ASSESSMENT OF BENEFICIARIES' SATISFACTION WITH PUBLIC MASS HOUSING DEVELOPMENT IN YOBE STATE, NIGERIA

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ABSTRACT

Despite the paramount of public housing development, there is also a growing concern and consideration on the impact of these programs on satisfaction of beneficiaries of the houses. Therefore, housing needs cannot be over emphasized for its craving to meet satisfaction of the target beneficiaries. This study aims to assess the satisfaction of beneficiaries of public mass housing development in Yobe State, Nigeria. The objectives are to assess the level of beneficiaries' satisfaction with public mass housing development in Yobe State and to determine the effects of housing features on beneficiaries' satisfaction of the public mass housing development in the study area. The study adopted a quantitative approach and data were collected through a questionnaire survey from 218 beneficiaries of the public mass housing estates proportionately in the study areas. The data collected were subjected to descriptive and inferential statistics with mean ranking, frequency distribution and multiple regression analysis to achieve the research aim. The study showed that, level of satisfaction with public mass housing development for items such as physical environmental condition, cost of house, drainage system and waste disposal system were ranked satisfied while measurement items for functionality of design, physical appearance of the house, reliability of water supply and roof performance were ranked moderate. With respect to independent variable (housing features) in public mass housing development, items of provision of gates/fences, accessibility to major roads, pedestrian paths and natural light and ventilation within apartment were ranked available. While measurement items for

quality of roofing materials, quality of finishes and frequency of garbage collection were ranked moderate in the study area. With regard to the inferential statistics, the independent variable Housing Features explained 26.3 % large significance ($p<0.001$) effect size on Beneficiaries' Satisfaction in the study area. The study further recommended that, attention should be paid more on items that were moderately ranked for optimal satisfaction of the beneficiaries of public housing projects in future public housing development by government for optimal satisfaction of beneficiaries.

Introduction

Despite the paramount of public housing development, there is also a growing concern and consideration on the impact of these programs on satisfaction of beneficiaries of the houses (Onifade & Saibu 2020). Researches have shown that public housing can have both positive and negative effects on residents' physical and mental health, social relationships, and economic stability (Zhang & Yuan 2023; Zhu & Holden 2023; Zhang & Liu 2023). Therefore, housing needs cannot be over emphasized for its craving to meet satisfaction of the target beneficiaries.

Governments at all level have embarked on the provision of residential housing units on a larger scale (Jegede, Adewole & Loved 2021). This type of housing provision is referred to as mass housing development; a form of large number of housing provision for large number of people, this is provided most times by the government and is refers to as public housing (Jegede, *et al.* 2021). Public housing programs are designed for the satisfaction of the housing users Saliu, and Sani, (2023). In a study by Onifade and Saibu, (2020) defined housing satisfaction as the level of fulfilment of a need and pleasure an individual wants to derive from a particular quality of housing.

Housing features in the context of this study refers to the physical attributes of the project such as size, nature of designs, and extent of resources involved (Ojo, Oladinrin & Obi 2021). In studies by (Bhandar, *et al.* 2022; Kostic & Jevremovic, 2020; Le, Kang & Kim, 2020; Ma, *et al.* 2020; Wu, *et al.* 2020) have revealed the theoretical foundation premised in classified mass housing features into two: physical features as "project sites," "housing design," "project locations," and "infrastructural provisions." And non-physical features as "housing quality" and "housing price."

Yobe State Government in addressing housing deficit in the State, in 2021 developed mass houses totaling 2,350 units of 3Bedrooms urban, 2Bedrooms urban and 2Bedrooms rural across the State Local Government Areas including the State Capital Damaturu (Maina 2021). Furthermore, Maina, (2023) reported that, the houses were all allocated to civil servants and other categories of peoples in the State on owner occupier basis. This public mass housing development is a maiden in the State that covers all the Local Governments, however this study limited its scope to cover only the urban Local Governments with 1,410 housing units.

