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Analysis of Coastal Dwellers' Views on Housing Quality in Ondo State, Nigeria

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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ABSTRACT

Studies on housing quality have focused on urban and rural areas with no consideration of coastal areas, especially on how residents perceive it. This paper, therefore, examines the importance coastal dwellers attached to housing quality and the level of satisfaction derived from the quality of housing. The results of the study showed that the expectations of the coastal dwellers in terms of their housing needs were not met. The study concluded that for coastal dwellers aspiration to meet with their satisfaction level, redevelopment and rehabilitation will have to set in order to boost and enhance the living condition of the coastal residents.

Keywords: Housing quality; CAS (coastal areas); coastal dwellers importance index (CDII); coastal dwellers satisfaction index (CDSI).

1. INTRODUCTION

Housing, in Nigeria, is in short supply, poor quality and expensive for the generality of the populace. The rapid increment in population witnessed within the country has not been adequately matched by a corresponding increase in housing stock [1]. Besides, the poor quality of the housing stock has become serious problems that need to be addressed whether urban, rural or even coastal area of cities. The functionality of any housing environment depends on its quality and it's a key element for ensuring a healthy livable housing environment [2]. Housing

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quality in Nigeria together with the coastal area of Ondo State is general poor [3], due to ineffective housing policies, high cost of building materials, deplorable basic facilities with rapid urbanization leading to a deplorable environmental situation and as well as growing levels of overcrowding among others.

Hence, coastal area according to Food and Agriculture Organization of the United Nation [4] is described as an interface or transition area between land and sea. The Nigerian coastal area is characterized by a low-lying topography with a mean height less than 3.5 m higher than sea level in most areas [5,6]. This area is accommodated a wide range of rural settlements and a few urban centres; example of some of these areas in Nigeria includes Eti-Osa, in Lagos State, Ekeremor in Bayelsa State, Burutu in Delta State, Ibeno in Akwa Ibom State, Akpabuyo in Cross River State, Opobo/Nkoro in Rivers State, Ogun water-side in Ogun State and Ilaje in Ondo State [7].

Housing in the area is characterized by distinctive structural and material features which are mostly row houses dwelling type, built with planks, bamboo, mud, and cement [2]. The coastal area in Ondo state is comparatively more susceptible to climatic change, environmental degradation due to oil exploration and the existence of coastal features created by the land-sea interaction such as creeks, deltas, and swamps. All these considerably influence the living pattern of the coastal dwellers which in turn brings change in perception and preference to quality of housing in the area.

2. STUDY AREA

Background Information about the Study Area, The coastal area of Ondo State is largely found in the Ilaje Local Government Area Fig. 1. Ilaje local government area was carved out of the Ilaje /Ese-Odo local government on October 1st, 1996 by the then Military Head of State with their headquarters at Igbokoda [8]. Ilaje local government situates roughly between longitude 6°20' and 6°00' North and latitude 4°45' and 5°45' East. It shares boundaries with Ese-odo local government of Ondo State in the North, the Atlantic Ocean in the South, Ogun state in the West and Delta state in the East. [9].

