Innovations

Assessment of Housing Infrastructure on the Residents' Well-being in Odeda Local Government Area of Ogun State, Nigeria

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Abstract : *Housing is often viewed as a bedrock for measuring viable economy in any country of the world. Its quality is one of the major factors that contribute to the well-being of the citizens. This paper identified the levels of residents' satisfaction with housing components, and assessed the relationship between their socio-economic characteristics and housing satisfaction. Primary and secondary sources were used. Questionnaire, direct interview and observation were used. The study area was delineated, accordingly, into ten wards, which are classified into three categories, one ward is selected under each category as the sampling frame for the research study. 236 houses were selected across the categories of wards in the study area using a random sampling method, from which 232 copies of the questionnaire were retrieved for analysis. The data obtained were analyzed using descriptive and inferential statistics. The findings revealed that the level of dissatisfaction with quality-of-life correlates significantly with that of housing components as p = 0.02 (p < 0.05). The result shows that much of the variance in the quality-of-life is explained by the regression model (R= 0.732), and coefficient of determination (R^2 = 0.536); which implies that the regression model explains 53.6% of the residual variation in the level of dissatisfaction with the quality of life of the residents' socio-economic status. The remaining percentage could be explained by other factors, which are beyond the scope of this study. It is therefore recommended that government at all levels should see to the provision of housing infrastructural facilities, particularly in the low and medium income-earners residential areas, to forestall a low level of satisfaction by the residents; thus, improving the well-being of the citizens/residents and enhancing their productivity.*

Keywords: *Housing components, Housing satisfaction, Quality-of-life, Residents' socio-economic status.*

 Introduction

Housing is often viewed as a bedrock for measuring any viable economy, be it developed or developing countries. It serves as an important tool for stimulating growth and ensuring the sustainability of inhabitants in the ecosystem and equally plays a shaping role to promote economic prosperity and wellbeing of both inhabitants and the communities they live in (Kolawole, 2015). Housing affects all facets of man's life, particularly through the provision of shelter and other multiplier effects including socio-economic; cultural, and political development (Jiboye, 2010); increased productivity (Kolawole, 2015); and standard of living, as well as alleviating poverty among inhabitants (Lee and Park, 2010; Mohit and Nazyddah, 2011).

The type and quality of housing have a significant impact on the health and wealth of places, particularly urban areas (Kolawole, 2015; Ibem *et al*., 2015; Abidin *et al*, 2019). Their ability to attract, retain and provide required shelter for inhabitants relies heavily on the quality, attractiveness, and eco-friendliness of housing infrastructure and facilities, as well as surrounding neighborhoods (Akinjogbin & Omotehinse, 2011; Housing Corporation, 2008; Fakere *et al*, 2018). However, the quality of housing infrastructure is, undoubtedly, an enabler of economic growth, by ensuring homes of the right quality type are delivered in the right place for the right individuals.

Housing quality is one of the major factors that contribute to the well-being of the citizens (Abidin *et al*, 2019). The state of housing in any community influences the residents' quality of life (Fakere *et al*, 2020). Housing infrastructure is required to provide support and sustenance to the citizens' well-being, such that any inadequacy is detrimental to their well-being. This is because man needs quality housing to survive and live a healthy life. Nigeria is still referred to as a developing country partly because of its huge housing infrastructure inadequacy (Morakinyo *et al*, 2014). As a result, it is important to assess the impact of housing infrastructure on the well-being of Nigerians. To achieve this, the levels of residents' satisfaction with housing infrastructure were identified; and the relationship between their socio-economic characteristics and housing satisfaction was assessed.

