

Evaluating Public Housing Performance: Providing a Basis for Residential Quality Improvement in Nigeria

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Abstract: The failure of many public and private housing projects in Nigeria has been attributed to the non-consideration of relevant parameters in qualitative housing improvement. Also, available policy options for residential development-particularly those relating to government built housing, lack users' inputs on relevant criteria for evaluating the performance of such housing programs. By considering existing public housing in Lagos, this study examines housing performance in other to provide a rational for residential quality improvement in Nigeria. The study employed a survey of 1,022 households selected from four (representing 10%), of the existing forty public housing estates in Lagos. Residential quality was determined using twenty variables rated and ranked based on their calculated weight values (TWV). The results show that the performance of public housing was significantly determined by the quality of the dwelling units as well as the quality and adequacy of basic facilities like water, roads, drainages and electricity. Other relevant determinants of housing performance identified include; adequacy of natural ventilation and lighting, noise level within neighbourhood, privacy level, adequacy of space and neighbourhood quality among several others. The results further show some inter-relationships among the pairs of variables evaluated for this study; thus suggesting that these variables are basic determinants of housing quality and therefore relevant in assessing residential performance. The understanding of the nature of these variables is thus a necessary prerequisite for developing an effective housing programme for the people. The study underscores the need to consider relevant parameters emanating from the users for housing improvement and development in Nigeria.

Key words: Public-housing • Performance • Quality • Tenant's ratings • Residential-improvement • Nigeria

INTRODUCTION

Housing as a unit of the environment has a profound influence on the health, efficiency, social behavior, satisfaction and general well-being of the community. Adequate housing contributes to the attainment of physical and moral health of a nation and stimulates the social stability, the work efficiency and the development of the individual [1,2]. Providing adequate housing is one of the social responsibilities of every national government towards its citizens. To accomplish this, efforts have been made in the past through several options to facilitate effective housing delivery. One of such efforts is the government funded public housing system. In spite of these efforts, the problem of inadequate housing-particularly among the urban poor in most developing nations is becoming more aggravated.

Available studies have shown that the provision of appropriate housing for the urban poor constitutes a

major challenge to most African countries and the developing nations in general [3, 4]. There is no doubt that the housing crisis experienced in most developing countries is no longer a subject of denial. With the rural population now shifting to the urban areas, the reality is the growth of urban slums and congestion in the cities [5]. A UN-Habitat estimate had indicated that almost a billion people already live in slum conditions around the world and that slums are growing dramatically within the world's poorest cities; particularly, in Sub-Saharan Africa and Asia [6].

Like any other developing country, Nigeria also shares in these numerous urban housing problems. The reality of this scenario is that most urban areas are characterized by inadequate and degraded urban amenities such as; poor and substandard housing, slums and deplorable environment and absence of many other social facilities required in supporting the growing population [7]. Considering that adequate and decent

housing is a basic right of every individual, not much has been done through research to identify relevant parameters that could contribute effectively towards its improvement in Nigeria. Previous housing improvement and renewal efforts have not produced much significant result [8], while several attempts to provide additional housing stock have hitherto failed due to the non-consideration of relevant parameters that could facilitate housing improvement. Rather, criteria guiding housing designs and development have been based on developers' standard, with little or no regard for direct inputs from the target users [9].

Since public housing occupies a unique position in the housing delivery system in Nigeria, there is the need to identify those criteria required to judge the performance of such housing projects. This study therefore aims at highlighting public housing development as a social good which should be conceived and developed using appropriate criteria derived from the viewpoints of the target users. The main objective of this study is to evaluate the performance of public housing in Lagos, Nigeria, using tenants' ratings of residential quality. The outcome of the study will serve as feedback to housing developers in the development and improvement of public housing system in Nigeria.

Quality Indicators in Housing: There had been some conceptions by scholars indicating that housing is a factor for assessing human development and societal civilization [2, 10, 11]. Nevertheless, housing has been conceived as a multi-dimensional package of goods and services; extending beyond shelter itself but having diverse social, economic, cultural and physical attributes [1]. The United Nations [12] asserts that the adequacy of basic housing amenities is equally important to the provision of shelter itself.