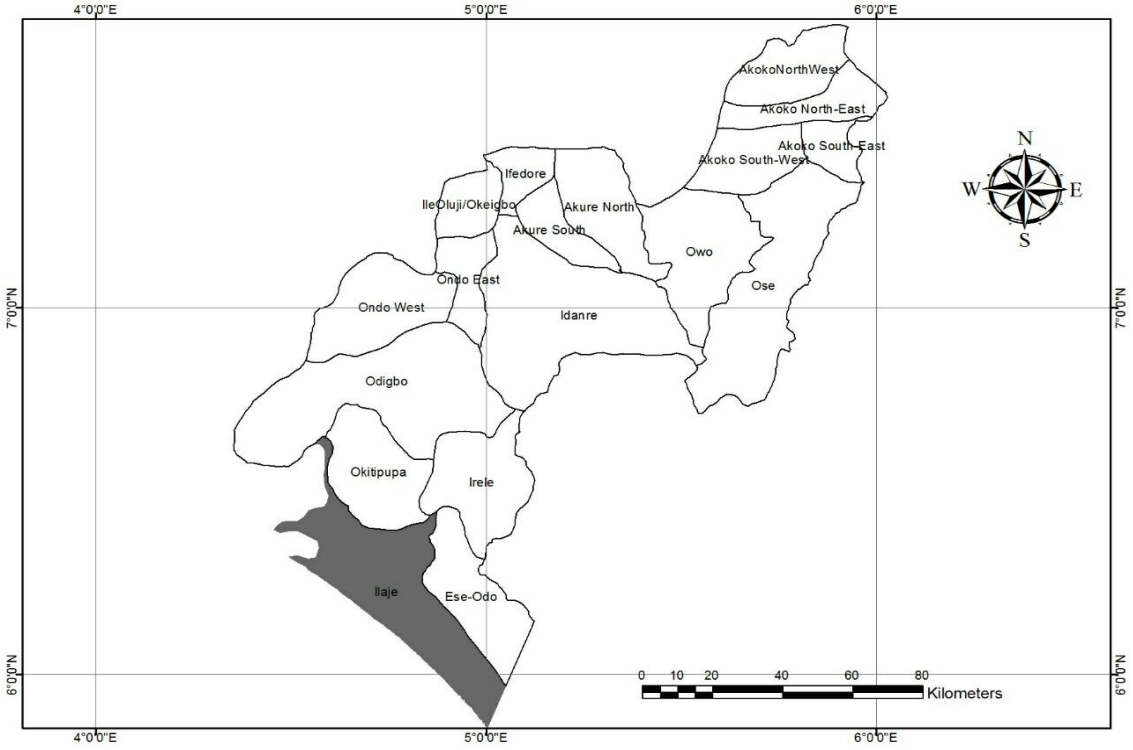

Fig. 1. Map of Ondo State showing ilaje coastal area

3. LITERATURE REVIEW

3.1 The Concept of Housing Quality

The concept of housing quality is mostly subjective in nature and a function of many variables. Ranging from the design to the condition of housing, and also the relative environment during which the housing unit is a component. The physical-structural efficiency of a housing unit as such is not enough determinant of a qualitative housing. According to [10] there should be a relative level of satisfaction of people with their housing. A housing unit that is adequate from the engineering or design point of view may not necessarily be adequate or satisfactory from the inhabitant's point of view [11].

In line with Onibokun (1973, citied in [12], the concept of "a liveable home" or "an ideal home" is expounded in addition to the physical, architectural, and engineering part of the house, to: the social, behavioural, cultural, and personal characteristics of the inhabitants; the component of the environment of which the house may be a part; and also the nature of the institutional arrangement under that the house is managed.

Housing quality is related to adequate housing as well as liveable housing [13]. This is often a function of the ratings of the individual tenant's level of satisfaction along with his housing unit in relation to his neighbourhood [14,15]. That, assessing habitability would mean evaluating the extent of satisfaction of a tenant, living in a specific community and managed under a type of institutional management [16].

Minimum standards are usually obligatory to guide development and maintain quality; however minimum standards are not adequate yardsticks in measuring housing quality, because an urban housing with complete plumbing system, good hygienic system, well ventilated but poorly managed might still be old and dilapidated [7]. What is acceptable as minimum standards in developed countries might not be the same as in developing countries [17]. Drakakis (1997), as cited in [12], has argued that what is acceptable as adequate shelter to a poor household in sao paulo may be quite different from that of an equally underprivileged family in Singapore or Lagos. Hence, housing quality or qualitative housing, adequate shelter and livable homes are comparatively used to connote housing that satisfies the essential physiological desires of the tenant [3].

3.2 Measurements of Housing Quality

For the purpose of clarity and ease, this paper shall examine the major components in measuring the quality of housing mainly in urban areas.

These are:

- The housing condition and accommodation
- The ancillary services and facilities
- The environment/ neighbourhood
- Location

3.3 Housing Condition and Accommodation

Onibokun (1990, cited in Adeleye 12), stated that the major determinants of urban housing condition in Nigeria are:

- The age of the home
- The types of buildings and the materials used in their construction
- The varieties and adequacy of facilities provided in dwellings
- The modes of handling various aspects of housing construction such as site preparation, laying of the foundation, construction of walls and roofing.

