SOCIO-ECONOMIC DETERMINANTS OF URBAN HOUSING MATERIALS TYPES IN POOR AREA OF MAKOKO, LAGOS

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ABSTRACT

Housing the urban poor in developing countries has been a major concern globally. This paper examines the socio-economic determinants of urban housing types in the low-income neighbourhood of Makoko, Lagos. The specific objectives of this paper include analysis of the socio-economic characteristics of the residents in the study area, analysis of the quantity and types of housing in the study area; and their relationships. A total of 254 questionnaires were administered to the household heads in the study area using the multi- stage sampling technique. Data analysis encompassed the use of both descriptive and inferential analysis. Frequency tables were used to analyze descriptive data obtained while the inferential analysis entailed the use of Regression analysis. The findings revealed that 57.5% of the respondents that reside in plank or bamboo houses because of their affordability, earn less than N5, 000 per month, with a household size of 6 – 7 persons (52%) and engage in informal activities. The study concludes that income level, households' size and employment status are major determinants of residents' housing types, especially bamboo houses in Makoko. The recommendation is to conduct research on the durability and functionality of plank and bamboo houses, alleviate the welfare of the urban poor, involve the stakeholders in any development efforts and review existing policies on housing that affect the urban poor, especially the eviction and demolition approach.

Keywords: Housing materials types, socio-economic attributes, urban poor, determinants, Lagos.

1. INTRODUCTION

The general understanding of housing is that it is commonly referred to as shelter but it is more than a physical structure. In other words, housing includes shelter, the environment and all necessary infrastructures to make life comfortable. Housing is a key determinant of quality of life that can be measured at the individual, household, and community levels (Campbell, Converse, & Rodgers, 1976) and human rights in the cycle of human life. It is unique among consumer goods in its pervasive economic, social, and psychological significance (Stone, 1993; Stone, 2006). According to Harvey (1972), housing is fixed in geographic space, it changes hands infrequently, it is a commodity which we cannot do without, it is a form of stored wealth which is subject to speculative activities in the market, it has various forms of value for the user and above all, it is the point from which the user relates to every other aspect of the urban scene. Other recent definitions have generally also agreed that housing includes the physical building as well as the totality of the environment and the neighbourhood amenities within which the building situates (Eke, 2004; Agbola, 2005).

Efficient and effective housing provision has become the central focus and an integral component in national strategies for growth and poverty reduction. Decent and affordable housing is one of the basic needs of every individual, the family and the community at large. As a pre-requisite to the survival of man, shelter ranks second only to food; thus housing as a unit of the environment has a profound influence on the health, efficiency, social behaviour, satisfaction and general welfare of the community at large (Chen and Chen 2013)

Poverty is a global phenomenon that affects continents, nations and people differently. It affects people in various depths and levels at different times and phases of existence. Poverty is the condition that is said to exist when the people lack the means to satisfy their basic needs, including housing, necessary for survival; the effect of poverty is harmful both to the individual and the environment. The Central Bank of Nigeria (1999) describes poverty as a state where an individual is not able to cater adequately for his or her basic needs of food clothing and shelter and is unable to meet the social and economic obligation, lack gainful employment skills assets and self-esteem and has limited access to social and economic infrastructure such as education, health, portable water and sanitation and consequently, has a limited chance for his or her capabilities. According to Oduwaye and Lawanson (2006), urban poverty, in particular, has been exacerbated in Nigeria by a low level of social development resulting from corruption, misallocation of funds, poor investment habits, poor family planning habits, minimum wage and declining life expectancy. United Nations Centre for Human Settlement (1996) described poverty as a consequence of gender inequality, low productivity, vulnerability in changing labour market, lack of basic education and the absence of social support. All these attributes of poverty as related to the socio-economic background of the poor has implications for housing types affordability. Housing materials types in terms of structure could be cement-block, but historically brick, wood or zinc houses in the study area, which are mainly affordable based on the cost or rent.