Since housing is an issue that touches on the life of individuals as well as that of the nation; a great importance is ascribed to the role it plays in engendering human comfort by both nature and society. Therefore, the need to appreciate the relevance of a habitable (qualitative) housing requires an understanding of the concept of 'quality'. Thus, according to Onion [13], quality is a mental or moral attribute of a thing which can be used when describing the nature, condition or property of that particular thing. Mc Carry [14] noted that reaching a definition of quality depends not only on the users and their desires, but also on the product being considered. In their submissions, Anantharajan [15] and Olayiwola *et al.* [16] viewed quality as a product of subjective judgment

which arises from the overall perception of the individual towards what is seen as the significant elements at a particular point in time. The views expressed above suggest that quality can be influenced by several factors and people's understanding about the concept of quality differs; this will ultimately determine their views about residential quality. An individual opinion or concept about quality can therefore not be used as a basis for determining the housing quality for others.

In assessing the quality or suitability of housing [17] was of the view that quality in housing is a measure of the acceptability at a given time and place and a given set of cultural, technological and economic conditions. Quality therefore reflects the values people appreciate and it is employed as a tool for appraising the character and acceptability of housing. He points out that housing acceptability takes into account, type of construction, materials used, amount of space, environmental services and facilities, condition of facilities within and outside dwelling, function and aesthetics, space arrangement, value and priorities, nearness to workplace or town centre, adequate facilities within dwelling, privacy, design, function and aesthetics, noise, pollution, unfriendly neighbors and personal insecurity, among many others.

By substantiating[17],[18] and..... [19] observed that a single variable may not be sufficient to assess the qualitative nature of housing, rather, other indicators such as external and internal environmental condition, general physical properties of the house and such others are also significant determinants of housing quality. A study on the estimation of determinants of housing quality in Ghana had identified variables such as materials of walls and roofs, fuelling, lighting, water, sewage service, tenure, accessibility to social amenities as relevant indicators for housing quality [20]. Similarly, a feasibility study conducted in 2005 at Rotherham identified variables such as site issues, vehicles access and parking, design and aesthetics, building structure, internal environment, internal accessibility, safety, security, fixtures and fittings, energy efficiency and building maintenance as relevant housing quality indicators (HQI) [21]. Furthermore, the Housing Corporation of Britain [22], had in a recent Report on housing standard, outlined three basic indicators consisting of location, design and external environment of dwellings as relevant determinants of qualitative housing.

The various studies... [17],[20],[19] and..... [18] discussed here are of significance to this study, since their submissions conceptualized residential quality from the socio-economic, physical and environmental

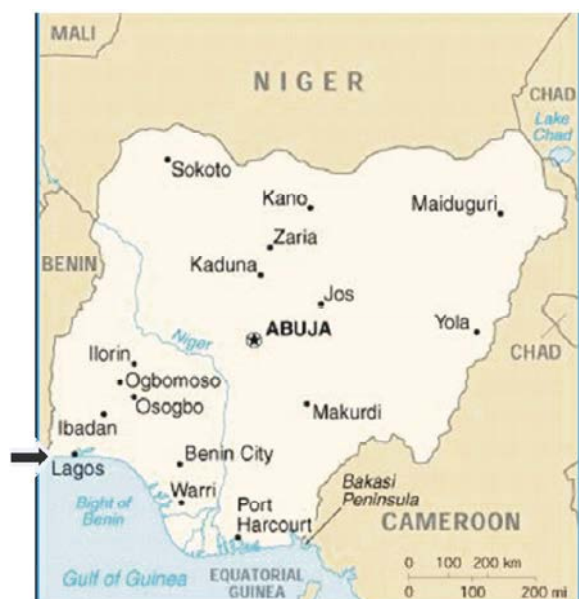


Fig. 1: The location of Lagos, Nigeria.

dimensions. Arising from the foregoing, some criteria for residential quality assessment have been identified for this study. They are categorized as follows: quality of neighbourhood in terms of noise level, friendly neighbours, physical appearance, garbage disposal and level of maintenance; access to neighbourhood facilities and adequacy of basic social amenities like access to educational, commercial and health institutions, playground, postal service, security post, public transportation, road, water, electricity and drainages and; quality of the dwellings in terms of physical appearance, privacy level, lighting, ventilation and spatial adequacy among others. However, the use of information from human values in housing development has been negligible in developing nations such as Nigeria. Yet, such information is relevant in guiding housing improvement and development. This study is thus an effort along this line.