The Study Area

Odeda Local Government Area is one of the twenty (20) Local Government Areas in Ogun State, Nigeria. (Figures 1, 2 & 3). The headquarters is at Odeda, located on the Abeokuta–Ibadan Interstate Road, which is about 20 kilometres from the State capital, Abeokuta. It was created out of Egba Divisional Council in October 1955 by the Action Group (the dominated Western Nigeria Government) of Late Chief Obafemi Awolowo, the first Premier of the region. The LGA has an extensive landmass, mostly grassland, with an area of $1,560km^2$; comprises ten political-wards and a population of 175,634 (estimated population using 2006 census figure, 109449, as a base with a growth rate of 3%). It shares boundaries with Abeokuta-South, Abeokuta-North, Obafemi/Owode Local Government Areas, and Oyo State in the south, west, east, and north respectively (Figures 2 & 3). This area is characterized by inadequate housing plans, limited access to qualitative housing, and difficult environmental conditions; which prompted the study.
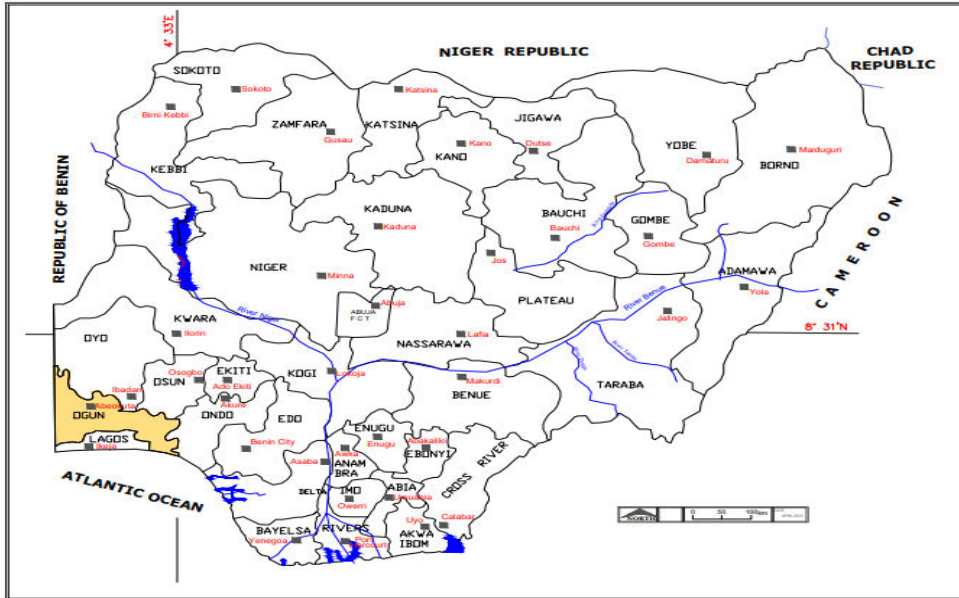
Figure 1:   **Map of Nigeria highlighting Ogun State**
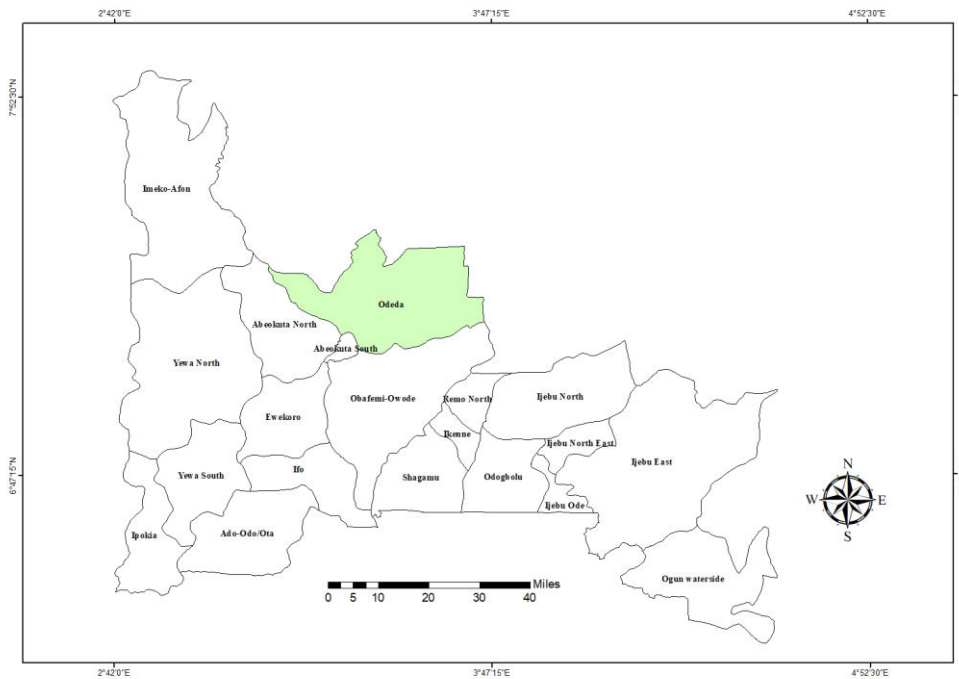**Source: Ogun State Planning and Development Permit Authority, 2022.**

