



### A REVIEW OF END USERS' SATISFACTION WITH PUBLIC HOUSING ESTATES IN NIGERIA.

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#### **Abstract**

*The population adequate housing explosion experienced units to the end users in most Nigerian cities, in most developing and rising rate of countries. The urbanisation which are objective of this study incommensurate with the provision of adequate housing infrastructure is of major concern. Public housing schemes have generally been condemned for failing to deliver quality, affordable and*

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#### **INTRODUCTION**

Housing as a fundamental need for dignified living and a crucial part of human existence is a fundamental yardstick for estimating the quality of life of a nation's citizens (Ogbu, 2017; Olotuah, A O; Taiwo, 2015). Mass housing, as the name suggests, is intended for the masses which is sometimes referred to as public/private housing estates. (Mammadi et al., 2020) described public mass housing as the provision of low-cost housing by the government for civil occupancy. Similarly, Adeleye, Azeez, and Yusuff, (2014) referred public housing as a form of housing provision, which emphasizes the role of the government in helping to provide housing, particularly

*residents in public dissatisfies with users in the design and housing estates in illumination, safety, development of public Nigeria. Findings service quality, housing estates, revealed that there housing/dwelling effective total quality exists low satisfaction quality, and physical management level to a large extent environment quality. practices, quality across the Nigerian Thus, the study control and quality states. In addition, recommends active assurance residents are mostly participation of end mechanisms.*

For poor, low-income and more vulnerable groups in the society. The provision of adequate housing schemes is a major challenge in most developing countries, which could be partly attributed to an unprecedented growth rate in major cities (Ukoje and Kanu, 2014). More so, increasing numbers of city dwellers due to increases in population densities and limitations of urban land resources have increased the pressure on housing infrastructure of major cities (Tian, Mac, and Yan 2015). Olotuah and Taiwo (2015) also supported the notion that the increasing housing need in Nigeria particularly in urban cities is on the increase while effective demand by the vast populace have not shown any visible improvement.

Afolarin (2013) observed the instances of building failures in different parts of the country, abandonment of housing projects mid-way and projects failing to meet the requirements even after execution are some of the problems facing the housing sector. Public housing schemes according to Mukhija, (2004) have been condemned for failing to deliver quality, affordable and adequate housing units to the end users in most developing countries. In addition, governments are unable to match accommodation demand with simultaneous provision of adequate housing and infrastructure (Ajanlekoko, 2001). Elsewhere, Önder, Köseoğlu, Bilen, and Der (2010) study in Turkey revealed that the most important reasons for the housing is the rapid increase in population and urbanization. This is also the case in the Nigerian context. According to Jambol, Molwus and Daniel (2013), the population explosion experienced in Nigerian cities, and rising rate of urbanisation which are incommensurate with the provision of adequate housing infrastructure is a major concern. The backlog of housing deficit in the country created an opportunities for investors and

contractors to deliver substandard and poor quality housing estates, most of which are not user compliant or technically habitable (Okoro and Ugboefi, 2019). Studies have shown that most housing units in urban centres in Nigeria are substandard and the dwellings are sited in slums. The poor housing quality in the country is mostly responsible for the housing systems Olotuah and Taiwo (2015). The issues of poor housing quality are, therefore, a global phenomenon which was further supported by Anofojie and Kadiri (2014).

The objective of this study is to assess through literature review, the level of satisfaction of residents in public housing estates in Nigeria. Hence, research method adopted was literature review approach. The authors reviewed relevant and related literature across the country on the issue of end users' satisfaction in public housing estate.