The Study Area: The areas of study fall within the metropolitan part of Lagos, Nigeria (Fig. 1). Located between latitude 6° and 7° north of the equator and longitude 3° and 4° east of the Greenwich Meridian, Lagos has a total area of 1,090 square kilometers with almost 208 square kilometers covered by water and mangrove swamp. As a former federal capital city and the commercial nerve center of Nigeria, the metropolitan area is an urban complex consisting of millions of people from different ethnic, socio-cultural and economic backgrounds.

Since the shift of administrative seat to Abuja, Lagos has remained the major seaport and commercial nerve center of Nigeria, thereby attracting migrants from all over the regions and the nations of the world. However, Lagos has witnessed considerable expansion (both spatially and demographically) over the years. Currently, its population figure is 9 million [23]. However, official intervention in housing provision began in Lagos, in 1928 with the advent of Executive Development Board (LEDB) created to tackle the housing-related bubonic plague at the time. This was done to get rid of the filth as well as the unhealthy living and housing condition that existed in Lagos. Since then government's direct involvement in housing development and delivery has been on the increase [24,25]. As part of its efforts to reduce the problem of housing shortage in Lagos, the two-tiers of Government-comprising the state and national, embarked on housing development for different categories of Nigerians residing within the Lagos Metropolitan Area. Today, public housing schemes developed by both the Federal and State governments exist in virtually every major location within the Lagos Metropolis.

Data Sources and Method of Analysis: In sourcing relevant data for this study, a questionnaire survey of four (that is, 10%) randomly selected estates, out of the existing forty public housing estates was carried out within Lagos Metropolis. The selected estates consisted of a total of 12,323 housing units that were completed and already occupied at the time of this survey. Through a systematic sampling technique, 10% of the total units, representing 1,232 housing units were sampled across the selected estates. Of the 1,232 questionnaires administered, only 1,022 (that is, 82.95% response rate) were retrieved for data analysis. In addition, the occupants' mean length of stay in their houses was 15.25 years, indicating that on the average, they had lived in their dwellings long enough to enable them provide relevant information on the condition and suitability of their houses.

From the review of available literature certain variables have been identified which could be employed for residential quality assessment. These are categorized under: quality of neighbourhood; access to neighbourhood facilities and adequacy of basic social amenities and; quality of the dwellings among others. From these, a total of twenty (20) variables were identified as housing quality indicators for this study (See, Appendix A). The questionnaire was structured to allow respondents (represented by heads of households) indicate their impression on the performance of their

Table 1: Ten most rated housing quality indicators data (HQI) for public housing in Lagos

S/No.	Quality Indicators	Weight Values and rating scales					Total Weight Value(TWV)
		5	4	3	2	1	
1	Water adequacy	420	2472	666	196	-	5806
2	Quality of building floor	1545	2064	546	18	6	4179
3	Access to neighborhood facilities	1740	1728	636	50	5	4159
4	Privacy level in dwelling	1525	1848	627	84	18	4102
5	Adequacy of ventilation	1015	1984	774	98	16	3887
6	Garbage disposal system	665	2656	330	96	67	3814
7	Window condition	690	1876	1164	44	5	3779
8	Adequacy of lighting	670	2196	729	148	32	3775
9	Ceiling condition	680	1964	1041	80	8	3773
10	Suitability of design	540	1936	1179	48	13	3716

Source: Computation of Author's Field survey, 2011.

dwellings. In determining residential quality, each respondent rated the quality variables provided in the questionnaire. Thus, each of the variables is assigned a weight value ranging from between 5 which indicates the highest rating, to 1, indicating the lowest rating, after Likert type of rating scale [26-28]. The total weight value is then calculated for each of the twenty quality attributes selected for this study [16, 27].

Using the formula: $TWV = \text{no. of respondents (n)} \times \text{weight of attributes or indicators (w)}$

Where, TWV is the total weight values of the rated attributes and this is the summation of the product of number of responses and the weights for the ratings of the variables.

Citing from Table 1, the total weight value (TWV) of 5806 is obtained for adequate water supply. This is calculated as;

$$TWV = (84 \times 5) + (637 \times 4) + (222 \times 3) + (98 \times 2) + (0 \times 1) = 420 + 2472 + 666 + 196 + 0 = 5806.$$

This process is used to determine the values for all the variables. The variables were then arranged in the order of ranking based on their total weight values (TWV). Also, to determine the relationship between the pairs of twenty quality indicators, a correlation matrix was computed and the level of interaction between variables is established at either 0.01 or 0.05 significant level. The results and findings are discussed below.