Figure 2:   **Map of Ogun State Showing Odeda Local Government Area**
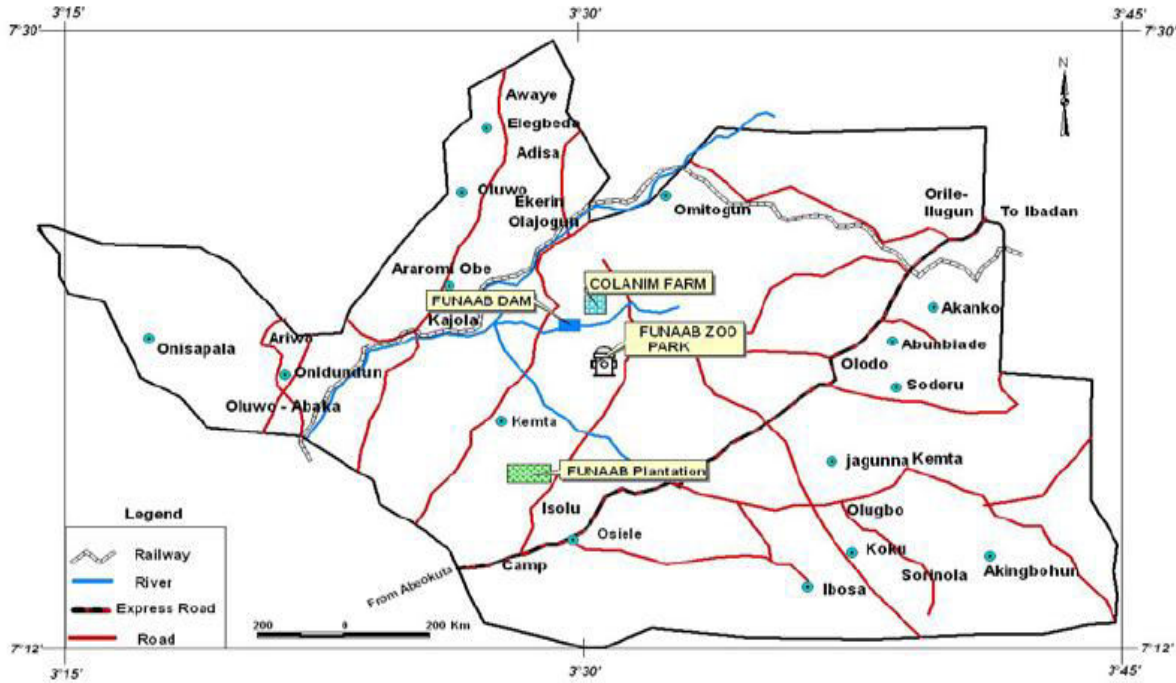**Source: Ogun State Planning and Development Permit Authority, 2022.**

Figure 3: **Map of Odeda Local Government Area**
Source: Ogun State Planning and Development Permit Authority, 2022.

Conceptual and Theoretical Framework

Measuring well-being with housing infrastructure is very complicated as it is very subjective to the particular place, time, purpose of evaluation, and involvement of a various range of people. The term well-being is a multidimensional phenomenon that could be measured with different criteria indicating encompass satisfaction. There are a lot of studies on housing satisfaction that have come out with various results on residents' well-being. Fakere *et al.*, (2020); Abidin *et al.*, (2019); Olatubara and Fatoye (2006); Grzeskowiak *et al.*, (2003) revealed that housing satisfaction is an important factor that contributes to the quality of life. In their studies, the concept of housing satisfaction was used in four different ways: firstly, as a key predictor of individuals' perceptions of quality of life; secondly, as an ad hoc evaluative measure for judging the success of housing developments; thirdly, as an indicator of the initial state of residential mobility which altered housing demands and neighborhood change; and fourthly, it was used to assess residents' perceptions of insufficiencies in their current housing environment.