## **LITERATURE REVIEW**

### **Quality Mass Housing Provision in Nigeria, an Overview**

One major goal of standardization is quality. The overall quality of a building or other structure is the number of attributes that enable it to perform a particular task or satisfy a need satisfactorily for an acceptable period of time (Agbenyega, 2014). For construction work, a satisfactory product is not enough, although that in itself is very important. It really needs to be involved in planning and construction. There are more defects and imperfections in buildings due to inconsistencies in product workmanship during design and construction than defects in the product itself (Atkinson, 2005). Quality is one of the key factors for the success of a construction project. The quality of the construction project and the success of the project can be seen as the fulfilment of expectations of those involved in the project (Krajewski, Ritzman, and Malhotra, 2013). Total Quality Management means shifting the focus of control from the outside in, making everyone responsible for their own performance and motivating them to achieve quality (Oakland and Marosszky, 2017). Guided by the user; it cannot be imposed outside the organization as there may be standards for quality management or statistical process control. This means that the successful improvement of the overall activities, tasks, processes and productivity of a company requires individual knowledge and experience in business life (Bakar, Ali and Raheed, 2011).

Several strategies have been devised by the Nigerian government since independence to address housing challenges in the country Olotuah and Taiwo (2015). The first National Development Plan (1962-1968) focused primarily on Lagos, the then capital city and produced 500 housing units out of 61,000 initially proposed. Subsequently, other plans were initiated, for instance, the National Housing Programme (1970-1974), the third national development plan (1975-1980) which constructed 28,000 housing units, and the fourth national development plan (1981-1985) (Olotuah, 2000; FGN, 2004; Olotuah and Taiwo (2015). Infrastructure facilities provision which includes housing development and formal housing supply are regarded key factors and facilitator for economic development and critical to improving the quality of life in any community irrespective of size (Morakinyo et al., 2014). The level quality work greatly influences house-hold preferences for housing and hence influences end users satisfaction. Quality is, therefore, an attribute of occupants' preferences for housing (Mmmadi, 2020). Dharani (2015) revealed that quality plays an integral part in the construction industry. Further stressing that to build customer confidence the quality of its work should be done according to the developed quality assurance program. However, some major factors identified by (Sweis et al., 2014) affecting quality were human resource management, customer satisfaction, uses of technology and supplier management.

### **DISCUSSION OF FINDINGS**

Table 2 below presents the summary of 20 randomly selected papers to address the objective of this study. Few of the studies reviewed presented satisfaction among residents. For instance in Mammadi, Baba, Tukur, Muhammad, and Abdullahi (2020), while Okoro and Ugbuefi (2019) posits that satisfaction level is higher in private estates. According to Morakinyo et al., (2014), there exists a strong positive relationship between quality infrastructural provision and occupants' level of satisfaction. Thus, studies of Ogunbajo et al., (2017) and Mohit & Sule, (2015); Salisu et al., (2019) and Adetokunbo, (2012); Olotuah, (2016); Ibem & Aduwo, (2013); Okoro and Ugbuefi (2019); Waziri, Yusof, and Salleh (2013); Umeora, (2019) conducted in Niger, Lagos, Ondo, Ogun, Rivers, FCT, and Enugu State respectively showed that residents are dissatisfied with the condition of their housing units.

Table 1. End users' satisfaction indicators in public housing estates in Nigeria.

S/No	Author	Satisfaction Indicators
1	(Ibem et al., 2013)	<ul style="list-style-type: none"> <li>- Illumination, and spatial comfort</li> <li>- Indoor air quality</li> <li>- Safety and Security</li> <li>- Service quality</li> </ul>
2	(Adeoye, 2016)	<ul style="list-style-type: none"> <li>- Housing type,</li> <li>- Quality of building material,</li> <li>- Floors Area Distribution and Assessment,</li> </ul>
3	(Adetokunbo, 2012)	<ul style="list-style-type: none"> <li>- Lack of consistent housing standards, and the ineffectiveness of existing ones,</li> <li>- Failure to implement instituted policies by governments and their enforcement agencies</li> <li>- Corruption and lack of commitment/sincerity on the part of many housing sector stakeholders</li> <li>- Lack of relevant records and data</li> </ul>
4	(Mohit & Sule, 2015); Waziri, Yusuf, and Salleh (2013)	<ul style="list-style-type: none"> <li>- Housing/dwelling quality</li> <li>- Physical environment quality i.e. level of utility services and facilities</li> <li>- Quality of the social environment</li> <li>- Safety of the neighbourhood</li> </ul>
5	Mammadi, et al., (2020); (Ishiyaku, Kasim, and Harir, 2014)	<ul style="list-style-type: none"> <li>- Quality of building components</li> <li>- Quality of physical (tangible) features</li> <li>- Quality of nonphysical (Intangible) features</li> </ul>