The ideal public housing development are expected to be qualitative housing, affordable price/rent and at good location for optimal satisfaction (Saidu & Yeom, 2020). Moreover, it is also important that, the constructed housing estates should serve as a complete community to the inhabitants by providing all the necessary environment and infrastructure for livability (Van Holstein, Dulfer, Smith & Garner, 2023).

The public housing development at times faced with the problems of delay in allocating the completed products (houses) in good time to the target population, and this delay in most cases affects the entire quality of the houses as a result of destructions by termites, burglars and adverse effects of weather particularly wind on the building components, in view of the mentioned menaces, the beneficiaries of the houses are the receiving end of all the expenses incurred in fixing the defaults (Muhammad & Akande 2018).

A plethora body of literature has been extensively focused on well-being studies in

housing, health, education and income, in which the authors have that, unaffordability, poor housing condition and neighbourhood quality leads to stress, health issues and decreased quality of life, it was also further reported that, poor ventilation and indoor air quality contributes to respiratory problems and other health issues (Bougouffa & Permana 2018; Clapham *et al.* 2018; Foye 2017; Herbers & Mulder 2017; Li & Song 2009; Li *et al.* 2014; Zulaica & Oriolani 2019).

From the aforementioned studies, there is apparent dearth of empirical research investigating the beneficiaries' satisfaction outcomes of public mass housing. This study therefore, aims to fill this knowledge gap by assessing the satisfaction of beneficiaries of public mass housing development in Yobe State, Nigeria.

Literature Review

Housing has been conceived in various ways by scholars, basically housing is more than a mere shelter, and it encompasses the totality of the residential environment that man uses for shelter (Millward-Hopkins, Steinberger, Rao & Oswald 2020). It is a structure that is highly needed for man's physical, mental health and social well-being (Ajom, Mfon, Moses & Eteng, 2022; Salih & Al-slik, 2023). Housing is a basic need in the daily needs of individuals. It is a very essential commodity and it is highly needed for survival of man. In all, humans desire housing units for different purposes (Pohl, Genz, Helbrecht & Dobrusskin, 2022). Mass housing connotes different meanings to different people. Ogunleye, (2019) described mass housing as the provision of housing on a large scale by government or in collaboration with private sector for public purchase either on owner-occupier or leasing. This definition focused on mass housing for developmental purposes and considering welfare of public servants in occupation of the houses. Public housing is a form of housing provision that relies on the use of public funds in providing housing to citizens (Odoyi & Riekkinen 2022).

The term mass housing was imbibed into the construction industry (CI) from the manufacturing sector to describe mass production techniques of housing development projects (Ojo, Oladinrin & Obi 2021). In this regard, Noorzai, Gharouni Jafari, and Moslemi Naeni, (2022) aver that, all attempted definitions of mass housing draw on the physical attributes of the project such as size, nature of designs, and extent of resources involved, from these attributes, it is clearly evident that the main underlining themes in most definitions of mass housing is "large unit production." In studies by (Bhandar, *et al.* 2022; Kostic & Jevremovic, 2020; Le, Kang & Kim, 2020; Ma, *et al.* 2020; Wu, *et al.* 2020) have revealed the theoretical foundation premised in classified mass housing features into two: physical features as "project sites," "housing design," "project locations," and "infrastructural provisions." And non-physical features as "housing quality" and "housing price."

The meaning of quality and housing quality, it can be described as the provision of housing should meet the expectations and needs of the customer and the housing delivered should achieve a degree of excellent standard (Ding, Choo, Ng & Ng, 2020). In encounter these needs, there is involvement of many actors such as professionals, bureaucrats and other decision-makers in the formulation of standards, interpretation and implementation of housing quality (Scheller, Doser, Schulte, Johanning, McKenna & Bruckner, 2021). Wagner and Boczkowski, (2019) defined housing quality as a very complex concept that is exposed to debate due to its diverse meanings and perceptions from different background and experience of people.