Hence, in determining the quality of a housing unit, the structure, the various elements, facilities inside, and the aesthetical rendering of the unit ought to be considered.

3.4 Accommodation

The social facet of housing is taken into account here in assessing housing quality, problems with privacy inside households and between households. The notion can vary from society to society. Here thought is given to privacy inside households and privacy between households.

3.5 Ancillary Services and Community Facilities

The quality of housing is essentially a subjective idea, the problem of ancillary services and community facilities becomes more difficult to prescribe. this is involved not solely with the essential amenities like bathrooms and washing facilities however also with less essential

amenities such as the existence of a garden, the state of repair of the housing, the height of the building above the ground floor, the general public transport facilities and services, parking facilities, the outside “private space” that the family will use, garbage disposal and other community facilities like health service, police protection [18].

3.6 The Environment and the Neighbourhood

This refers to the character of the physical, social and psychological variables that are extended to the housing and the tenants. This includes all the other elements that form up the societies or the community of which the housing unit, dwelling, and the tenant are a part; these have an influence, positive or negative, on satisfaction with the actual housing unit that is an element of that environment [19].

3.7 Location

A household is a component of an urban system and when it chooses a residential location, it also selects a set of spatial relationships within this system [20]. There are clearly numerous aspects to this factor; some are: convenience for getting to work, for travelling to school for shopping, for getting to the place of worship, for public transport, convenience to friends, to parks and convenience to the countryside.

3.8 Housing Quality in the Coastal Area

In order to determine the level of satisfaction derived from housing quality indicators in the coastal area of Ondo State. The importance residents’ attached to element of housing unit needs to know. This is because the level of residents’ satisfaction cannot be measured without considering the expectation of the residents on the housing stock. If the quality of housing stock commensurate with the expectation of the residents on this stock, a state of satisfaction can then be attained.

Afon [21] employed an analytical tool for Environmental Quality Indicators (EQI) in the urban core of Ogbomoso in Oyo State of Nigeria. This analytical tool was used to determine respondents' satisfaction level. The study compared aspirations of the people with real satisfaction from the environmental indicators, thereby analyzing across the two models. The study, however, assessed aspiration and satisfaction with respect to environmental amenities and not housing attributes. This study will adopt the same analytical tool in measuring coastal dwellers' opinions.

4. METHODOLOGY

4.1 Survey Instrument

Twenty-two housing quality attributes are used in this study to represent coastal dweller expectation. These are things that coastal dwellers would use to judge the quality of their houses. The concern of the study is the measurement of satisfaction about each of the variables depicting the coastal dwellers' expectation. The measurement is done through the analysis of data collected via questionnaires.

In administering the questionnaires, there are 169 settlements in the coastal areas of Ondo State. Using random sampling technique (10%) of the settlements was selected. More so, there are 2,123 houses identified in the selected settlements [22]. Simple random sampling was used to select 10% of these houses. The first coastal dwelling unit to be sampled was selected randomly. The subsequent units of the investigation were every 10th coastal dwelling unit in the designated area in each of the selected settlements. Coastal dweller household head was sampled in each of the selected building, and the questionnaire was administered. Using this procedure, a total number of two hundred and thirteen (213) was selected for the survey, out of which 211 (99.0%) questionnaire in all were retrieved.

5. RESULTS AND DISCUSSION

A major method of arriving at the people’s perception is the consideration of users’ viewpoint through the use of Likerts’ scale rating to obtain the level of satisfaction derived from different indicators of housing quality. Before coastal dwellers’ satisfaction of housing quality can be ascertained there is need to know the level of importance coastal dwellers attached to housing quality indicators in the study area.

5.1 Level of importance attached to the Housing Quality

The level of importance placed on each of the attributes, denoted by Coastal Dwellers’

Importance Index" (CDII) is presented in Table 1. From the table, it can be seen that the highest CDII was 4.60, while the lowest was 2.46. The attribute with the highest CDII was nearness to market while availability to the recreational facility had the lowest. The average CDII for all the identified attributes in the study area denoted Coastal Areas (CAS) was 3.86. Other housing attributes with CDII higher than average CAS included nearness to primary school, ventilation, access to a road network, accessibility to building material, aesthetic appearance, health facility, electricity supply, potable water supply, good transportation network, nearness to market. Each of the attributes in this category thus had a positive deviation about the mean of the CDII. Attributes with lower CDII than has included the access to a drainage system, toilet state, bathroom condition, the physical condition of housing, safety, wall quality, waste disposal facility, nearness to secondary school, room size, privacy and recreational facility, among others.

