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SUSTAINABLE HOUSING SATISFACTION DETERMINANTS IN METROPOLITAN LAGOS, NIGERIA

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ABSTRACT

An important component of housing consumption is housing satisfaction. The determinants of housing satisfaction have been well documented in literature. Meanwhile, the determinants across the residential densities have not been well outlined, especially in Lagos. This paper, examines the sustainable determinants of housing satisfaction in various residential density areas in Lagos metropolis, Nigeria. The paper adopted a multi-stage sampling technique by stratifying the residential areas into high, medium and low density. The study identified 186 residential neighborhoods, forty-seven were proportionately selected randomly, from low (5), medium (15) and high (27) density zones. Two thousand, three hundred and thirty-nine (2,339) households were systematically selected in low (359), medium (945) and high (1035) residential areas (a household per building) from 1,528,629 households. Findings showed that two of the variables are positively correlated and significant in low and medium densities i.e. number of rooms occupied and type of buildings, while one (1) variable in high density (number of rooms occupied). Descriptive and correlation analysis were used to analyze the data at $p<0.05$ significance level. The study concludes that number of rooms occupied, types of building are the sustainable housing satisfaction determinants in medium and low density areas while number of rooms occupied is a major determinant in high density areas. Therefore, sustainable housing satisfaction determinants varied across the residential densities in Lagos metropolis, Nigeria,

Keywords: Housing Attributes, Sustainable Housing Satisfaction, Determinants, Lagos, Nigeria

INTRODUCTION

Every human being desire a house as a basic item, this has made housing to be a concern to researchers, designers and policy makers. Housing is not just a place to keep people safe from dangers, it is also considered as a shelter that humans can find themselves (Bechtel, 1997; Aragones, 2002).Housing is conceived by Aribigbola (2005) to include the buildings, the environment and the structural facilities that accommodated man's living and convenience. He stressed that housing includes the social services and utilities that make a community or neighbourhood livable. Housing encompasses all phenomenon of the creation of the living environment where man lives, housing supplies man's needs biologically (clean air, water), psychologically (contentment, prestige, satisfaction, privacy, choice, security, freedom) and socially (interaction with others, human development and cultural activities) (Olotuah ,2009; Olayiwola, 2012).

Inadequate housing as a result of high level of urbanization with increase in population explosion has led to increase in housing demands and needs in many urban areas (Housing Challenge, 2016), especially in developing countries like Nigeria. Jiboye (2008) however explains that when developing housing for different categories of people, whether for high, medium or low income groups, what to consider are more than the physical and structural efficiency of the dwelling, because, a house may be adequate from the engineering or design point of view but may not necessarily be adequate from the occupant's point of view.

Housing satisfaction is seen as a constituent of the general quality of life of the home owner (Adam, 1984).Also, Oliver (1981) argues that generally, satisfaction is the impression that the consumers have, which is the discrepancy between the consumers' expectations and what they actually feel about the experience. It measures the extent of satisfaction with the housing situation (McCray and Day, 1977). Vera-Tosacano and Ateca – Amestoy (2007) describes housing satisfaction as a component that is drawn out of the degree of contentment that a given housing situation provides to an individual. In order to achieve sustainable housing satisfaction, the human settlements should be planned, developedto guide housing development to meet households' needs and wants, also, there is the need to identify the factors that account for sustainable housing satisfaction among house owners and occupiers.

Researchers have carried out various studies in the housing sector to identify the issues of determinants ofhousing satisfaction and a number of important determinants of housing satisfaction have been identified. Despite the insights provided by the existing studies, there is absence of a general pattern of housing satisfaction across various residential density areas. This paper examines the sustainable housing satisfactiondeterminants across the contrasting residential density areas in Lagos metropolis, Nigeria.