According to Akinyele (1994), the urban poor are families or individuals living below the poverty line who are distinguished by characteristics such as unemployment, lack of or inadequate access to basic services such as water, electricity, health and education and lack of food, shelter, clothing and access to information and new technologies needed for their survival. The situation of the urban poor is further aggravated by the difficult and degraded environmental conditions in which they live which are easily prone to various forms of disaster. The income dimension of poverty defines poverty as a situation of low income or low consumption. This has been used for constructing poverty lines. Accordingly, people are counted poor when their measured standard of living in terms of income or consumption is below the poverty line. Thus, the poverty line is a measure that separates the poor from the non-poor. However, poverty has both income and non-income dimensions usually intertwined.

From the fore-going, it is worthy to note that housing and poverty can never be overlooked because of what is presently obtainable in developing countries such as Nigeria, especially Lagos. This could probably exist because housing is beyond shelter. The relationship between housing in urban areas and poverty is entangled in the framework of the concept of the urban poor, which entails the set of people who live below the poverty line and are deprived of the basic human needs (shelter, food and clothing) probably because of their income level, marital status, education level, employment status and so on. However, the link between urban poverty and housing is the essence of housing provision for the urban poor, especially on-demand side.

In the light of the above, this paper investigates the socio-economic determinants of urban housing materials types in the poor area of Makoko in Lagos State. To achieve this aim, the specific objectives are to: analyze the socio-economic characteristics of the residents in the study area; evaluate quantity and types of housing, and examine their relationship.

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The underlying hypothesis is that the causes of poverty, the nature of deprivation, and the policy levers to fight poverty are to a large extent site-specific. Living in a city means living in a monetized economy, where cash must be generated to survive. This in turn requires the poor to integrate into labour markets. Obstacles to this integration have perhaps less to do with lack of jobs and opportunities (as is the case in rural areas) and more with lack of skills, the inability to get to work (because of inadequate transportation

or child care), and social/societal issues (lack of social relations, the stigma associated with living in a slum, cultural norms precluding women's participation in the labour force). At the same time, urban areas present several opportunities for the poor. Indeed, this is the very reason why the incidence of poverty is so much lower in urban areas. Labour markets are much broader, opportunities are greater, and access to services (infrastructure, but also health and education) are higher (even if the quality may not be very good). For certain social groups or individuals, living in a city may mean freedom from oppressive traditions. It is common to find the housing expenditure-to-income ratio being used as a 'rule of thumb for defining housing need for policy and programme purposes, often referred to as 'the housing affordability problem'. This fourth use of the ratio is based on a much too simplistic generalisation about household expenditures and cannot be accepted as valid. To define everyone spending more than 30 per cent of income on housing as having a housing problem, for example, takes a descriptive statistical statement (the 30 per cent ratio) and dresses it up as an interpretative measure of housing need (or lack of need). It does so based on a subjective assertion of what constitutes an 'affordable' housing expenditure for all households. This kind of generalisation is based on an assumption about the cash income required to pay for the other necessities of life (Hulchaski, 2005).

The selection of a ratio of housing expenditure-to-income has, nonetheless, become a popular and commonly used statement about the scope of the 'housing affordability problem'. Its nature relates to a lack of income, usually assumed to be gross household cash income from employment or transfer payments, and its scope is the number of households paying more than that ratio. According to Hulchaski, (2005), this use of the housing expense to income ratio is not a valid and reliable method of defining housing needs or housing problems. Even without considering the limited definition of income used in the ratio, the sweeping generalisation that spending more than a certain percentage of income on housing means the household has a 'housing problem' is simply not logical. It does not represent the behaviour of real households. Housing researchers recognize that household consumption patterns are extremely diverse and complex.