All these approaches to housing satisfaction, which were incorporated in this study, pointed toward residents' quality of life; thus, housing infrastructure is very important to people's well-being. However, for this study, a more comprehensive measurement of well-being with housing infrastructure was adopted. This allows to measure well-being both as a composite construct and at the level of housing fundamental needs; using the core components of housing (building, road, electricity supply, water supply, security service, waste disposal system, drainage system, toilet facility, kitchen facility, and bathroom facility) and

socio-economic characteristics of the residents as parameters for the measurement of well-being with housing infrastructure.

Methodology

The survey research design (cross-sectional survey) method was adopted. Primary and secondary sources of data were employed. Primary sources were obtained from (questionnaires, direct interviews, and observation) while secondary sources were obtained from Ministry (maps) and existing theories and relevant information from journals, books, and thesis among others. Using multi-stage random sampling, at the first stage, the study area was delineated, accordingly, into wards. In the second stage, the wards were grouped into three sampling frames, out of which one sampling unit (ward) was selected for this study. In the third stage, the sample size was determined according to Neumann (1991) that a larger population permits smaller sampling ratios for equally good samples; a sampling ratio of 2% was adopted, which provided a sample size of 236 houses that were randomly selected. However, the percentage return for the questionnaires was 98.3% (232 copies), which was deemed sufficient for the study (Tables 1).

Table 1:   Sampling Frame and Sample Size

Wards	Sampling frame	Selected Wards	No. of Houses	Sample size (2%)	Retrieved
Alabata Alagbagba Balogun Itesi	Alabata Obantoko Opeji	Alabata	2,253	45	45
Ilugun Obantoko Obete Odeda	Alagbagba Obete Osiele Balogun Itesi	Osiele	3,625	73	73
Olodo Opeji Osiele	Odeda Ilugun Olodo	Odeda	5,916	118	114
Total			**11,794**	**236**	**232**

Source: Authors' Field Survey, 2022.

The data obtained were analyzed using descriptive and inferential statistics, and Likert-scale outputs (Score Weighted Values) were used for analysis to elucidate the discussions of findings. Score Weighted Values (SWV) were generated through weighted points; instead of each data point contributing equally to the final outputs, some data points contributed more "weights" than others (Belcher, 1992; Theme Horse, 2016). The Score Weighted Values (SWV) were used to rate the attributes of satisfaction with a specific (each) housing component. The higher attributes on the rating suggest the ones that the residents were more satisfied with, while the lower ones on the rating suggest the lower levels of satisfaction. Also, a

scale-rating procedure,modelled after Donald Krueckeberg (2000), was used to analyze the socio-economic characteristics of residents.

Findings and Discussions

Socio-economic characteristics of the residents

The study revealed that 84% of the residents are male, while 16% are female; with an average age of 49 ± 2years. The majority of the residents are: married (80%); possessed tertiary education (63%); and worked as public/civil servants (58%). Their average monthly income was ₦114,733 ± ₦14,450 (Table 2).

Table 2:   Socio-economic characteristics of the residents

Age of Residents			
	Frequency	**Percentage**	**Cumulative %**
18-30years	4	1.7	1.7
31-40years	28	12.1	13.8
41-50years	94	40.5	54.3
51-60years	72	31.0	85.3
Above 60years	34	14.7	100
Total	**232**	**100**	

Marital Status of Residents			
	Frequency	**Percentage**	**Cumulative %**
Single	2	0.9	0.9
Married	185	79.7	80.6
Separated/Divorced	19	8.2	88.8
Widow(er)	26	11.2	100
Total	**232**	**100**	

Educational status of Residents			
	Frequency	**Percentage**	**Cumulative %**
Primary Education	3	1.3	1.3
Secondary Education	29	12.5	13.8
OND/NCE	54	23.3	37.1
HND/B.Sc.	110	47.4	84.5
Post Graduate	36	15.5	100
Total	**232**	**100**	

Occupational status of Residents			
	Frequency	**Percentage**	**Cumulative %**
Petty trader	4	1.7	1.7
Farmer/Artisan	21	9.0	10.7
Public/Civil Servant	134	57.8	68.5
Private sector (banker, etc.)	28	12.1	80.6
Entrepreneur/businessman	45	19.4	100
Total	**232**	**100**	

Monthly Income of Residents			
	Frequency	**Percentage**	**Cumulative %**

₦70,000 and below	6	2.6	2.6
₦71,000 – ₦100,000	32	13.8	16.4
₦101,000 – ₦130,000	89	38.4	54.8
₦131,000 – ₦160,000	76	32.7	87.5
₦161,000 and above	29	12.5	100
Total	**232**	**100**	

Source: Authors' Field Survey, 2022.