Table 2: Summary of Related Literature

S/N	Authors	Title	Objectives	Methodology	Main Findings	Country/State
1	(Olotuah, A O; Taiwo, 2015)	Housing Strategies and Quality of Housing in Nigeria: what lessons from Wales?	The paper discussed the strategies for the provision of housing in Nigeria and the nexus with	Literature review	It asserted that there are lessons to be learnt from Wales in improving housing	Nigeria and UK

			quality of housing		provision and reducing the level of housing inadequacy in Nigeria.	
<b>2</b>	Okoro and Ugbuefi (2019)	Assessment of Occupiers Satisfaction With Facilities In Housing Estates In Port Harcourt, Rivers State, Nigeria	This study focused on the assessment of occupiers' satisfaction with facilities in housing estates in Port Harcourt, Rivers State, Nigeria	Questionnaire survey	Satisfaction level is higher in private estates than in public estates	Port Harcourt, Rivers State.
<b>3</b>	Mammadi, Baba, Tukur, Muhammad, and Abdullahi (2020)	Measuring Residents Satisfaction Levels of Public Housing in Maiduguri Metropolis of Borno State, Nigeria	The study aimed to evaluate the residents' satisfaction with public housing in the Maiduguri metropolis. The study also assessed the levels of quality of housing components, occupants' preference and satisfaction	Questionnaire survey	The study showed that majority of the building component, was in good quality condition. In addition, public housing quality and preference significantly influence occupants' satisfaction in Maiduguri	Maiduguri, Borno state.

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<b>4</b>	Ogbu, (2017)	Building Quality Condition and Maintenance Cost: The Case of Public Low Income Housing in Abia State, Nigeria	To investigate the relationship between physical condition and maintenance cost of low- income housing buildings.	Questionnai re survey	The relationship between quality index (QI) and annual maintenance cost is not significant, whereas the relationship between relative condition index (RCI) and annual maintenance cost is significant.	Umuahia, Abia State
<b>5</b>	Waziri, Yusof, and Salleh (2013)	Residential Satisfaction With Private Housing Estate Development In Abuja, Nigeria	This paper presented the result of housing satisfaction level with private residential estate development in Abuja, Nigeria	Questionnai re survey	Result of the analysis indicates that residents have generally express low satisfaction with their Dwelling unit features	FCT, Abuja
<b>6</b>	(Umeora, 2019)	Housing Management and Residents' Satisfaction in Housing Estates in Enugu Metropolis, Nigeria: Case Study Of Central Bank of Nigeria	To evaluate the nexus between housing management and residents' satisfaction in housing estates with a view to identifying factors that affect	Questionnai re survey	Analysis showed that poor maintenance of facilities in the estate, state of repair of the buildings, performance of facilities in the buildings and time taken to respond to residents'	Enugu state

		Quarters, Enugu	satisfaction level of residents in the estates and proffer solutions with which housing estates can be effectively managed in Enugu and Nigeria in general		complaints are sources of dissatisfaction in the estate	
<b>7</b>	(Salisu et al., 2019)	Residents' Satisfaction with Public Housing in Lagos, Nigeria	The study examined residents' satisfaction with public housing in Lagos, Nigeria	Questionnaire survey	There is high level of dissatisfaction with space allocation, quality of services, and infrastructural facilities	Lagos
<b>8</b>	(Rozilah Kasim, Bala Ishiyaku, 2014)	Performance Criteria for Public Housing Evaluation in Developing Countries (Case Study of Gombe Metropolis, Nigeria)	Highlighted the performance criteria for public housing developments in developing countries, with particular reference to Gombe metropolis, Nigeria	Proposal	Study will portray the importance and relevance of POE to sustainable public housing development especially in developing countries like Nigeria	Gombe
<b>9</b>	(Dimuna, 2018)	Evaluating Residents' Demographics and Satisfaction with Public Housing	This study examined the residents' demographics and its impact on satisfaction	Questionnaire survey	The study failed to accept the hypotheses that demographic characteristics of resident have no significant	Edo