CONCEPTUAL ISSUES

Three major concepts are discussed in this paper namely: socio-economic attributes, housing attributes and housing satisfaction.Housing satisfaction has been conceptualized by various scholars, ranges from the gap between inhabitant's needs and aspiration, satisfaction with the housing unit, neighbourhood and the environment it is situated to the perception

and feelings of the residents for their housing units. (Varady and Preiser,1998; Onibokun, 1974 and Ogu, 2002).Djebarni and Al-Abed, (2000) viewed it as a predictor of individual's perceptions of general "quality of life" and the degree of contentment experienced as regards their housing. Ilesanmi (2005), described housing satisfaction as the pleasure people derived from their housing units, the neighbourhood, and the neighbours. Olayiwola (1997) viewed housing staisfaction as the positive value derived from living in a house and the totality of the environment. It was stressed that satisfaction is relative depending on social characteristics and the perceived assessment of physical and neighbourhood characteristics, access to essential facilities; adequacy of basic local facilities and services of the house.

Housing units are provided to meet and satisfy the needs of residents or the occupants. Socio-economic characteristics of the residents is one of the attributes associated with housing satisfaction (Diaz-Serrano, 2006; Galster, 1987). The personal characteristics, the economic status and the behavioural patterns of inhabitants varies, therefore, acceptable and adequate accommodation of the residents varies. People's characteristics have a very strong association with their conception of "housing satisfaction".

One of the factors that determine relative satisfaction of people as regards their accommodation is the house. Therefore, the adequacy of a house has great impact on the residents and this is not limited to the engineering elements but also by social, behavioural, cultural, and other elements in the societal environment system. In other words, housing satisfaction is determined by relevant housing attributes. In arriving at housing satisfaction certain housing attributes must be present in interactive manner. Housing attributes can be described as the physical condition of the housing unit, the condition of the basic household amenities, the condition of the environment, as well as the institutional arrangements under which the house is managed. This attributes will influence the extent to which the occupant (resident) will be satisfied with the housing unit. This standpoint is considered relevant to this study.Considering the various attributes of housing satisfaction, the housing unit itself which is one of the housing attributes is considered to know its import on housing satisfaction in Metropolitan Lagos, Nigeria.

HOUSING FEATURES, TYPES AND CONDITIONS

Housing satisfaction is related to the structural conditions of a house and the features that are part of the buildings (Ukoha& Beamish, 1997). Building conditions and other related features have been classified by Onibokun (1974) as dwelling subsystems of the housing unit that influence the level of housing satisfaction. McCray and Day (1977), further submitted that housing construction supposed to consider the needs and t family types who are to inhabit it, this iscritical in the establishment of human habitats. There are different types of buildings, from terrace house to detached house and flats, portends different levels of satisfaction to their residents. It has been established in literature that level of housing satisfaction differs based on the type of dwelling occupied by the household.

Literature attests that, in determining housing satisfaction, housing characteristics are critical factors compared to the residents' demographics (Lane and Kinsey,1980). They found that relocation takes place when residents are not satisfied with the house they are residing in. In another study carried out by Peck and Stewart (1985), it was reported that demographic factorsinfluence the satisfaction level of residents besides building features. Researchers further established that housing

characteristics, among which are the sizes of bedrooms, number of bedrooms, living rooms,kitchens, bathrooms, the level of privacy, staircases, the location of bedrooms, living rooms, dining areas, kitchens, and the overall size of the house.A good building structure is an important indicator determining the quality of housing and the value of a dwelling (Kutty, 1999).

Duncan (1971) from Ramdane and Abdullah (2000) viewed housing quality in three dimensions, from the internal aspects of a dwelling unit, its external aspects as well as its surrounding area on the whole. According to Elsinga and Hoekstra (2005), the higher the quality of a dwelling, the higher the resident's satisfaction towards it. They submitted that in assessing housing quality, one variable only is not sufficient; other various aspects must be considered, whether on subjective or objective dimensions. Housing quality was divided into 5 critical factors by Kain and Quigley (1970), namely basic housing quality factor, dwelling unit quality factor, surrounding property quality factor, non-residential land use factor, and structural average quality factor. According to Kain and Quigley (1970), basic housing quality factor refers to the index used to measure the housing surrounding area's external physical quality. Dwelling unit quality factor is assessed from the structural aspects and internal hygiene of the dwelling unit, whilst surrounding property quality factor is assessed from the general cleanliness of the surrounding area, its ambience, and landscaping. The factor of quality for non-residential uses is measured from the effects of industrial and commercial uses in residential area. The effects are assessed based on the level of discernible noise, air quality, and traffic flow in the area. The structural average quality factor is assessed based on the structural quality on the building facade.