RESULTS AND DISCUSSION

Tables 1 and 2, present the analysis of data obtained from the respondents' housing assessment in Lagos, Nigeria. The indicators are ranked in order of pence and level of adequacy: For instance, in terms of adequacy Water supply being the most ranked among the variables has a TWV of 5806, while the least ranked is Level of housing maintenance with a TWV of 2123. These rankings suggest that the availability and adequacy of water supply is of utmost importance to the residents,

Table 2: Ten least rated housing quality indicators data (HQI) for public housing in Lagos

S/No.	Quality Indicators	Weight Values and rating scales					Total Weight Value(TWV)
		5	4	3	2	1	
1	Friendly neighborhoods	1140	1108	1245	160	22	3675
2	Spatial adequacy	515	2040	894	200	11	3660
3	Roof's condition	565	1556	1404	84	7	3616
4	Wall's condition	745	2480	690	38	4	3557
5	Physical appearance of housing Environment	485	1240	1668	86	16	3495
6	Drainage system	415	1732	1092	220	32	3491
7	Road network	240	1896	1092	152	40	3420
8	Noise level	400	1364	1344	244	31	3383
9	Electricity supply	1245	564	1689	82	28	2480
10	General housing maintenance	230	560	429	422	482	2123

Source: Computation of Author's Field survey, 2011.



Fig. 2: Deplorable housing environment and water-logged drains. Foreground dotted with fuel and gas containers.



Fig. 4: Defaced buildings and housing neighborhood, dotted with makeshift (kiosk) extensions. At the foreground is a road already undergoing deterioration.



Fig. 3: Unsightly scene of a major neighborhood road water-logged and littered with used tyres.

whereas the condition and overall housing quality in terms of maintenance falls below expectation. This finding is true for the study area as previous study had indicated that most residents sourced water through bore-hole which is an alternative source of supply readily available in most public housing estates within Lagos [9]. This interpretation goes for other variables identified for this study. Consequently, the ratings for floor condition (4179); access to neighborhood facilities (such as educational, commercial, health institutions and the likes) (4159); level of privacy (4102); ventilation (3887); garbage

disposal (3814); lighting (3775); and others, were adjudged by the residents as adequate in order of their ranking among the highly rated quality indicators.

The ratings above indicate the level of adequacy of the variables in terms of their quality and availability as most of them are in good condition within the public housing areas. Conversely, electricity supply (2480); road condition (3420); condition of drainages (3491); walls' condition (3559) and roof (3616) were among the least rated and ranked in the study. These ratings indicate infrastructural inadequacy and explain the deplorable condition in which most of these facilities are within the housing areas studied. This finding substantiates earlier findings, indicating that one of the major factors responsible for the poor housing performance and consequent discontent among many public housing tenants in Nigeria is the low level of commitment by government's Housing Authority at ensuring qualitative housing improvement [2,9,29]. A peculiar situation of common knowledge in Nigeria-particularly in major urban centers such as Lagos is the poor and erratic supply of electricity. Equally of note is the deplorable condition of roads and drainages (Figs 2-4). This scenario, to a large extent could have severe consequences on the proper functioning of other related urban housing services.

Based on the findings highlighted above, further attempt is made to establish as well as justify the relationship between pairs of twenty identified housing quality indicators. A correlation coefficient matrix was

Table 3: Correlation matrix of twenty rated housing quality indicators for the selected public housing Estates in Lagos, Nigeria