Affordability generally is a measure of ability and capability of consumer to pay for goods and services to be consumed. According to Adegoke and Agbola, (2020), housing affordability is an assessment that relates a particular housing solution to the amount that can be paid for without unduly stretching the payer's resources. Haffner and Hulse (2021) pointed out that housing affordability usually focus on the relationship between housing expenditure and household income, and that they seek to establish a standard in respect of which the amount of income spent on housing is deemed unaffordable. Padley, Marshall and Valadez-Martinez, (2019) revealed that measurement of affordability is problematic as what individual household can afford is often underestimated. The often-quoted rule of thumb is that household should not spend more than 30 percent of their income on housing unless they choose to do so. Therefore, according to Adegoke and Agbola, (2020), measuring housing affordability is thus complicated by the inability to determine whether household spend more

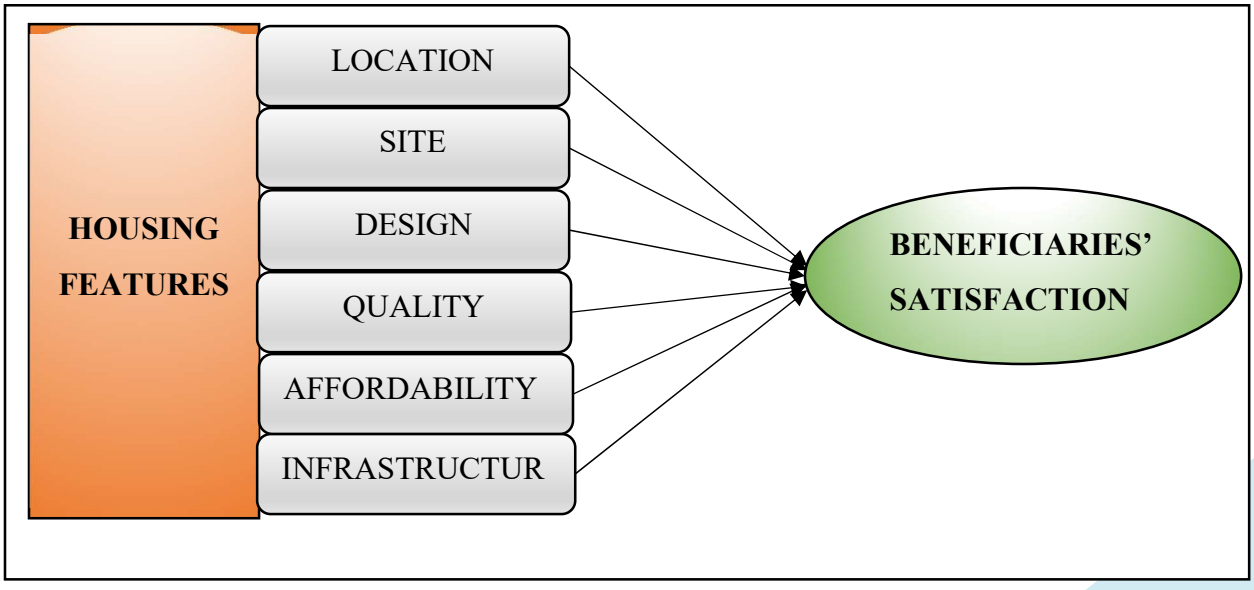
than 30 percent of their income on housing by necessity or by choice.

In the context of this study, therefore, affordability considered as what Adegoke and Agbola, (2020) revealed as the ability of the household to meet condition for ownership and or occupation, which will include ability to pay the purchase price of a house, meet rental obligations; and down payments requirements, meeting periodic mortgage repayment obligation without sacrificing the household's health and nourishment. The incomes of the household are considered as all formal and/or informal, incomes accruable to the breadwinner of a household on monthly basis.

Satisfaction studies cut across a wide range of disciplines in the management and social sciences as well as the built environment. Generally speaking, satisfaction is a subjective evaluation of the performance of products or services in meeting the needs and expectations of users or customers (Guo, Zu, Chen & Zhang, 2023). Researchers have come to define housing satisfaction as an individual's subjective assessment of whether or not his/her needs are being met (Weckroth, Ala-Mantila, Ballas, Ziogas & Ikonen, 2022; Wu, Tan, Wang & Chen, 2023; Genç, 2023).