Ukoha and Beamish (1997) in their study established that households with different socio-economic backgrounds have different levels of aspiration, tolerance, and psychology on satisfaction towards housing. This opinion coincides with the findings by Bruin and Cook (1997) on matriarchal low income single families, which indicates that personality traits are good precursors to satisfaction towards housing. Past research done by Husna and Nurizan (1987) on low income residents at Dewan Bandaraya Kuala Lumpur public housing have found a different level of satisfaction in the housing system provided by the government among different ethnic backgrounds. They found that the Malays have the lowest level of satisfaction for the housing provision as compared to the Chinese and Indians. Some of the items studied under this variable are income and also the level of education attained by occupants. The study done by Husna and Nurizan (1987) found that residents who attain a low level of education indicate a high level of satisfaction in all aspects of their dwellings (except neighbourhood aspects), compared to those with higher level of education. Their study also found that income does not display any relationship with the level of satisfaction for all aspects of housing. Galster (1987) in a similar study discovers that older residents have a lower level of aspiration but a higher level of tolerance towards any shortcomings compared to the younger ones. This study will confirm whether socio-economic characteristics have a bear on housing satisfaction or not.

SUSTAINABLE HOUSING SATISFACTION

Housing satisfaction has been described as the perceived gap between the present conditions of a house and what is expected of a house by the occupants. As viewed by Djebarni and Al-Abed, (2000) it is the predictor of individual's perceptions of general "quality of life" and the degree of contentment experienced as regards their housing. Sustainable development has often been defined as development that meets the needs of the present without compromising the ability of future generations to meet their needs (World Commissions for Environment andDevelopment, 1987). 'Meeting the needs of the present' refers

to the development aspects ofsustainability, which includes economic, social, cultural and political issues. Therefore, in order to achieve sustainable housing satisfaction, the human settlements should be planned, developed and improved in a manner that takesfull account of sustainable development principles and satisfying elements on the part of housing residents. Sustainable housing satisfaction could be described as away of developing and maintaining the living environment that support human satisfaction (both physical andpsychological), satisfying their shelter needs along with protecting and preserving the nature for futuregenerations.Also, to achieve the SDGs goals number 11, which is to make cities and human settlements inclusive, safe, resilient and sustainable, there is need to ensure access for all to adequate, safe and satisfying housing wherebasic services are provided. To achieve this, the sustainable housing satisfaction determinants must be identified.

RESEARCH METHODOLOGY

The Study is set in the metropolitan Lagos. Lagos is located on the south-western coast of Nigeria, between latitude 6° and 7° North of the equator, and longitude 3° and 4° east of the Greenwich Meridian. The city has a total area of 1,090 km2 where about 208 km2 are covered by water and mangrove swamps. The current official population figure released by the national population commission of Nigeria in 2006 is 9 million. The provisional results of the 1991 census gave Lagos metropolis a population of 5.3 million or 93 per cent of the total population of Lagos State. The National Population Commission (NPC, 2006) gave 7,937,932 as the number of people residing in Lagos Metropolis. According to Lagos Digest of statistics (2015), the Lagos State government estimates the current population of the state to be about 22 million people, making it 10 per cent of Nigeria's population, which was recently put at 188 million by the National Population Commission. However, the projected population was used in this study.

The economic, administrative, social, and institutional growth makes Lagos an attractive place to settle for migrants. According to TEAM Lagos (2011), Lagos has the largest urban agglomeration in Africa, Africa's most populated city (18m), and experiencing a population growth rate of 6% per annum. It is expected that the population of Lagos megacity will be 24.4 million by 2015, making it the world´s third largest city, after Mumbai, with 27.4 million, and Tokyo, with 28.7 million (George, 2010). Lagos is among the biggest and most populous cities in Nigeria. Lagos is the main city of Lagos State, which is situated in the southwestern coast of Nigeria. The Metropolitan area of Lagos takes up to 37 percent of the land area of Lagos State, and houses about 90 percent of its population (UNICEF 1995, Aina, 1990). Lagos constitutes of two major regions: the Island, which is the original city, and the Mainland which is made up by rapidly growing settlements.There are more migrants moving into Lagos Metropolis (mainly in search of jobs), than into all other cities in Nigeria put together; for example, between 1952 and 1963, the population of municipal Lagos rose from 267,407 to 665, 246 an annual increase of 8.6 percent.Outside the municipality, Lagos has amassed a further 424,622 people since 1963, making a metropolitan total of 1,089,868. The metropolitan population therefore grew by 19.2 percent, per annum.