Donnison (1967), for example, referred to the assertion that a certain proportion of income should be devoted to housing as "a popular but ineptly posed conundrum for which some correspondingly inept solutions have been proposed" and that for individual households "any reckoning based on the income of the household or its principal earner is likely to be misleading". In a study of housing affordability Marks (1984) identifies and discusses the following weaknesses of the rent to income ratio "as a measure of affordability": it is essentially arbitrary; it does not account for household size, which has a bearing on the choice of an appropriate ratio; it fails to reflect changes in relative prices in all categories of household expenditures; it is not easily adjusted for the number of housing services being consumed and the substitutions available to the household, and it relies on current rather than permanent income and is subject to seasonal and cyclical sensitivity. In his research on defining housing measures (Stone, 2006) notes that the ratio definition of housing needs fails to "grapple in a logically sound way" with the wide variation in what households can afford to pay.

What can be deduced from the review of the nature of urban poor and household housing affordability is that choice of urban poor housing types is determined by the materials used for construction as well as the socio-economic characteristics of the households. Housing material types are the building materials, which could be man-made or natural, used for construction purposes. Some of the man-made products include blocks, bricks, steel iron, zinc or aluminium while natural products are clay, rocks, sand, and wood (Kpamma *et al*, 2012). Lack of easy access to land and other housing inputs, cost of imported building materials, among others have been identified as major challenges of housing affordability for the urban

poor (Aina, 2005; Adedeji, 2011) and hence the need to examine local building materials that are available and easily accessible for housing construction at affordable cost.

Any attempt to reduce the affordability of housing to a single percentage of income no matter how low or high simply does not correspond to the reality of fundamental and obvious differences among households. Even attempts to establish a few prototypical groups and have somewhat different percentages for each, or set up narrow ranges to recognize some differences, fail to grapple in a logically sound way with the range of variation in what households really can afford to pay. Households can and do pay a great deal or very little for housing, whatever their income level, as any data on housing expenditure-to-income ratios demonstrate (Stone, 2006). A definition of housing need based on the ratio is simply not a valid measure. It fails to account for the diversity in household types, stages in the life cycle of the maintainer(s) of each household, the great diversity in household consumption patterns, and the problem of defining income the focus on only cash income. Also supporting this assertion, past studies have shown that households' socio-economic attributes like sex, income (Varady & Preiser, 1989; Abiodun et al, 2005; Jaafar, 2009); marital status, income, education (Dia-Serrano, 2006; Ibem & Amole, 2012, Ong, 2013); and tenure status (Ogu, 2002, Aliyu *et al*, 2012) play important role in residents' housing affordability and housing needs or types.

In addition, studies conducted in the 1980s and 1990s international agencies, multilateral bodies, governments and scholars elaborated on the concept of enabling strategy to housing types development. Housing enablement or enabling strategy to housing is a concept that favours the government assuring the role of supporter in contrast to provider in the housing sector. Instead of embarking on the construction of dwelling units, the government is to concentrate on managing the legal, regulatory and financial framework in such a way as to create an environment for the people and the private sector to provide housing (UNCHS, 1996). Pugh (1997) explains that: "Enablement was understood to retain government responsibilities for the performance of the housing sector, but not by directly providing it. Provision was the responsibility of the market, non-governmental organizations, community-based organizations and household self-help; but the government would have important roles to play in policymaking, in providing infrastructure services and in undertaking institutional loaded reform (Pugh, 1997)".Furthermore, the underline concept of this study is hinged on the SDG of no poverty (Goal 1), affordable and clean energy (Goal 7) and sustainable cities& communities (Goal 11). For instance, poverty may cause disability through malnutrition, poor healthcare, and dangerous living conditions; while sustainable cities goal is to ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums This is the concept which is adopted in making recommendations for this study.

3. STUDY AREA AND RESEARCH METHODOLOGY

The study area is Makoko in Lagos mainland government area of metropolitan Lagos. It is one of the most urbanized parts of Nigeria. Lagos is the economic hub of Nigeria and houses more than 50% of manufacturing industry outfits. It is the nodal point of all transport modes – air, water, road and rail. Makoko lies within the south-eastern part of Metropolitan Lagos. It is bounded on the North by Iwaya and University of Lagos, at the West by Ebute-Meta, South by the Third Mainland Bridge and East by the Lagos Lagoon (see figure 1). The Makoko community sprang up in the early nineteenth century. The settlement is surrounded by a mass of abundant Akoko trees, wild swamp vegetation and animals. The community is dominated by the Ilajes and Eguns, there are also Yorubas with few Igbos and other ethnic groups. Land ownership is vested in two families namely: the Oloto and Olaiye family. The residents of the area are confronted with severe flooding, especially during the wet season.