Francescato *et al.,* (2018) defined residential satisfaction as the emotional response to a person's dwelling; the positive or negative feeling that the occupants have for where they reside, premise on this definition by Francescato signifies that residential satisfaction can either be positive or negative. The definition and assessment of satisfaction today uses structured surveys followed by statistical correlation of variables Fathollahi-Fard, *et al.*, (2020). In their study, Ajayi, Nwosu and Ajani, (2015) corroborate with the work of Elsinga and Hoeksta, (2005) and Hassanain, (2008) who display similar views on the concept of housing satisfaction based on their observation on past studies. In their opinion, the concept of housing satisfaction has been used for four major objectives. It is the key to predict an individual's perception on the overall quality of life. It is also an indicator of individual mobility which later changes the demand on housing and influences surrounding area change.

Thirdly, it is used as an ad hoc measurement of private sector development success as an evaluation tool to measure resident's acceptance of prevailing short comings for existing surrounding area development. Finally, housing satisfaction acts as a variable in determining the relationship between the resident's background and his attitude towards mobility. In another clime, Research has shown that living in socially undesirable housing has adverse social and psychological effects (Fanning, 2007; Mitchell, 2007; Riaz, 2008; Macpherson, 2012; Muoghalu, 2009; Lawrence, 2004; Eni, 2014; Michael, 2015). Also, Macpherson, (2009) and Michael, (2015) revealed poor housing to be held responsible for a number of social problems, including identifiable physical and mental diseases of occupants' maladjustments of different kinds, intra-family and inter-family crowding, low self-esteem of slum dwellers, barriers to economic improvement, problem of adequately educating the children.



Conceptual Framework of the Study

Materials and Methods

Research Population/Sampling frame/sample size. The target population of this study were the total number of beneficiaries of the public mass housing development estates in all the urban Local Governments headquarters in the study area. The sampling frame of the study is 1,410 beneficiaries of the public mass housing development in urban Local Government headquarters in Yobe State, Nigeria and the sample size is 302 beneficiaries selected by random sampling techniques (Table 1).

Table 1: Housing Estates Locations, Sample Frame and Sample Size of the Study

S/N	Housing Estate Location	Housing Types	Housing Units	Proportionate Sample Size
1	DAMATURU State Capital	3 Bedroom	735	158
		Urban	75	16
		2 Bedroom	810 Units	174
		Urban		
2	POTISKUM L.G.	3 Bedroom	150 Units	32
	Headquarters	Urban		
3	GASHUA L.G.	3 Bedroom	100	21
	Headquarters	Urban	50	11
		2 Bedroom	150 Units	32
		Urban		
4	NGURU L.G.	3 Bedroom	100	21
	Headquarters	Urban	50	11
		2 Bedroom	150 Units	32
		Urban		
5	GEIDAM L.G.	3 Bedroom	70	15
	Headquarters	Urban	30	06
		2 Bedroom	50	11
		Urban	150 Units	32
		2 Bedroom		
		Rural		
TOTAL			**1,410**	**302**

Source: Compilation 2024

The sampling techniques for the study are: (a) systematic sampling applied to homogenous housing type as in the case of Potiskum L. G. Headquarters has uniform housing type of 3Bedroom urban houses. Systematic sampling relies on arranging the target population according to some ordering scheme and then selecting elements at regular intervals through that ordered list (Pandey & Pandey, 2021). And (b) Stratified sample technique was adopted on the heterogeneous housing types as in the cases of Damaturu, Gashua and Nguru towns where we have 3Bedroom urban and 2Bedroom urban houses types while in Geidam town has 3Bedroom urban, 2Bedroom urban and 2Bedroom rural houses types. Stratified random sampling involves dividing the population into homogeneous subgroups and then taking a simple random sample in each subgroup (Rahi *et al*., 2017) (table 1).