The scale-rating procedure helped in quantifying the residents' socio-economic characteristics using certain variables. These are the level of income (per month); educational status; age and occupational status. Responses to the four variables were scored on a scale of 1 to 5. A score of 1 represents the least rate value, while a score of 5 represents the highest rate value (Table 3). The average rated value was used for the analysis instead of the actual values (Belcher, 1992); however, the outcome of residents' socio-economic characteristics (RSC) was 13 points, out of the possible attainable score of 20 points (Table 3).

Table 3: **A scale-rating Procedure for Socio-economic Characteristics of Residents**

	Scores					Average
Variable	**5**	**4**	**3**	**2**	**1**	**Rated-value**
Income Level (Per month)	#161,000 and above	#131,000 – #160,000	#101,000 – #130,000	#71,000 – #100,000	#70,000 and below	**3**
Educational Status	Post Graduate	HND / B.Sc.	OND / NCE	Secondary Education	Primary Education	**3.5**
Occupational Status	Entrepreneur/ Businessman	Private sector (banker, etc.)	Public/Civil Servant	Farmer/Artisan	Petty trader	**3**
Age	Above 60 years	51 – 60years	41 – 50years	31 – 40years	18 – 30years	**3.5**

Source: Authors' rating based on Field Survey, 2022.

Levels of satisfaction with the quality of life and housing components
The data obtained on quality of life and housing components were weighted on a 5-point Likert scale in the order of: (1) for "very dissatisfied"; (2) for "dissatisfied"; (3) for "moderately satisfied "; (4) for "satisfied"; and (5) for "very satisfied". The housing components were rated according to their satisfactory levels as determined by SWVs. Security service with SWV (2.85) was the highest-rated housing component, while waste disposal system with SWV (1.68) was the lowest-rated component (Table 4). The difference between the highest and lowest SWV (1.17) indicates that there is a relatively high level of dissatisfaction with the housing components in Odeda LGA of Ogun State, Nigeria.

It is clear from the findings that the residents were not satisfied with most of the housing components. This depicts the poor quality of life with housing infrastructure. As it is consistent with previous findings, Fakere *et al*., (2020); Olujimi and Bello (2009); and Amole (2009), stated that a low level of housing satisfaction is common in Nigeria. Thus, a low level of housing satisfaction is an indication of low quality of life. However, the study revealed that residents' socio-economic characteristics are a major factor that contributed to the low quality of life with housing infrastructure; the average rated value (13 points, out of

the possible attainable 20 points) of the residents' socio-economic status indicates that people of lower and medium classes, which are the majority, do not have access to good quality of life with housing infrastructure.

Table 4: **Level of satisfaction with the quality of life and housing components**

| Housing Component | Level of satisfaction | | | | | | | | | | SWV | Rate |
| | Very dissatisfied (1) | | Dissatisfied (2) | | Moderately satisfied (3) | | Satisfied (4) | | Very satisfied (5) | | | |
	No.	%	No.	%	No.	%	No.	%	No.	%		
Quality of life (QL)	56	24.1	104	44.8	57	24.6	12	5.2	3	1.3	**2.15**	
State of the Building (SB)	16	6.9	75	32.3	103	44.4	26	11.2	12	5.2	**2.75**	3
State of access - Road (SR)	34	14.7	87	37.5	86	37.0	18	7.8	7	3.0	**2.47**	6
Electricity supply (ES)	32	13.8	78	33.6	92	39.7	21	9.0	9	3.9	**2.56**	5
Water supply (WS)	26	11.2	53	22.8	112	48.3	28	12.1	13	5.6	**2.78**	2
Security Service (SS)	23	9.9	52	22.4	108	46.5	34	14.7	15	6.5	**2.85**	1
Waste Disposal (WD)	121	52.2	72	31.0	33	14.2	5	2.2	1	0.4	**1.68**	10
Drainage System (DS)	126	54.3	54	23.3	41	17.7	7	3.0	4	1.7	**1.75**	9
Toilet Facility (TF)	28	12.1	107	46.1	76	32.8	13	5.6	8	3.4	**2.42**	7
Kitchen Facility (KF)	27	11.6	64	27.6	102	44.0	26	11.2	13	5.6	**2.72**	4
Bathroom Facility (BF)	31	13.4	108	46.5	74	32.0	11	4.7	8	3.4	**2.38**	8