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁	X ₁₂	X ₁₃	X ₁₄	X ₁₅	X ₁₆	X ₁₇	X ₁₈	X ₁₉	X ₂₀	
X ₁	1																				
X ₂	.099	1																			
X ₃	.072	ns	1																		
X ₄	.154	.342	.146	1																	
X ₅	.141	.411	.103	.480	1																
X ₆	.143	.079*	.358	.135	.108	1															
X ₇	.083	.402	-.070	.153	.307	-.194	1														
X ₈	.111	.356	.100	.413	.534	.086	.236	1													
X ₉	ns	.359	-.089	.091	.262	-.111	.500	.273	1												
X ₁₀	ns	.325	.077	.307	.344	ns	.205	.298	.177	1											
X ₁₁	.146	ns	ns	.136	.088*	-.131	.173	.107	.201	.189	1										
X ₁₂	.095	.325	ns	.364	.386	.115	.130	.341	.097	.397	.219	1									
X ₁₃	.114	.338	-.089	.189	.322	ns	.473	.275	.545	.223	.209	.133	1								
X ₁₄	ns	.449	ns	.254	.399	ns	.455	.330	.551	.200	.104	.175	.541	1							
X ₁₅	ns	.230	ns	.170	.259	ns	.243	.233	.219	.321	.275	.304	.213	.223	1						
X ₁₆	.164	.297	.115	.303	.310	.132	.092	.321	.131	.311	.197	.240	.217	.184	.293	1					
X ₁₇	ns	.292	ns	.181	.255	.082	.105	.266	.104	.248	.125	.212	.145	.145	.334	.541	1				
X ₁₈	.108	.233	-.131	.195	.237	ns	.133	.246	.181	.232	.180	.234	.177	.122	.311	.262	.279	1			
X ₁₉	ns	.119	-.153	.077*	ns	-.178	.182	.087	.173	.212	.259	.118	.182	ns	.248	.350	.275	.197	1		
X ₂₀	.078*	.252	ns	.159	.251	.086	.209	.190	.197	.335	.265	.233	.287	.242	.446	.335	.328	.311	.155	1	

Source: Computation of Author's Data, 2011. NOTE: All significant at 0.01, except as indicated (*)- significant at 0.05. Where applicable, ns indicates no significant relationship among pairs of variables

therefore generated. As shown in Table 3, there is an indication that significant correlations exist among most of the indicators-particularly within the highly rated, with the strongest coefficient of 0.534 (significant at 0.01) existing between variables X₅ (ventilation) and X₈ (lighting). This is followed by variables X₇ (ceiling) and X₉ (window), with correlation coefficient of 0.500 (also significant at 0.01). This explanation goes for the other relationship within the matrix; thus, to a large extent, the interactions among these variables could have an overriding effect on the proper functioning of other related urban housing services. The adequacy in terms of the provision of these facilities or an improvement in the quality of existing facilities indicated by these variables may result into improved performance of housing. Conversely, a reduction in quality or inadequacy of the facilities could lead to poor housing performance. The study therefore substantiates earlier assertion that housing is a multi-dimensional package of goods and services; extending beyond shelter itself but having diverse social, economic, cultural and physical attributes [1]. It also corroborates United Nations [12] assertion, that the adequacy of basic housing amenities is equally important to the provision of shelter itself. In order to ensure proper functioning and improved performance of public housing in Nigeria, all the various components that make up housing-internally and externally as well as the overall neighbourhood need to be improved.

CONCLUSIONS

The study has examined the performance of public housing using the tenants' ratings of residential quality in Lagos, Nigeria. From the twenty variables selected for analysis, the study has shown that water supply, floor condition, level of privacy, ventilation, garbage disposal, adequacy of lighting and others were among the highly rated quality indicators considered by tenants as adequate in terms of quality and availability. Also, variables like space adequacy, quality of the environment, drainages and road condition, electricity supply, noise level and others were among those considered as less adequate in terms of quality and suitability. Further analysis of the result using correlation coefficient revealed that significant relationship exists among most pairs of variables identified as quality indicators for the study area: thus, implying that the quality and adequacy of these variables are useful parameters for judging the level of acceptability and performance of public housing in the study areas.

Through this finding, the study justifies the need to incorporate users' inputs into housing improvement and development in Nigeria. As implied by this study, there could be no meaningful housing improvement without considering relevant qualitative data. As earlier pointed out, people's understanding about the concept of quality differs; and this will ultimately determine their views about

residential quality. Therefore, it is of no use for planners and housing developers to impose their ideas and conceptions about housing on the people, rather, the people would be better planned for if their inputs form part of any housing renewal and development policy.