Table 2: Questionnaire administration

Questionnaire	Number	Response rate
Administered	302	-
Collected	251	83%
Screened	218	72%

Table 3: Demographic Information of the Respondents

S/N	Attributes	Options	Frequency	Percentages
1	Gender	Male	165	75.7
		Female	53	24.3
2	Level of education	Informal	9	4.1
		Primary/Secondary	13	6.0
		Diploma/NCE	57	26.1
		Degree/HND	128	58.7
		Postgraduate	11	5.0
3	Occupation	Employed (Government)	175	80.3
		Employed (Private)	12	5.5
		Self-employed	9	4.1
		Politicians	15	6.9
		Retired	7	3.2
4	Nature of tenure	Allocated to me	139	63.8

		Bought the allocation	41	18.8
		Given the house to stay	16	7.3
		Tenants	22	10.1
5	Period of residency	Less than 1 year	54	24.8
		1 – 2 years	74	33.9
		More than 2 years	90	41.3

Method of Data Collection

In this paper, Primary Data was used. Primary data are raw data that have not been previously processed (Bastarache, *et al.* 2022). In the case of this study, this is the data that was collected from the respondents' through the questionnaire survey. Questionnaire is a formal list of questions designed to gather response from individuals on a given topic in relation to personal information, intention, attitude, activities or behaviour and demographic characteristics (Karunarathna, *et al.* 2024)

The questionnaires developed to collect data for this study is in 3 sections as demographic, level of satisfaction with public mass housing development and housing features in public mass housing development. These are used as the principal instruments for obtaining responses from the targeted respondents. A (5) points Likert scale questionnaire was used. The Likert measured the level of arrangement or discrepancy. The strategy included the use of closed-ended questions.

Method of Data Analysis and Presentation

The study employed the use of descriptive and inferential statistics to analyze the data collected. Statistical Package for Social Science (SPSS, version 27) was adopted for statistical analysis of the data collected from the questionnaire survey.

Normality of the Field data

Before multiple regression analysis to answer the research question, a normality test was carried out using skewness and kurtosis to meet the assumption of multiple regression analysis as suggested in (Zhang & Zhu, 2023). This is to show that the data is normally distributed and acceptable for the analysis. Thus it shows neither to skew to the right nor left hence, the data distribution ranges from -1.291 to -.001 which is within the acceptable range of +/-2 recommended in (Zhang & Zhu, 2023).

The Reliability of the constructs

The reliability of the constructs was analyzed by finding Cronbach's Alpha as suggested by (Musah, et al. 2023) Overall Cronbach's Alpha for the questionnaire was 0.747. This means that the questionnaire as a whole is reliable and acceptable. The reliability test for the field data presented in the Table 4 below showed that the Cronbach's Alphas obtained for each of the constructs are above acceptable Alpha of 0.7.

Table 4: Reliability Results of the Field Data

Constructs	Cronback's Alpha	Cronbach's Alpha Based on Standardized Items	Number of items
PHC	.747	.747	4
EC	.706	.706	4
AFD	.701	.703	4
FH	.702	.705	4
BC	.706	.708	4
INF	.707	.707	4
LCT	.708	.709	4
SITE	.703	.703	4
DSN	.732	.730	4
QLTY	.704	.704	4

Criteria for Ranking

As five (5) Likert scale was used in data collection and analysis, the same ranking scale was used in a mean ranking scale (Table 5). Scale on level of satisfaction with public mass housing development ranges between highly satisfied and not satisfied while scale on housing features in public mass housing development was based on highly available and not available as in (Robinson, 2024).

Table 5: Five (5) Likert scale criteria for beneficiaries' satisfaction with mass housing

S/N	Satisfaction	Housing Features	Ranking scale
1	Highly satisfied	Highly available	4.01 - 5.00
2	Satisfied	Available	3.01 - 4.00
3	Moderate	Moderate	2.01 - 3.00
4	Less satisfied	Less available	1.01 - 2.00
5	Not satisfied	Not available	00 - 1.00

Results and Discussion

The data analyses results and findings for each research question are presented below. The analysis results were presented in tables and findings were explain in textual forms. A 5-point Likert scale was used throughout the study with different constructs having similar or different scale descriptors.

