
Total	138	100	96	100	234

Source: Author field work, 2015.

Table 7 revealed that majority of building in Ijeda Ijesa accounting for 73.2% accommodates between 6 – 11 people while 13.0% of the building accommodate between 1 -5 peoples. The building where 23 and above people are living however account for the least with 1.4%. In Iloko Ijesha majority of the building with 75.0% accommodates between 1-5 persons while 11.5% of the buildings accommodates between 6-11 people. 2.1% of the building however has the least by accommodating between 18-23 people. It could be deduced that in the two communities majority of the building accommodating between 1-5 and 6-11 people.

Table 8: Place of Defecation/Toilet

Place of defecation/Toilet	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Bush around the house	16	11.6	21	21.9	37
Public toilet	48	34.8	31	32.3	79
Private toilet inside/ Outside toilets	73	52.9	40	41.7	113
Private toilet in someone else's compound	-	-	2	2.1	02
No response	-	0.7	2	2.1	03
Total	**138**	**100**	**96**	**100**	**234**

Source: Author field work, 2015.

Typical of most rural communities, toilet facilities were not well developed in the study areas. Table 8 shows that 16% in Ijeda and 21.9% in Iloko use bushes around there houses for defecation. Also, 34.8% and 32.3% of the respondents in the two communities use public toilets. Both cases have serous implication for the health of the residents. The respondents in the study area also share toilet facilities among the households which is also dangerous for the health of the residents.

Table 9: Cleaning water available in the toilets

Cleaning Water	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Yes	45	32.6	35	36.5	80
No	87	63.0	58	60.4	145
No response	6	4.3	3	3.1	09
Total	138	100	96	100	234

Source: Author field work, 2015.

Water is also a common problems in the rural areas, which has a negative implication on the health of the residents. This is reported in table 9, 63.0% of the respondents in Ijeda Ijesa and 60.4% in Iloko Ijesa have no access to clearing water in their toilets. This constitutes a danger to healthy living of the residents.

Table 10: Prevalent disease

Prevalent diseases	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Malaria	68	49.3	55	57.3	123
Typhoid	7	5.1	1	1.0	08
Dysentery	27	19.6	20	20.8	47
Cholera	5	3.6	1	1.0	6
Diarrhea	-	-	2	2.1	2
Other	30	22.4	13	13.5	43
Total	138	100	96	100	234

Source: Author field survey, 2015.

Table 10 indicates that malaria was the most reported disease condition in the two communities with 49.3% in Ijeda and 57.3% in Iloko Ijesa respectively. This is followed by dysentery which account for 19.6% in Ijeda and 20.8% in Iloko Ijesa. There are also cases of typhoid which has 5.1% in Ijeda and 1.0% in Iloko Ijesa. Other identified disease which account for 22.4% in Ijeda and 13.3% in Iloko including rashes, chicken pox, tuberculosis and some of the water borne disease like onchocerciasis, scabies, and roundworms. The high incidence of malaria in the two communities could be due to poor sanitation and inadequate facilities such as window net to safeguard the resident from mosquito bites.

Table 11: Cause of Disease

Cause of Disease	Ijeda		Iloko		Total
	Frequency	(%)	Frequency	(%)	
Poor water	6	4.3	9	9.4	15
Bad sanitation & Hygiene	22	15.9	25	26.0	47
Crowding	2	1.4	-	-	2
Bad Food	11	8.0	3	3.1	14
Mosquito bite	55	39.9	40	41.7	95
Polluted Air	18	13.0	3	3.1	5
Change of season	14	10.1	4	4.2	18
Others	8	5.8	9	9.4	17
No response	2	1.4	3	3.1	5
Total	138	100	96		234

Source: Author field survey, 2015.

Table 11 reveled that mosquito bite was the most common cause of diseases in the study areas and this account for 39.9% and 41.7% respectively in the two communities. This is followed by the poor sanitation and hygiene with 15.9% and 26.0% respectively. It was discovered from the research that these diseases are related to the condition of the dwelling. The deplorable condition of some of the houses permits the flourishing of diseases vector such as mosquito and bacteria which are the most common cause of ailment in the study area.

HYPOTHESIS TESTING

Ho: There is no significant relationship between housing condition and health of the residents

Hi: There is significant relationship between the housing condition and health of the residents.

Table 12: Chi square test

	Ijeda		Iloko		TOTAL	
	X2	DF	VALUE	X2		
Age of building and health of the resident	41.917	20	.003	25.934	25	.411
Building types and health of resident	4.285	8	.831	75.670	10	.000
Occupancy ratio and health of rendition	14.635	4	.005	7.654	4	.105

Source: Author's field survey 2015

As indicate in the table 12, pears on chi-square was calculated on the variables that directly affect the health of the resident and the housing condition. The table revealed that age of the building in Ijeda affects the health of it residents (p value <0.005) and the reverse was the case in Iloko (P value > 0.05).the hypothesis is therefore accepted in the case of Iloko that there was no significant relationship between the housing condition with reference to the age of building and the health of the resident; while in Ijeda the null hypothesis was rejected which indicate that there is significant relationship between the housing condition with reference to age of the building and the health of the resident in Ijeda. Also building type was estimated to have strong effects on the health condition of residents in Iloko Ijesha than the residents in Ijeda. The occupancy ratio and health of resident was seeing to have direct relationship in Ijeda (P <0.05) whereas in Iloko the analysis revealed no significant difference between numbers in a household and the health of the resident on such house (P < 0.05). This implies that in totality there is a significant relationship between the housing condition and the health of the residents in the study area.

6.0 CONCLUSION AND RECOMMENDATION

Decent housing is one of the basic needs of every individual, the family and the community at large. This study has established that good health is crucial for a better standard of living. Communities should therefore be encouraged to adopt method of simple but healthy and environmentally friendly building with a view to assist in the achievement of the millennium development goal and contribute to the attainment of the vision 2020 of making Nigeria one of the first twenty most developed economy of the world.

The following measures are recommended for policy implication on housing and health of the rural dwellers. Concerning the high rate of disease especially malaria that is affecting the residents of the study areas, there is the need for educating the general public about the causal relationship between housing condition and health living. This will go a long way to improve the health of the people. This could be done by the local government through the sanitation workers. It is evident that the deplorable condition of the houses in the study areas implies that the local planning authority was not effective. The development control unit of the local government should properly enforce the building codes right from the plan approval stage up to the implementation stage to ensure that building are properly constructed according to the approved specifications. Government at all level should also make soft loans available through mortgage bank to rural residents for constructing healthy housing units. Such loan should be monitored and properly processed to prevent misuse and mismanagement. Such a loan could also be procured to rehabilitate and renovate ageing buildings to required standard. It is also obvious that the impact of Nigerian housing policy is not properly felt in the rural areas. Government at all level should work together to design and implement housing policies that will ensure easy access to affordable, adequate and safe housing for all. One of the most important tools of settlement planning is the master plan. The two villages have no master plan that will specify the direction of development and give specification for structures in the towns. This led to unregulated and uncoordinated development which gives allowance for the erection of substandard and unhealthy buildings in dirty environment, it is imperative that master plan be designed for the towns to regulate their growth and direct their development.

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