For policy issues, the consideration of relevant quality indicators in terms of their level of adequacy and suitability is very crucial in determining the totality of housing needs of residents. Of greater significance from this study is the consideration of the least ranked indicators which constitute major housing needs requiring urgent attention in public housing improvement; since their adequacy and suitability are rated as falling below the required quality standard. An understanding of the nature of these variables will guide both the residents and operators of public housing in assessing the performance as well as the overall quality of housing. To the occupants of public housing in Nigeria, the most important quality indicators are those basic needs for daily survival; which are either inadequate both in quantity and quality, or not available at all. This scenario is contrary to what obtains in the advanced countries where the main concern is how to guarantee a sustainable livelihood for the future generation, since to a large extent, the desire for basic needs like electricity, water, roads, shelter and several others has been met [30]. Therefore, what constitutes an important indicator for evaluating housing performance in one environment or location at a particular point in time may not be the same in another.

The implication of this study to sustainable housing development is premised on the need to improve the quality of housing as well as the living standard of the people in Nigeria. Since public housing constitutes a significant component of the urban housing stock; coupled with the fact that adequate housing contributes to mental and physical health of the individual [2], official intervention in housing delivery should therefore not be limited to quantitative increment, it should also include qualitative improvement of the existing housing stock.

As earlier pointed out, studies have shown that one of the major factors responsible for the poor housing conditions and discontent among many public housing tenants in Nigeria, is the low level of commitment by Housing Authority at ensuring housing improvement [2,9,29]. The need to ensure better living conditions for the urban residents, particularly those occupying public housing therefore requires government's intervention in collaboration with other stakeholders to fashion out appropriate housing maintenance and improvement strategies. Furthermore, there is a need for an appropriate

approach towards achieving sustainability in housing development. This in essence, requires that policy makers and planners alike take into cognizance users' inputs and pences-housing design and development must make the people its focus. Through this, both the tenants and planners could determine and judge the performance of existing development; as the outcome could guide in the formulation of appropriate policies for housing development and improvement.

REFERENCES

1. Onibokun, P., 1985. Socio-cultural Constraints on Urban Renewal Policies in Emerging Nations. The Ibadan case. In: Onibokun P. (Ed.). Housing in Nigeria. NISER. Ibadan, Nigeria.
2. Oladapo, A.A., 2006. A Study of Tenant Maintenance Awareness, Responsibility and Satisfaction in Institutional Housing in Nigeria. International Journal of Strategic Property Management. Vilnius Gediminas Technical University, 10: 217-231.
3. Okoye, T.O., 1990. Historical development of Nigerian housing policies with special ence to housing the urban poor. In Amis P. and Lloyd P.C. (Eds). Housing Africa's Urban Poor. International African Institute. pp: 73-86. Internet Google search. [Previewed Version accessed, March 2009].
4. Lawanson, T.O., 2005. Challenges of Sustainability and Urban Development in Nigeria: Reviewing the Millennium Development Goals. In, W. Fadare, *et al.* (Eds). Globalization, Culture and the Nigerian Built Environment. Obafemi Awolowo University, Ile-Ife, Nigeria.
5. Ravallin, M., 2007. Urban poverty. Journal of Finance and Development, pp: 15-17.
6. UN-Habitat, 2007. Milestones in the Evolution of human settlements policies.1976-2006. State of the World cities. Report 2006/2007. The MDGs and urban sustainability. 30years of shaping the Habitat Agenda. Earthscan, pp: 156-161.
7. Jiboye, A.D., 2009A. The Challenges of Sustainable Housing and Urban Development in Nigeria. Fourth International Conference on Research and Development: Contemporary Challenges in Research and Sustainable Development in the Third World. Lagos, Nigeria. 6-7, May.
8. Jiboye, A. and L. Ogunshakin, 1997. The death of the house: The Maroko Experiences. In, B. Amole, (d). Proceedings on The house in Nigeria. Department of Architecture, Obafemi Awolowo University, Ile-Ife, Nigeria.