Level of satisfaction with public mass housing development in Yobe State

Descriptive statistics based on the mean ranking was carried out to assess the level of satisfaction with public mass housing development in the study area. The results showed the ranking, mean and standard deviation for each Item in Table 6.

Table 6: Level of satisfaction with public mass housing development

Variables	Mean	Std. Deviation	Availability (Level)	Rank	Overall housing features (Level)
Satisfaction with size of compound	2.95	1.232	Moderate	15	
Satisfaction with size of rooms, toilets, kitchen etc.	3.38	1.265	Satisfied	7	
Satisfaction with construction and finishes	2.88	1.275	Moderate	16	
Roof performance	2.86	1.301	Moderate	17	
Physical environmental condition	4.09	1.276	Highly satisfied	1	
Provision of drainage system	3.61	1.171	Satisfied	3	
Waste disposal system	3.55	1.266	Satisfied	4	
Satisfaction with ventilation	3.00	1.197	Moderate	14	
Satisfaction with cost of house	3.62	1.174	Satisfied	2	3.17
Cost of maintenance	3.09	1.436	Satisfied	8	Satisfied
Cost of transportation	3.46	1.358	Satisfied	5	
Satisfaction with cost of utility	3.06	1.308	Satisfied	9	
Reliability of water supply	2.78	1.259	Moderate	18	
Reliability of electricity supply	3.03	1.433	Satisfied	11	
Position of different rooms	3.01	1.327	Satisfied	13	
Functionality of design	2.72	1.204	Moderate	20	
Level of privacy in house	3.41	1.363	Satisfied	6	
Neighbourhood security	3.04	1.332	Satisfied	10	
Proximity to hospital and place of worship	3.02	1.438	Satisfied	12	
Physical appearance of the house	2.77	1.273	Moderate	19	

The result revealed that the overall satisfaction with the public mass housing development proved satisfied with 3.17 mean score, based on the five point measurement scale, where physical environmental condition, satisfaction with cost of house, provision of

drainage system, waste disposal system, cost of transportation, level of privacy in house, satisfaction with size of rooms, toilets, kitchen, cost of maintenance, satisfaction with cost of utility, neighbourhood security, reliability of electricity supply, Proximity to hospital and place of worship, and Position of different rooms were ranked satisfied with the public mass housing development in the study area. While satisfaction with functionality of design, satisfaction with ventilation, satisfaction with size of compound, satisfaction with construction and finishes, roof performance, reliability of water supply and physical appearance of the house were ranked moderate with public mass housing development in the study area (table 6).

Table 7 below shows the availability or otherwise of the housing features (location, site, design, quality, affordability and infrastructure) in public mass housing development in the study area.

Table 7: Housing features in public mass housing development in Yobe State

Variables	Mean	Std. Deviation	Availability (Level)	Rank	Overall housing features (Level)
Provision of essential services like roads, water, electricity etc.	3.00	1.224	Moderate	10	
Reliability of essential services	3.41	1.242	Available	6	
Provision school, clinic, public hall	2.63	1.153	Moderate	14	
Provision of gates and fences	4.08	1.160	Highly available	1	
Accessibility to major roads	3.73	1.206	Available	2	
Pedestrian paths within estate	3.72	1.204	Available	3	
Commute to work, school, hospital, market etc.	2.81	1.284	Moderate	13	
Accessibility to amenities such as shops	2.62	1.161	Moderate	15	
Perceived safety of the neighbourhood	3.01	1.224	Available	9	3.01
General cleanliness of site	3.02	1.204	Available	8	Available
Noise pollution from traffic	2.99	1.213	Moderate	11	
Frequency of garbage collection	2.46	1.218	Moderate	18	
Satisfaction with the housing design	2.98	1.210	Moderate	12	
Natural light and ventilation within apartment	3.59	1.200	Available	4	
Functional layout of rooms	3.53	1,274	Available	5	