5.2 Coastal Dwellers' Satisfaction Index (CDSI) for the Study Area

To detect the gap that existed between coastal dwellers expectation and quality and quantity of existing housing stock, the CDSI was computed for each of attributes in Table 2. The mean CDSI for the study area was 3.43.

To reveal the importance of the degree of satisfaction expressed by residents in the study area, in the next stage of analysis, the 22 variable were classified into four main groups as presented in Table 3. These were:

Group A: Variable with positive deviation about the mean of CDII in Table 1 but with negative deviation about the mean of the CDSI Table 2. These were housing quality indicators were considered very important to residents. On the other hand, the deviation about CDSI mean was negative, which implies that quality of housing stocks available to residents was not satisfactory. The indicators in CDII category were market, water supply, electricity supply, healthcare facilities, access to road network and kitchen. Their deviation about the CDII mean were +0.74, +0.73, +0.69, +0.59, +0.13 and +0.00 respectively. Their respective deviation about the CDSI mean were -0.11, -0.42, -0.62, -0.32, -0.38 and -0.25. These variables represented housing quality attributes that the respondents hold in high esteem and are to be considered in assessing the effectiveness of housing stock in the study area. Thus, they should be available to the level of satisfaction.

Group B: The second group of variables was those that were not considered to be of high importance as regards housing quality element but yielded very high satisfaction. These variables had a negative deviation about the mean of the CDII but positive deviation about the mean of the CDSI. This by implication means that special attention was placed on these variables while the respondents considered them not significant. These variables were bathroom, wall quality, and waste disposal facilities, accessibility to secondary school, room size, privacy to home/neighbourhood and recreational facilities. Their deviation about the CDII mean was -0.11, -0.25, -0.27, -0.57, -0.75, -0.75 and -1.40. Their respective deviation about the CDSI mean were +0.51, +0.49, +0.02, +0.19, +0.13, +0.32 and +0.22. Many of these variables are attributes of housing quality which were considered by the residents to be a nuisance. Thus, they were not required by the residents.

Group C: The third group consisted of variables that had a positive deviation about both CDII and CDSI means. Variables in this category were found out to be important to respondents and a high level of satisfaction was also derived from them. These attributes of housing quality were access to transports network, aesthetic appearance, accessibility to building material, ventilation and accessibility to primary school. Their deviation about the CDII mean were +0.73, +0.41, +0.16, +0.11 and +0.04. Their respective deviation about the CDSI mean were +0.32, +0.10, +0.07, +0.33 and +0.17. The deviation about the mean of the satisfaction index of the attributes was lower than their respective CDII. This implies that the residents were unsatisfied with their level of demand.

Group D: The fourth group observable in this study had a negative deviation about the means of both CDII and CDSI. These variables were drainage system, toilet, overall housing environment, and safety. Their deviation about the CDII mean was -0.01, -0.02, -0.14 and-0.20. Their respective deviation about the CDSI mean were -0.41, -0.06, -0.18 and -0.11. These attributes were those that were not seen by the residents as being of much relevance, at the same time, not contended with.

Table 1. Coastal Dwellers' importance attached level to housing quality attributes

HQ attributes	CDII	MD
Nearness to market	4.60	0.74
Good transportation network	4.59	0.73
Potable water supply	4.59	0.73
Electricity supply	4.55	0.69
Healthcare facilities	4.45	0.59
Aesthetic appearance	4.27	0.41
Accessibility to building material	4.02	0.16
Access to road network	3.99	0.13
Ventilation	3.97	0.11
Nearness to primary school	3.90	0.04
Kitchen state	3.86	0.00
Drainage system	3.85	-0.01
Toilet state	3.84	-0.02
Bathroom condition	3.75	-0.11
Overall environmental condition	3.72	-0.14
Neighbourhood security	3.66	-0.20
Wall quality	3.61	-0.25
Waste disposal facilities	3.59	-0.27
Nearness to secondary school	3.29	-0.57
Room size	3.11	-0.75
Privacy at home/ community	3.11	-0.75
Recreational facility	2.46	-1.40