Source: Lagos State Urban Renewal Authority, 2017.

Figure 1: Map of Lagos Mainland Local Government Area depicting the Study Area; Makoko



Plate 1: An aerial view of the study area; Makoko

The research method adopts residential building/housing types as the sample frame. The house types are cement bungalows, brick bungalows, plank/bamboo bungalows, terrace buildings and storey buildings. A reconnaissance survey of the study area revealed the total housing units in the study area to be 1,059 which is the sample frame for the study as shown in Table 1.

Housing materials types	Number of units	Percentage(%)
Plank/bamboo bungalow	550	52
Cement bungalow	265	25
Storey building	138	13
Brick bungalow	74	7
Terrace building	32	3
Total	1,059	100

TABLE 1: Number and types of housing inMakoko (2017)

Field survey, 2017

Based on the assertion that the higher the sample frame the lower the sample ratio, this study used a sample size of 24% of the sample frame. This is because the variance estimate of the total population of 1,059 housing units is 0.243 and when converted to percentage gives approximately 24%. This resulted in 254 housing units and consequently became the total number of questionnaires that were administered and the respondents are the household heads or their representatives. The sample size distribution is shown in Table 2.

Housing type	Number of units	% of housing type	Number of units	(%) of total
Plank/bamboo	550	24	132	52
bungalow				
Cement bungalow	265	24	64	25
Storey building	138	24	32	13
Brick bungalow	74	24	18	7
Terrace building	32	24	8	3
Total	1,059	24	254	100

TABLE 2: Distribution of sample size (2017)

The sampling technique used was multi-stage sampling, which involves the use of several different sampling techniques and various stages of the sampling. In the first stage, the study area is subdivided into four zones or clusters using the natural demarcation by the river tributaries and landmarks. In the second stage, the buildings or houses in the sub-divided zones are identified and classified by types such as bungalow (cement/brick/plank/bamboo), terrace and storey buildings. Finally, the identified housing types are randomly selected for questionnaire administration on the households' heads or their representatives. Data on the socio-economic attributes of the residents and the types of houses occupied were collected. The data collected are analyzed using both descriptive and inferential methods.

4. DATA ANALYSIS AND RESULTS

Socio-economic attributes of Respondents

The gender, age and marital status analysis as shown in table 3 revealed that 140(55.1%) of the respondents were males while114 (44.9%) were females, 92(36.2%) are between the ages of 20-40 years, 91(35.8%) are between the ages 41-60 years, 45(17.7%) are less than 20 years and 26(10.2%) are above 61 years. It also reveals that 127(50%) of the respondents are married, 82(32.3%) are single,26 (10.2) are divorced and 19(7.5%) fall into the other category. This indicates that respondents in the study area are mostly male, between the ages of 20-40 years and are married, which implies young households in dare need of housing for the wife and children

Table 3: Socio – Economic Attributes (N = 254)

S/N	Attributes	Frequency	Percentage
1	Gender : Male	140	55.1
	Female	114	44.9
	Total	254	100.0
2	Age: Less than 20 years	45	17.7
	20-40	92	36.2
	41-60	91	35.8
	61 years and above	26	10.2
	Total	254	100.0
3	Marital Status: Single	82	32.3
	Married	127	50.0
	Divorced	26	10.2
	Others	19	7.5
	Total	254	100.0
4	Household size: Below 3	18	7.1
	3 – 5	42	16.5
	6 – 7	132	52.0
	Above 8	62	24.4
	Total	254	100.0
5	Educational level: Primary	71	28.0
	Secondary	58	22.8
	Technical	50	19.7
	Tertiary	75	29.5
	Total	254	100.0
6	Employment level: Formal	49	19.3
	Informal	80	31.5
	Retired	25	9.8
	Unemployed	51	20.1
	Student	49	19.3
	Total	254	100.0
7	Income level: less than N5,000	146	57.5
	N5,000 – N10,000	70	27.6
	N10,000 - N25,000	13	5.1
	N25,000 – N50,000	25	9.8
	Above N50,000	0	0.0
	Total	254	100.0

Field survey, 2017.