By 1991, the population had increased to about 1.5 million. In order to cope with the fast-rising population in Lagos, it has been estimated that about 100,000 additional residential units are required each year. Yet there is evidence that nothing near this target is being built each year, either by government and its housing agencies, or by private individual in the Lagos area. In more recent years, the situation has not improved considerably. For example, if approved building plans are anything to go

by, about 4 million housing units only were supposed to be completed monthly in 1991, making a total of 4,800 housing units annually.Lagos is regarded the most densely populated metropolis where housing demand is at the highest in Nigeria, it has in some locations like Ajegunle where the household size ranges between 8 and 12.

The study adopted multi-stage sampling technique, the residential areas were stratified into low, medium and high density areas. Forty-seven (47) residential neighbourhoods out of the total of 186 were selected randomly from low (5), medium (15) and high (27) density zones in the second stage while streets were selected in the chosen neighbourhoods at the third stage. A systematic random sampling technique was used to select 2,339 households in low (359), medium (945) and high (1035) residential areas (a household per building) from 1,528,629 households. A structured questionnaire containing the socio-economic characteristics (age, gender and income level) and housing conditions (dwelling/ building attributes, location, security and facilities) was administered on the households. Quantitative data were analyzed using descriptive and correlation analysisat $p \leq 0.05$ significance level.

FINDINGS AND DISCUSSION

Socio-Economic Characteristics of Respondents Acrossthe Residential Density Areas in Lagos Metropolis

The socio-economic variables identified include sex, age, marital status, religion, tribe/ethnicity, occupation, educational status, income level and household status of respondents. The analysis here is both descriptive and inferential.

Table 1 shows that 55.8% of the respondents were males and 44.2% were females in the study area. When considered along residential densities, the pattern is similar. Across the residential densities, there were more males' respondents than females. The male respondents constitute 57.9%, 56.3% and 54.7% in the low, medium and high density areas respectively. The female respondents in the low, medium and high density areas are 42.1%, 43.7% and 45.3% respectively.

Analysis of age of respondents across the density areas as revealed in Table 1 shows that respondents in the age group of 18-30 predominates (48.1%), next are those between 31-45 (33.9%) and 46-60 (14.6%). The pattern across the densities is however slightly different. The highest proportion of those in the 28-30 years is found in the high density (52.3%) against the lowest (37.8%) in the low density areas. However, in the 31-45 age groups; the highest proportion is found in the low density areas (38.3%) and the lowest in the high density areas (30.1%). Again, the highest proportion of respondents who are above 60 years is found in the high density areas (40%) against the lowest (2.7%) in the medium densities. This reveals that age distribution pattern varies across density areas. The highest percentage of the age group are the younger people between age 18 and 45 (about 80%).

Result of the survey conducted in the study area highlights the predominance of married households over other categories. This is evident from the figure presented in Table.1, as 49.8% of respondents in the study area are married while 41.7%, 3.4%, 2.5%, 1.5% and 0.9% of the household respondents are single, widow, divorced and separated respectively. This result is expected, as married people traditionally exercise the responsibility of providing housing for their family, and are more likely to prefer ownership of housing. In disaggregated form, the result shows that there are more married household respondents in the low density area (53.1%) than the medium and high densities respectively (49.4% and 49.1%). From the

analysis, it could be established that the highest proportion of the respondents (49.8%) are married. This conforms with the findings in the literature that family life and marriage are strong contributors to overall housing satisfaction (Maran and Rodgers, 1975; Campbell *et al*., 1976). This, will however, gives adequate perceptions and assessment of sustainable housingsatisfaction in the study area