		Estates in Benin Metropolis, Edo State, Nigeria	level in six built and occupied housing estates in Benin City, Edo state		effect on resident's satisfaction	
<b>10</b>	Morakinyo et al., 2014	An Assessment of Housing Infrastructural Provision in Public Housing: A Case Study of Bashorun Housing Estate Akobo, Ibadan Oyo State, Nigeria.	Evaluated the state of infrastructures of the selected housing estate	Literature review and case study	Rank Test on the expected and obtained quality of this facilities shows that (Obtained Quality < Expected Quality). In addition, the study confirmed a strong positive relationship existing between infrastructural provision and occupants' level of satisfaction.	Ibadan, Oyo state
<b>11</b>	(Olotuah, 2015)	Assessing the Impact of Users' Needs on Housing Quality in Ado-Ekiti, Nigeria	This paper examined the relationship between users' needs and housing quality. It appraises the influence of the needs of the user population on housing quality	Case study	The data obtained show that public services and infrastructure are inadequate in the housing estates	Ado Ekiti, Ekiti state

<b>12</b>	(Olotuah, 2016)	An Appraisal of Housing and Neighbourhood Quality in Residential Estates in Akure, Nigeria	This paper examined the quality of housing and the environment in two residential estates in Akure, the Ondo State capital, Nigeria	Case study	The performance of public goods and services provided on community basis were examined and found to be deficient operationally.	Akure, Ondo state
<b>13</b>	(Ibem & Aduwa, 2013)	Assessment of residential satisfaction in public housing in Ogun State, Nigeria	This study assessed residential satisfaction in public housing in Ogun State, Nigeria	Questionnaire survey	The result showed that the respondents were generally dissatisfied with their housing conditions, but satisfaction levels were higher with dwelling unit features than neighbourhood facilities and services	Ogun state
<b>14</b>	(Muhammad & Bichi, 2014)	Constraints and Challenges On Housing Provision In Kano City, Nigeria	The objectives are to examine the factors that hinder effective quality housing for all as a result of high cost of houses and building materials used in the study area	Literature review	The results show that housing provision is fraught with a plethora of problems especially for low-income earners who incidentally constitute the majority of the population	Kano state

			(Kwankwasiyya, Bandirawo and Amana satellite towns).			
15	(Ogunbajo et al., 2017)	Assessment of Urban Infrastructure Quality and User Satisfaction in Low Income Residential Neighbourhoods in Minna, Nigeria	This study assessed urban infrastructure quality and the level of user satisfaction with urban infrastructure in low income residential neighbourhoods in Minna, Nigeria	Questionnaire survey	Low relative satisfaction index (RSI) was recorded for access roads, drainage systems, waste disposal, security, water supply, electricity supply, and neighbourhood cleanliness	Minna, Niger state
16	(Mohit & Sule, 2015)	City Liveability and Housing in Nigeria: A Case Study of Low-income Housing in Niger State	The aim of this study was to examine the quality of life against the backdrop of the existing environment in the public low-income housing estates in Niger State of Nigeria	Questionnaire survey	Findings revealed that most of the public housing is located in the remote area, and therefore people are dissatisfied with the location. In addition, low satisfaction was recorded in relation to the safety situation, neighbourhood facilities and social interaction.	Niger state
17	(Kemiki et al., 2015)	Empirical Model for Determination of Rent within M.I. Wushishi	To identify the major determinant factors of rental values	Regression and Correlation analysis	The study developed an empirical model for prediction of rental values	Niger state