Source: Authors' Field Survey, 2022.

Relationship between the satisfactory level of quality of life and housing components

The results of correlation analysis (r) between the satisfactory level of quality of life and housing components show that only toilet and bathroom facilities correlation coefficients are significant at $p < 0.05$ (Table 6). This means that the level of dissatisfaction with quality-of-life correlates significantly with housing components; also, the level of dissatisfaction with these components correlates with one another. Furthermore, regression analysis was carried out using the optimal scaling method with the criteria for convergence set at 0.00001. In carrying out this analysis, the level of satisfaction with quality-of-life was the dependent variable and the levels of satisfaction with road, electricity supply, water supply, security service, waste disposal system, drainage system, toilet facility, kitchen facility, and bathroom facility were the independent (predictor) variables.

The result shows that much of the variance in the dependent variable (quality-of-life) is explained by the regression model with Multiple R= 0.732, and coefficient of determination (R^2) = 0.536. This implies that the regression model explains 53.6% of the residual variation in the level of dissatisfaction with the quality of life of the residents' socio-economic status. The remaining percentage could be explained by other factors, which are beyond the scope of this study. In addition, the regression model is statistically significant at $p < 0.05$, and a significant relationship exists between residents' dissatisfaction with the quality of life and with specific housing components in this context (Tables 4 & 5). However, this finding is consistent with that of Mohit *et al* (2010), which found that there is a significant relationship between

quality of life and housing satisfaction. This shows that such findings from developing countries (Nigeria inclusive) applied to the context of this study.

Table 5:   Relationship between the satisfactory level of quality of life and housing components

Satisfactory Factor	QL	SB	SR	ES	WS	SS	WD	DS	TF	KF	BF
Quality of life (QL)	1.00										
State of Building (SB)	.623	1.00									
State of the Road (SR)	.867	.933*	1.00								
Electricity supply (ES)	.787	.970**	.989**	1.00							
Water supply (WS)	.463	.948*	.831	.905*	1.00						
Security Service (SS)	.421	.947*	.809	.888*	.996**	1.00					
Waste Disposal (WD)	.665	.014	.334	.254	.006	-.065	1.00				
Drainage System (DS)	.541	-.031	.254	.199	.027	-.045	.979**	1.00			
Toilet Facility (TF)	.918*	.853	.966**	.921*	.677	.656	.333	.208	1.00		
Kitchen Facility (KF)	.603	.985**	.916*	.966**	.983**	.976**	.084	.071	.799	1.00	
Bathroom Facility (BF)	.934*	.832	.960**	.910*	.653	.629	.373	.247	.999**	.799	1.00

Significant at p<0.05

*Correlation is significant at the 0.05 level (2-tailed)

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

Conclusion and Recommendation

This study assessed the impact of housing infrastructure on the residents' well-being in Odeda Local Government Area of Ogun State, Nigeria. The field survey revealed that all the housing components used in this study singularly and jointly had a significant influence on residents' well-being. A high level of dissatisfaction with housing components contributed significantly to the poor quality of life of the residents; this was vindicated by the difference in Score Weighted Values (1.17), the difference between the highest SWV (2.85) and lowest SWV (1.68). However, the study recommends the following for improvement in quality of life with housing infrastructure:

➢ The government at all levels should see to the provision of housing infrastructural facilities, particularly in the low and medium income-earners residential areas, to forestall a low level of satisfaction by the residents.

➢ Formulation and implementation of policies for improving and sustaining qualitative housing for the low-income-earners and less privileged.