Table 1: Socio-Economic Characteristics

s/n	Characteristics	Density types/categories						Total	
		Low		Medium		High			
		No	%	No	%	No	%	No	%
1	Gender								
	• Male	199	57.9	508	56.3	541	54.7	1248	55.8
	• Female	144	42.1	395	43.7	448	45.3	987	44.2
2	Age								
	• 18 – 30years	130	37.8	428	47.4	517	52.3	1075	48.1
	• 31 – 45years								
	• 46-60years	131	38.2	329	36.4	297	30.1	757	33.9
	• 61years and above	70	20.4	121	13.4	135	13.6	326	14.6
		12	3.5	24	2.7	39	4.0	75	3.4
3	Marital Status								
	• Single	130	38.1	378	41.7	425	43	933	41.7
	• Married	182	53.1	446	49.4	486	49.1	1114	49.8
	• Divorced	13	3.8	24	2.7	19	1.9	56	2.5
	• Widow	11	3	33	3.6	33	3.3	77	3.4
	• Widower	4	1.1	10	1.1	19	2	33	1.5
	• Separated	3	0.9	12	1.4	6	0.7	21	0.9
4	Education Attained								
	• No Formal Education	9	2.7	27	3	42	4.2	78	3.5
	• Primary Education	61	18	48	5.4	84	8.4	193	8.6
	• Secondary Education	134	39	306	34	447	45	887	39.7
	• Tertiary Education	139	41	522	58	416	42	1077	48.1
	Total	343	100	903	100	989	100	2235	100

Source: Author's Field work, 2016

Table 1: Socio-Economic Characteristics Continued

s/n	Characteristics	Density types/categories						Total	
		Low		Medium		High			
		No	%	No	%	No	%	No	%

5	Employment Status								
	• Public Service (Government)	64	18.5	220	24.4	271	27.4	555	24.8
	• Self Employed	48	14	352	39	326	33	726	32.5
	• Private But not Self Employed	123	36	62	6.9	72	7.3	257	11.5
	• Unemployed	21	6	51	5.7	62	6.3	134	6.0
	• Retired	25	7.2	51	5.7	99	10	175	7.8
	• Student	62	18.2	162	17.9	159	16.1	383	17.1
6		0	0.0	108	12	267	27	375	16.8
	Monthly Income	10	2.9	217	24	178	18	405	18.1
	• < N 18,000.00	75	21.9	135	15	88	8.9	298	13.3
	• N18,001.00 – N40,000.00	78	22.9	117	13	75	7.6	270	12.1
	• N40,001 – N60,000	75	21.9	171	19	109	11	355	15.9
	• N60,001 – N90,000	106	30.9	154	17	287	29	547	24.5
	• >N90,001								
	• Not Applicable								
	Total	343	100	903	100	989	100	2235	100

Source: Author's Field work, 2016

As presented in Table 1, the respondents' highest attainment shows that close to a half of respondents (48.1%), is educated to tertiary level. Respondents with post-primary (secondary) education (39.7%), those with primary education (8.6%) and about 3.5% has no formal education, but has acquired basic educational training. In disaggregated form, (58%) of the respondents have tertiary education in medium density areas, compared to high density areas (42%) and low density areas (41%). The overall analysis showed that higher proportion of the respondents are literate (84%).

Respondents' employment status shows that 11.5% are privately employed, 24.8% of the respondents are in government/public service employment, a third of respondents in the study area (32.5%) are self-employed. Other categories of occupation, includes in the survey are students (17.1%), retirees (7.8%), and unemployed (6.0%). The pattern observed across the densities shows that the lowest proportion of respondents who are self-employed is found in low densities (14%) and highest proportion are found in the medium density areas (39%). The pattern observed among respondents in relation to

unemployment furtherreveals that the highest proportion of respondents are found in high density areas with 6.3% compared to 5.7% in the medium density areas. Further findings in Table 1 reveals that more than a half (67%) of the respondents are employed and this provides a good assessment of employed residents in their respective housing units.

The analysis of the estimated monthly income of respondents shows that 18% earn ₦18,000 and below (low income earners), 43.2% earns between₦18,000 and ₦60,000, 14.9% of the respondents earns above ₦60,000, and those without any income who are likely to be unemployed and students' population constitute 24.5%. There are differences in the distribution of income groups across the residential densities, especially among the low and high income groups. For example, the highest proportion of low income group is found in the high densities with 26.7% compared to 2.9% and 12% in the low and medium densities respectively (Table1). This reveals that low income earners are more prevalent in medium and high densities areas, while high income earners are mostly found in low density areas.