9. Jiboye, A., 2010. Feedback on Public Housing Satisfaction in Lagos, Nigeria. A practical Approach for Housing Development. LAP-LAMBERT Publishing Co. Germany, pp: 165.
 10. Douglass, S., 2008. Forward on: Housing and economic development. Housing Corporation. UK. Internet Google search. [Accessed, March, 2009].
 11. Gilbertson, J., G. Green, D. Ormandy and H. Thomson, 2008. Good housing and good health? A review and recommendations for housing and health practitioners. A Sector Study Housing Corporation. UK. Available at http://www.health_housing_20060816144328.pdf. [Accessed, March, 2009].
 12. U.N.O., 1976. Housing Policy Guidelines for Developing Countries. U.N. Department. of Economic and Social Affairs. U.N. Report, New York, ST/ESA/50.
 13. Onion, C.T., (Ed) 1984. The Shorter Oxford English Dictionary. Oxford, Caredon press, pp: 1224.
 14. Mc Carry, J.L., 1972. The Quality of the Environment. The Free Press, pp: 7-17.
 15. Anantharajan, T., 1983. Evaluation of Residential Development through User's Rating and Rankings of Environmental Attributes. Proceedings of International Association of Housing Science Congress on Housing. NW 7-12. Miami, Florida.
 16. Olayiwola, L., A. Adeleye and A. Jiboye, 2006. Effect of Socio-cultural Factors on Housing Quality in Osogbo, Nigeria. International symposium on Construction in Developing Economies: New Issues and Challenges. Santiago, Chile. 18-20, January.
 17. Abloh, F.A., 1980. A Concise Course in Basic Sociology for Community Designer. A Monograph of the Department of Housing and Planning Research, University of Science and Technology. Kumasi, Ghana.
 18. Lawrence, R.J., 1990. The Qualitative Aspects of Housing-A Synthesis. The J. Building Res. Practice, 2: 121-125.
 19. Gur, S.O., 1994. House pences of Users at different phases of acculturation, *Ekistics*, 366, May/June, 367, July/August, pp: 176-181.
 20. Fiadzo, E., 2003. On the Estimation of Determinants of Housing Quality. The case of Ghana. Available at <http://www.Worlbank.org>. [Accessed, June, 2006].
 21. Microsoft Encyclopedia, 2005. A feasibility Report on housing quality indicators (HQI) for Rotherham City.
 22. Housing Corporation (H.C), 2007. Housing quality Indicators (HQI). Version 4. (For NAHP 0810). April. Available at: [HQIForm4_April_2007.pdf](http://www.HQIForm4_April_2007.pdf). [Accessed, November, 2009].
 23. NPC, 2006. Provisional Result. National Population Census of Nigeria. Federal Republic of Nigeria.
 24. LSDPC, 2005. Lagos State Development and Property Corporation, at a glance. Official gazette. Lagos State Government, Nigeria.
 25. Mbali, I. and O.G. Okoli, 2002. Affordable Housing for Low-Income Group in Nigeria. A redefinition of the basic parameters. *Housing Today*, 1(5): 16-17.
 26. Hur, M. and H. Morrow-Jones, 2008. Factors that influence residents' satisfaction with neighborhoods. *Environ. Behavior*, 40(5): 619-635.
 27. Jiboye, A.D., 2009b. Evaluating tenants' satisfaction with public housing in Lagos, Nigeria. *Town Planning and Architecture*, 33(4): 239-247. Available at: <http://www.tpa.vgtu.lt/pdf>. Adobe Reader. [Accessed, February, 2010].
 28. Potter, J. and R. Cantarero, 2006. How does increasing population affect resident satisfaction? A small community case study. *Environ. Behavior*, 38(5): 605-625.
 29. Ukoha, O.M. and J.O. Beamish, 1997. Assessment of Residential Public Housing in Abuja, Nigeria, *Habitat International*, 21(4): 445-460.
 30. Muller, M.S., 1984. Traditional Cultural Identity in new dwellings of urban Africa. *Ekistics*, 307: 355-360.
- Appendix A:** List of Twenty Housing quality Variables rated and correlated
- Appendix A**
- X₁-Adequacy of Water supply
 - X₂-Floor condition
 - X₃-Access to Neighborhood facilities
 - X₄-Privacy within Dwellings
 - X₅-Adequacy of Ventilation
 - X₆-Frequency of Garbage disposal system
 - X₇-Window condition
 - X₈-Adequacy of Lighting within dwellings
 - X₉-Ceiling condition
 - X₁₀-Suitability of Building design
 - X₁₁-Friendly Neighborhood
 - X₁₂-Space adequacy in dwellings
 - X₁₃-Roof condition
 - X₁₄-Wall condition
 - X₁₅-Physical appearance of housing environment
 - X₁₆-Drainage condition
 - X₁₇-Road condition
 - X₁₈-Neighborhood noise level
 - X₁₉-Adequacy of Electricity supply
 - X₂₀-General maintenance level of Neighborhood