Source: Field Survey, 2017

Note: MD means Deviation about the mean

Study area = CDII $_{cas}$ = $\frac{\sum CDII}{N=22} = \frac{84.87}{22} = 3.86$

Table 2. Coastal Dwellers satisfaction on housing quality indicator

HQ attributes	CDSI	MD
Wall quality	3.94	0.51
Bathroom condition	3.92	0.49
Ventilation	3.76	0.33
Good transportation network	3.75	0.32
Privacy at home/ community	3.75	0.32
Recreational facility	3.65	0.22
Nearness to Secondary school	3.62	0.19
Nearness to Primary school	3.60	0.17
Room size	3.56	0.13
Aesthetic appearance	3.53	0.11
Accessibility to building material	3.50	0.07
Waste disposal facilities	3.45	0.02
Toilet state	3.37	-0.06
Nearness to market	3.32	-0.11
Neighbourhood security	3.32	-0.11
Overall environmental condition	3.25	-0.18
Kitchen state	3.18	-0.25
Health facility	3.11	-0.32
Access to road network	3.05	-0.38
Drainage system	3.02	-0.41
Potable water supply	3.01	-0.42
Electricity supply	2.81	-0.62

Source: Author's Field Survey (2017)

Study area = CDSI $_{cas}$ = $\frac{\sum CDSI}{N=22} = \frac{75.45}{22} = 3.43$

Table 3. Group of variables based on deviation about the mean of CDII and CDSI

Group	HQ attribute	Deviation about CDII mean	Deviation about CDSI mean
A	Location of market	+0.74	-0.11
	Water supply	+0.73	-0.42
	Electricity supply	+0.69	-0.62
	Healthcare facilities	+0.59	-0.32
	Access to road network	+0.13	-0.38
	Kitchen	+0.00	-0.25
B	Bathroom state	-0. 11	+0.49
	Wall quality	-0.25	+0.51
	Waste disposal facilities	-0.27	+0.02
	Availability of secondary school	-0.57	+0.19
	Room size	-0.75	+0.13
	Privacy at home/community	-0.75	+0.32
	Recreational facilities	-1.40	+0.22
C	Good transportation network	+0.73	+0.32
	Aesthetic appearance	+0.41	+0.10
	Accessibility of building material	+0.16	+0.07
	Ventilation	+0.11	+0.33
	Accessibility to primary school	+0.04	+0.17
D	Drainage system	-0.01	-0.41
	Toilet state	-0.02	-0.06
	Overall housing environment	-0.14	-0.18
	Neighbourhood security	-0.20	-0.11

Source: Field Survey, 2017

6. IMPLICATION AND CONCLUSIONS

Two of the above four grouping are of explicit interest to this study. First is group A, of variables with positive and negative deviation regarding the mean of CDII and CDSI respectively. These were indicators of housing that were crucial to the healthy living conditions in the coastal area, except for that the facilities were grossly inadequate.

For rehabilitation and redevelopment to actually improve the living condition of coastal dwellers attention should be centered on adequate potable water and electricity supply, healthcare facilities, Improvement of the access to markets and access to road network. These are a true reflection of the housing downside in the coastal area of Ondo state as at the time of the study. For instance, for the past three to four year there has nonexistent of power supply from the Benin Electricity Distribution Company (BEDC) formerly called the Power Holding Company of Nigeria in most part of the study area. The main source of lighting in the absence of light from the Benin Electricity Distribution Company Plc. (BEDC) in the study area has revealed from the analysis of data is candle/kerosene lamp which accounted for 60.7%. The use of generator sets and solar panel followed with 28.9% and 10.4% respectively. This result reveals that the study area is truly in a rural area with very limited access to modern day technology. It is prompt that stakeholders ought to invent into this, stakeholder like Niger Delta Development Commission (NDDC) and Ondo State Oil Producing Development Commission (OSOPADEC), among others ought to do something regarding it, on terms to be agreed upon by BEDC and the stakeholders.