The study reveals that level of education varied across the residential densities, 58% of the respondents have tertiary education in medium, low (40%) and high density areas (41%). The pattern observed in relation to unemployment further reveals that the highest proportion of respondents are found in high density areas with 6.3% compared to 5.7% in the medium density areas. There is variation in the income groups distribution across the residential densities, the highest proportion of low income group is found in the high densities with 26.7% compared to 2.9% and 12% in low and medium densities respectively.

TYPES OF BUILDING

About 21.2% of the respondents live in Brazilian type of rooming house, sharing facilities with other residents (Table 3). Further analysis reveals that 12% of the medium density residents occupy rooming houses, while 37% of the residents in the high density area inhabit such dwelling units. However, no resident in the low density areas live in rooming houses. A significant proportion of 13.40% of the respondents resides in single room apartments with exclusive shower, toilet and kitchenette, while 10%, 13% and17% of the respondents in the high, medium and low density areas respectively live in duplexes. This shows that the lower the residential density, the more likely it is that one has exclusive ancillary facilities. Furthermore, typical housing type tends to differ with regards to neighbourhood classification.

Table 3.0: Building Characteristics

s/n	Characteristics	Density types/Categories						Total	
		Low		Medium		High			
		No	%	No	%	No	%	No	%
1	**TYPES OF BUILDINGS**								
	Traditional compound	0	0	0	0	0	0	0	0
	Rooming House	0	0	108	12	366	37	474	21.2
	Single Room	34	10	108	12	158	16	300	13.4
	Apartment								
	Flat	254	71.3	541	59.9	237	24	1023	45.8
	Duplex	58	17	117	13	99	10	274	12.3
	Others	7	2	33	3.6	28	2.8	68	3
2	**NO. OF ROOMS**								
	1 room	0	0	0	0	138	14	138	3.2
	2 rooms	0	0	379	42	356	36	735	32.9
	3 rooms	161	47	479	53	415	42	1055	47.2
	Above 3 rooms	182	53	45	4.9	80	8.1	307	13.7
3	**AGE OF BUILDING**								
	0-10 years	65	19	262	29	435	44	762	34.1
	11-20 years	96	28	244	27	307	31	647	29
	21-30 years	113	33	199	22	307	16	470	21
	31-40	30	8.8	117	13	158	4.5	192	8.6
	41-50	22	6.4	55	6.1	18	1.8	95	4.3
	>50years	18	5.2	21	2.3	26	2.6	65	2.9
4	**SAFETY**								
	Adequate	254	74	623	69	682	69	1559	69.8
	Inadequate	79	23	262	29	287	29	628	69.8
	Others	11	3.1	18	2	20	2	49	2.2
TOTAL		**343**	**100**	**903**	**100**	**989**	**100**	**2235**	**100**

Source: Author's Field work, 2016

CORRELATION COEFFICIENTS OF HOUSING SATISFACTION WITH SELECTED COMPONENTS OF HOUSING UNITS IN LAGOS METROPOLIS

Table 4.0 reveals that a significant relationship exists between housing satisfaction and some selected building components. These variables have correlation coefficients of 0.017 and 0.192 i.e. types of buildingand number of rooms occupied by

respondents respectively. This suggests that occupants' satisfaction increases as the types of building and number of rooms occupied became satisfactory and, as the conditions of building changes/improves within the study areas.

Furthermore, variables like age of building, improvement required on building, accessibility to building and safety, have correlation with housing satisfaction despite being negative.Variable like type of residential density have a very weak negative correlation with housing satisfaction. Therefore, this means that sustainable housing satisfaction decreases with a decrease in safety, access to building, improvement required, and increase in age of the building. On the other hand, sustainable housing satisfaction increases with increase in the number of rooms and building types occupied.