Also, table 3 shows that 132(52.0%) of the respondents have household sizes between 6-7 persons, while 62(24.4%) have above 8 persons, 42(16.5%) are 3-5 persons in a household and only 18(7.1%) are below 3 persons. The study revealed that the majority of the entire respondents have a household of over 6 persons and this indicates that the occupancy ratio is very high.

Furthermore from table 3, the analysis of educational, employment and income level indicates that 75(29.5%) of the respondents have technical education, 58(22.8%) secondary education, 26(10.2%) none and 24(9.5%) tertiary education. Employment status shows that 80(31.5%) are employed in the informal sector, 51(20.1%) unemployed, 49 (19.3%) formal, 49(19.3%) students and 25 (9.8%) retired. The table

also reveals that 146(57.5%) of the respondents earn less then N5,000 per month, 70(27.6%) earn between N25,000- N50,000, 13 (5.1%) earn between N10,000-N25,000 and (0%) earn above N50,000. These earnings were estimated based on the nature of their daily businesses which were petty or informal like fishing activities as shown in plates 2 & 3. It can be deduced from the table that the majority of the respondents have attained primary education, are informally employed, and earn less than N5,000 per month. This indicates that the majority of the respondents can be categorised as poor as they live on less than \$1(or 400 nairas)per day which is the global poverty line by the United Nations. This implication is profoundly reflected in the standard of living in the study area.



Plate 2 and 3: Showing typical views of fishing activities in the study area as informal employment and source of income

Housing attributes of the study area

From table 4, the study shows that a total of 141(55.5%) of the houses are owner-occupied houses and 113 (44.5%) rented houses. Also, housing types show that 123(48.4%) of the houses are plank/bamboo bungalows, 66(26.0%) cement bungalows, 39(15.0%) storey buildings, 16(6.3%) brick bungalows and 10 (3.9%) terrace buildings. Furthermore, the number of rooms in a house shows that 87(34.3%) of the buildings have above 8 rooms, 58(22.8%) 8 rooms, 38(15.0%) 7 rooms, 34(13.4%) 6 rooms, 14(5.5%) 5 rooms, 13(5.1%) 4 rooms and only 10(3.9%) are less than 4 rooms. This suggested that the majority of the houses in the study area are owner-occupied, plank/ bamboo houses and have over 6 rooms. Further investigation by direct interview and personal observation revealed that cheap and readily availability of plank/bamboo as building materials and culture attributed to the choice of this housing type.



Plate 4:Bamboo bungalow in the study Plate 5: Plank bungalow in the study area Table 4: Housing Attributes (N= 254)

S/N	Housing Attributes	Frequency	Percentage
1	House status: Owner occupied	113	44.5
	Rented house	141	55.5
	Total	254	100.0
2	Housing type: Cement bungalow	66	26.0
	Brick bungalow	16	6.3
	Plank/Bamboo bungalow	123	48.4
	Terrace building	10	3.9
	Storey building	39	15.4
	Total	254	100.0
3	Number of rooms: Less than 4	10	3.4
	4	13	5.1
	5	14	5.5
	6	34	13.4
	7	38	15.0
	8	58	22.8
	Above 8	87	34.3
	Total	254	100.0

Field survey, 2017

The variables of the socio-economic and housing attributes were entered into a regression analysis to determine their relationship. These socioeconomic variables were examined along with the predominant housing type, Plank/Bamboo houses as shown in Table 5. The socio-economic variables include gender (GEN), age (AGE), marital status (MAST), household size (HHS), Education (EDU), employment status (EMST) and income (INC).