Flexibility of design for modification	3.36	1.263	Available	7
Durability of building material used	2.61	1.157	Moderate	16
Leakages and dampness within housing unit	2.60	1.249	Moderate	17
Quality of roofing materials	2.05	1.210	Moderate	19
Quality of finishes floors, walls, ceilings	2.02	1.339	Moderate	20

The results in table 7 have that, the overall availability of housing features for provision of gates/ fences ranked first (highly available) with a mean score of 4.08. and measurement items of accessibility to major roads, pedestrian path, natural light and ventilation within apartment, functional layout of rooms, reliability of essential services, flexibility of design for modification, general cleanliness of site and perceived safety of the neighbourhood were ranked available in the study area and also the study revealed that beneficiaries' satisfaction level with public mass housing development of physical environmental condition, satisfaction with cost of house, provision of drainage system, waste disposal system, cost of transportation, level of privacy in house, satisfaction with size of rooms/toilets/kitchen, cost of maintenance, satisfaction with cost of utility, neighbourhood security, reliability of electricity supply, proximity to hospital and place of worship and position of different rooms were ranked moderate.

Effect of housing features on beneficiaries' satisfaction with public mass housing development in the study area.

A regression analysis was carried out to assess the effects of housing features on beneficiaries' satisfaction of public mass housing development in the study area. The result was presented in table 8 below indicated the value was R^2 =.263, Df(2, 189)=33.003, p<.001. The model produced an overall R-value of 0.513 and an R square value of 0.263 with F-statistics of 33.003 which are significant as indicated by the p-value of 0.001 far below the recommended maximum of 0.05 (Robinson, 2024). This means that the independent variable Housing Features explained 26.3 % large significance (p<0.001) effect size on Beneficiaries' Satisfaction in the study area.

Table 8 Effects of housing features on beneficiaries' satisfaction in the study area

Model Summary					Df	F	Sig.
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate			
1	.513	.263	.255	.92719	2,189	33.003	.000

Notes: a. Predictor: "Constant" Housing Features; b. Dependent Variable: Beneficiaries' Satisfaction.

Contribution of Individual Housing Features on Beneficiaries' Satisfaction

The regression analysis beta result indicating the individual effects of housing features on the beneficiaries' satisfaction of public mass housing development in the study area. The regression coefficient shown in table 9 below indicated that, the contribution of housing features into beneficiaries' satisfaction is significant as shown by a t-statistics and p-value of 5.773 and 0.00 respectively at a 5% level of significance. Therefore, the housing features is what determines to beneficiaries' satisfaction. Thus, if housing features increases by 1 Likert value, the Likert value of beneficiaries' satisfaction will increase by 0.378. Hence, the housing features is what determine to beneficiaries' satisfaction

Table 9: Contribution of housing features on beneficiaries' satisfaction

coefficients							
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	1.289	.489		2.637	.008	
	Housing features	.452	.088	.367	5.773	.000	.438

Note: Dependent Variable: Beneficiaries' Satisfaction

Conclusion

The findings from the analysis carried out indicated that, the overall availability of housing features in public mass housing development in Yobe State ranked available with mean score of 3.01, based on the five-point Likert scale, availability of provision of gates/fences ranked first (highly available) with a mean score of 4.08. While measurement item; quality of finishes floors, walls, ceilings ranked the lowest, that is 20th position with mean score of 2.02. On the other hand, the results of beneficiaries' satisfaction revealed that the overall satisfaction with the public mass housing development proved satisfied with 3.17 mean score, based on the five-point measurement scale, where physical environmental condition with a mean score of 4.09 ranked first (highly satisfied) and satisfaction with functionality of design ranked the lowest, that is 20th position with a mean score of 2.72. In the same page, the inferential statistic demonstrated a strong significant effect of housing features on beneficiaries' satisfaction with public mass housing development.

The study recommended the improvement in availability of quality of finishes floors/walls/ceilings, quality of roofing materials, and frequency of garbage collection etc. for future projects of this kind. Also called for improvement in the provision of reliable water supply, roof performance, physical appearance of house and functionality of design etc. for optimal satisfaction of beneficiaries for future housing project.

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