Table 4.0: Correlation between Housing Satisfaction and Housing Units

S/N	Significant variables	Correlation coefficients	Sig. (P)
1	Number of room occupied	0.192**	0.000
2	Type of building	0.071**	0.000
3	Age of building	-0.164**	0.000
4	Improvement required on building	-0.206**	0.000
5	Accessibility to building	-0.245**	0.000
6	Safety	-0.437**	0.000
7	Type of residential (low, medium and high)	-.005	0.000

Source: Author's Field Survey, 2016

**Correlation is significant at the 0.01level (2-tailed)

Table 5: Correlation coefficients of housing satisfaction with Housing units in Low, Medium and High Density Residential Areas

S/N	Significant variable	Correlation Coefficients			Sig.(P)
		Low density	**Medium density**	**High density**	
1	Number of room occupied	0.143**	0.224	0.258**	0.000
2	Type of building	0.399**	0.140**	-0.200**	0.000
3	Age of building	-0.047	-0.209**	-0.223**	0.000
4	Improvement require on building	-0.157**	-0.230**	-0.238**	0.000
5	Accessibility to building	-0.298**	-0.167**	-0.327**	0.000
6	Safety	-0.435**	-0.382**	-0.490**	0.000
7	House Tenureship	-0.152**	-0.260**	-0.284**	0.000

Source: Author's field work, 2016.

**Correlation is significant at the 0.01level (2-tailed)

CORRELATION COEFFICIENTS OF HOUSING SATISFACTION WITH HOUSING UNITS IN LOW, MEDIUM AND HIGH DENSITY RESIDENTIAL AREAS

Analysis in Table 5 shows the correlation-coefficients between housing satisfaction and housing attributes such as type of building, improvement required in building, accessibility to building, safety and house ownership. The table of correlation reveals that the six (6) variables are significantly correlated with housing satisfaction in low density areas. These are: number of rooms occupied (r = 0.143**), type of building (r =0.399**), improvement required on building (r = -0.157**), accessibility to building (r = -0.298**), safety (r = -0.435**) and house Tenureship (r = -0.152**).However, the most significant variables are building types and safety, meaning that housing satisfaction increases with type of building occupied but decrease with decrease in safety in low density areas.

Furthermore, in the medium density areas, all the seven variables are significantly correlated with housing satisfaction. They are number of rooms occupied (r = 0.224**), type of building (r = 0.140**), age of building (r =0.209**), roofing materials of building (r = 0.118**), improvement required on building (r = -0.167**), safety (r = -0.382**), and house Tenureship (r = -0.260**). Seven of the variables are also significant in high density areas, these include: number of rooms occupied (r = 0.258**), type of building (r = -0.200**), age of building (r = -0.223**), improvement required on building (r = -0.238**), accessibility of building (r = -0.327**), safety (r = -0.490**) and house Tenureship(r = -0.284**).

Most significant variables include safety, house ownership, improvement required and number of rooms.The result reveals some negative correlation among the variables. This suggests that occupants' level of satisfaction with their dwellings is inversely influenced by those variables within their housing units. However, from the aforementioned discussions, all the positively correlated variables across the densities imply that if some of the variables are adequate and their conditions improve, the occupants' level of satisfaction with their dwellings will be greatly increased. Analysis from the table also highlights thatonly two of the variables are positively correlated and significant in low and medium densities i.e. number of rooms occupied and type of buildings, while one (1) variable in high density (number of rooms occupied). This displays the level of variation among the residential density areas. From the results above, it can be inferred that correlations differ significantly across the residential densities.

Conclusion

The study reveals that some of the housing attributes identified in the literature i.e. housing subsystem are found to correlate with housing satisfaction. The study shows that the occupants' satisfaction with housing is influenced by number of rooms occupied, type of building, roofing materials, accessibility to building. Moreover, two of the variables are positively correlated and significant in low and medium densities i.e. number of rooms occupied and type of buildings, while one (1) variable in high density (number of rooms occupied). The implication of these findings is that sustainable housing satisfaction is dependent on the availability and adequacy of any of these attributes and it would have negative or positive effects on the occupants' satisfaction with their housing units.To achieve sustainable development, a responsive housing policy must therefore put into consideration the sustainable housing satisfaction determinants identified in consonance with the socio-economic realities and residential densities of the country. This finding supports Galster and Hesser (1981), Onibokun (1974) and Jiboye (2008).

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