➢ Creation of enabling environment by the government at all levels that will boast the socio-economics status of the citizenry; thus, improving the well-being of the citizens/residents and enhancing their productivity.

References

1. *Abidin, N. Z., Abdullah, M. I., Basrah, N. and Alias, M. N. (2019). Residential Satisfaction: Literature Review and A Conceptual Framework. Centre of Studies for Estate Management, Faculty of Architecture, Planning and Survey, University Teknologi, Mara, Shah Alam, Malaysia.*

2. *Akinjogbin, I. O & Omotehinse, O. J (2011). Building Construction in Practice. Ede: Fuhrer Publishers Ltd.*

3. *Amole, D. (2009). Residential Satisfaction in Students' Housing. Journal of Environmental Psychology, 29, 76-85,*

4. *Belcher, J. C. (1992).A Cross–Cultural Household Level of Living Scale. Rural Sociology Vol. 32, No. 2.*

5. *Donald, A. K. (2000). Town Planning and Urban Development Analysis. Liverpool University Press, Vol. 52, 112–114.*

6. *Fakere, A. A., Ayoola, H. A. and Omole, F. K. (2020). Assessment of Satisfaction with Housing Infrastructural Facilities in Akure, Nigeria. Retrieve November 17, 2021, from www.researchgate.net*

7. *Fakere, A. A., Folorunso, C. O., Omole, F. K., Ayoola, H. A. and Arayela, O. (2018). An assessment of self-help water supply in Akure, Nigeria. Utilities Policy.*

8. *Grzeskowiak, M., Sirgy, J and Widgery, R. (2003). Residents' Satisfaction with Community Services: Predictors and Outcomes Stephan. Journal of Regional Analysis and Policy, Vol. 33, pp. 1-36.*

9. *Housing Corporation (2008). Good practice notes 16: Working with Local Authorities. London: The Housing Corporation.www.lagosstate.gov.ng*

10. *Ibem, E. O., Adeboye, A. B., and Alagbe, O. A. (2015). Similarities and differences in residents' perception of housing adequacy and residential satisfaction. Journal of Building Performance, 6(1), 1-14.*

11. *Jiboye, A. D. (2010). Evaluating Tenant's Satisfaction with Public Housing in Lagos, Nigeria. Town Planning and Architecture, 33(4), 239–247.*

12. *Kolawole, Y. (2015). Housing as a tool for economic development. Vanguard Newspapers. Retrieved 27   December 2021, from www.vanguardngr.com*

13. *Lee, E., and Park, N. (2010). Housing Satisfaction and Quality of Life among Temporary Residents in the United States. Housing and Society, 37(1), 43-67.*

14. *Mohit, M. A., and Nazyddah, N. (2011). Social housing programme of Selangor Zakat board and housing satisfaction. Journal of Housing and the Built Environment, 26(1), 123-142.*

15. *Mohit, M. A., Ibrahim, M and Rashid, Y. R. (2010). Assessment of Residential Satisfaction in newly designed public low-cost housing in Kuala Lumpur, Malaysia. Habitat International, 34, 18-27.*

16. *Morakinyo, K. O., Okunola, A. S., Musibau, L., Odewande, A. G. and Dada, O. (2014). An assessment of Housing Infrastructural Provision in Public Housing: A case study of Bashorun*

Housing Estate, Akobo, Ibadan, Oyo State, Nigeria. *Civil and Environmental Research, 6 (12), 102-113.*

17. Neumann, W. L. (1991). *Social Research Methods: Qualitative and Quantitative Approaches. Published by Allyn and Bacon, 1991. ISBN 0205128165, 9780205128167.*

18. Olatubara, C. O., and Fatoye, E. O. (2006). *Residential satisfaction in public estates in Lagos State, Nigeria. Journal of Nigerian Institute of Town Planners, 19(1): 103-124.*

19. Olujimi, J. A. B. and Bello, M. O. (2009). *Effects of Infrastructural Facilities on the Rental Values of Residential Property. Journal of Social Sciences, 5(4),332-341.*

20. Theme Horse (2016). *Weighted mean: formula: How to find weighted mean. Retrieved December 27, 2021, from www.statisticshowto.com*