Potable water supply to the study area is also very poor. As discovered in the course of this study, the predominant source of water supply is largely through river/stream water. About 50.7% rely on river/ stream source of water supply, while, 33.6% and 15.7% enjoy Borehole, well source of water respectively. This implies that majority of the respondents in the study area do not have access to guarantee quality water

supply because of salty nature of both surface and underground water available in most part of the study area due to closeness to ocean bodies. Water in the underground has been impure as a result of the Oil exploitation and exploration activities in the area. Most communities could not afford the choice of a functioning borehole. The cost of sinking such boreholes alone can be considered as expensive for the inhabitants. The overhead tank or reservoir together with the power supply and other supporting facilities definitely add to the cost of providing such water supply not to mention the maintenance cost. All this together, make potable water demand not to be met. The author is of the opinion that local government should carry out the redevelopment of the borehole installation scheme. Fund for such redevelopment could be sourced from the urban development bank or similar agencies. However, effective financial planning and ways to recover costs from the consumers should be worked out.

Provision as well as access to healthcare facilities as been sparely distributed due to the terrain and nature of settlements pattern of the region. Also, few available healthcare facilities in the study area are often short staffed, inadequately equipment and poorly maintained. The author suggested that for coastal dwellers to utilize the facilities it must be strategically located and evenly distributed in such a way that is accessible to coastal dwellers irrespective of their location within the area. More so, proper management, adequate equipment, and more staff should be put in place by the government for the inhabitant of this region.

In the study area, there is a need for an organized day market, which would improve economic opportunities for coastal dwellers. The existence of several small markets in the study area does not encourage economics of agglomeration, as the level of economic activities in each is low. Indeed, some of these markets are threats to the free flow of traffic during peak periods. The absence of an organized market is further robbing the coastal area of the opportunity to raise internally generated revenue.

The second group of explicit interest is Group C, comparing attributes with positive about the means of both CDII and CDSI. These attributes may be further subdivided into those that have fairly category which are attributes like good transportation network, it was suggested that improving transportation network efficiency through implementation of waterway transit-supportive system for easy mobility among and around the community.

Effort should be made to extend residents' satisfaction on attributes like aesthetic appearance, accessibility of building material, ventilation and access to elementary school, that have relatively low deviation regarding the mean of CDSI. Elementary Schools in the coastal area need to be maintained both physically and should be equipped with instructional materials. Physical conditions of most primary school are in a critical state. The low level of satisfaction expressed relative to a higher expectation level indicates that this important level of education needs attention.

Coastal dwellers' satisfaction with the access to building material in the study area was also relatively fair. As part of rehabilitation and redevelopment strategies and efforts at making more building products available to coastal communities, development of small-scale building materials or building component producers should be supported to make available building material to coastal dwellers.

While this study opines that these two groups of indicators in the coastal area should be pursued based on suggested priorities, other existing areas where people have been satisfied should not be allowed to deteriorate.

The satisfaction enjoyed by coastal dwellers with the physical housing condition should continue because that is the basis of comfortable housing sustenance. Even housing indicators that weren't thought-about to be of high priority by coastal dwellers in the determination of housing quality, like privacy at home/community, room size, wall quality and bathroom state mustn't be tampered with.

There is a need to comment briefly on the fourth group of variables identified. The negative deviations about the means of both CDII and CDSI on an important housing indicators consideration like overall housing environment, where a high proportion of the environment in the study area has poor and unsanitary environmental condition, calls for concern. In conclusion, there is a need for caution when CDSI is used in coastal area rehabilitation priorities; negative deviation about the mean of the CDII on indicators of housing does not

necessarily mean that it is actually lower, though it may be considered to be so by coastal dweller.

In identifying priority projects when redevelopment and rehabilitation are to take place in either developed or developing economies, CDSI is a feasible and an easy-to-use tool. And where all the four categories of variables are identified, efforts must be made to identify reasons why residents would consider some crucial and sensitive housing indicators as not important in the first place and, at the same time, rate their satisfaction very low.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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