The results of the regression analysis are presented in table 5. The overall performance of the regression analysis is fairly good as indicated by R² statistics of 0.556 and F – value of 0.415. The R² value means that 55.6% of the overall explanations of various housing types in the study area are provided by the socioeconomic variables entered, though some are not significant as shown by their t-values and significance level. The AGE coefficient indicates has a positive relationship with the Plank/Bamboo housing type. The age of the respondents shows that people mainly between 20 and 60 years occupy bamboo houses but the result is not significant. Also, the GEN variable is not significant but has a positive relationship with the housing type. This means that males or females are occupying Plank houses and this is expected as the predominant house type. The MAST variable is fairly significant and the coefficient indicates that marital status has a positive relationship with the bamboo housing type. This means that the observed increased number of married people end up occupying bamboo houses.

variables	Regression coeff.	Standard error	t-value	Sign. level
AGE	0.018	0.114	0.225	0.345
GEN	0.085	0.167	1.341	0.181
MAST	0.044	0.116	0.581	0.066
HHS	0.225	0.101	0.256	0.045
EDU	-0.134	0.156	-0.735	0.124
EMST	-0.325	0.903	-0.654	0.006
INC	-0.456	0.834	-0.763	0.004
Constant	2.792	0.652	4.282	0.000
$R^2 = 0.556$, SEE = 0.967, F – value = 0.451 @F = 0.05</td				

Table 5: Regression analysis of Socio-Economic Characteristics and Housing Types: Plank/Bamboo

Household size (HHS) is another variable further analysed and the coefficient shows that it has a significant positive relationship with the house type. This means that increase in the number of persons in a household is associated with bamboo housing type. The education (EDU) variable is not significant and the coefficient has a negative relationship with the house type. This is to say that residents of different educational backgrounds are occupying bamboo houses. The next variable (EMST) is highly significant despite the negative relationship with the house type. The negative relationship explains the predominance of employment in informal sectors with minimum earnings and hence can only afford bamboo houses. Relative to EMST is the income (INC) per month, which is also highly significant. The INC coefficient indicates a negative relationship with the house type. This means that the more the resident earns less than N5,000 per month, the more the inability to afford high-cost cement houses but only the cheap and affordable bamboo houses.

This analysis summarises that only the variables of income, employment status and household size are significant with a meaningful relationship with the house type. Therefore, income, employment status and household size are the significant socio-economic determinants of housing types, especially plank/bamboo houses in the Makoko area of Lagos

5. CONCLUSION AND RECOMMENDATIONS

The paper investigated the socio-economic characteristics that influence the choice of housing types in Makoko, arising from the fact that housing provision for the urban poor in developing countries has been a major concern globally. The socio-economic characteristics show that the males and females are fairly equal in number, whose average age is between 20 – 60 years but mostly married with large household sizes and have various levels of education mainly in informal activities, earning less than N5,000 per month. The housing attributes indicate that there are mainly Plank/Bamboo rental housing with an average of more than 8 rooms. Beyond the dwelling attributes, the area lacks basic facilities and the environmental conditions are very poor. The relationship is that the socio-economic characteristics that determine the choice of Plank/Bamboo house types in Makoko include income level, employment status and household sizes because of their affordability. This conclusion supports the studies of Abiodun et al (2005); Jaafar (2009); Dia-Serrano, (2006); Ibem & Amole, (2012), Ong, (2013), that have shown that socio-economic attributes like sex, income, marital status, income, education play important role in residents' housing affordability and housing materials types used for construction.

The recommendations are that a holistic approach should be made by the government to improve the housing conditions of the urban poor dwellers. This approach should include the conduct of research on durability and functionality of plank and bamboo houses, alleviation of the welfare of the urban poor,

involvement of the stakeholders in any development efforts and review of existing policies on housing that affect urban poor, especially the eviction and demolition approach.

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