		Housing Estate, Minna, Niger – State	within the study area		within M. I. Wushishi housing estate. In addition, this result showed that property owners should rather focus on service based factors and the internal wall if they desire increased rental income rather than finishes	
<b>18</b>	(Adetokunbo, 2012)	Housing, Neighbourhood Quality and Quality of Life in Public Housing in Lagos, Nigeria	This paper examined the housing and neighbourhood quality of public housing in Lagos, Nigeria	Survey research method	Findings showed that housing blocks surveyed in the eight estates were categorised as being of poor quality and dilapidated, and poor environmental condition	Lagos state
<b>19</b>	(Waziri et al., 2014)	Eccentric Problems of Hydraform Building System for Low Cost Mass Housing Construction: Evidence from Some Sites in Northern Nigeria	The study explored the problems associated with the use of Hydraform interlocking blocks for the construction of low cost housing in some selected sites in Borno and Yobe States in	Field observation and Questionnaire survey	The study revealed that the fundamental problems are poor quality of blocks produced on sites, delay in the production process when large volume of work is involved, among others	Borno and Yobe state

			Northern Nigeria			
20	(Ogunjo et al., 2015)	Public Acceptability of Burnt Brick for Mass Housing Projects in Ilorin, Nigeria	To assess people's perception on the utilisation of Burnt brick for Mass housing projects.	Questionnaire survey	Findings revealed a high awareness of the material among respondents and willingness to utilize it due to factors such as quality, cost effectiveness, and availability.	Ilorin, Kwara state

Satisfaction levels was recorded based on indicators such as illumination, safety, and service quality (Ibem et al., 2013); Housing/dwelling quality, physical environment quality, and Quality of the social environment (Mohit & Sule, (2015); Waziri, Yusof, and Salleh (2013)); and - Quality of building components, physical (tangible) features and nonphysical (Intangible) features (Mammadi, et al., (2020); Ishiyaku, Kasim, and Harir, 2014). Hence, the authors identified 23 satisfaction indicators from seven studies as shown in Table 1 above.

### **CONCLUSION AND RECOMMENDATION**

The objective of the study was to assess the level of satisfaction of residents in public housing estates in Nigeria through literature review. Findings showed that there exists low satisfaction level to a large extent across the Nigerian states. This high dissatisfaction level is generally due to indicators such as low quality of building components, physical features, poor physical environmental qualities, lack of security, and spatial comfort. The study recommends the active participation of end users in the design and development of public housing estates, effective total quality management practices, quality control and quality assurance mechanisms. The study also recommends intensified Public-Private partnership in the development of housing estates in Nigeria.

## REFERENCES

- Adeoye, D. O. (2016). Challenges of Urban Housing Quality: Insights and Experiences of Akure, Nigeria. *Procedia - Social and Behavioral Sciences*, 216(October 2015), 260–268. <https://doi.org/10.1016/j.sbspro.2015.12.036>
- Adeleye, A. O., Azeez, O. T., & Yusuff, O. I. (2014). Perception of Housing Quality by Residents and Non Residents of Ibara Housing Estate, Abeokuta, Ogun State, Nigeria. *American Journal of Human Ecology*, 3(3). doi: 10.11634/216796221403586
- Adetokunbo, O. I. (2012). Housing, neighbourhood quality and quality of life in public housing in lagos, Nigeria. *International Journal for Housing Science and Its Applications*, 36(4), 231–240.
- Afolarin, A. O. (2013). Factors affecting Quality in the Delivery of Public Housing Projects in Lagos State, Nigeria. *International Journal of Engineering and Technology*, 3(3), 332–336
- Agbenyegba, I. (2014) Quality management practices of building construction firms in Ghana, Bsc. Thesis, department of building technology, college of architecture, Kwame Nkrumah University of Science and Technology.
- Ajanlekoko, J.S. (2001). 'Sustainable housing development in Nigeria- the financial and Infrastructural implications', International conference for sustainable development, Nairobi, 2-5, October.
- Anofojie, A. E., & Kadiri, M. (2014). Housing quality assessment in selected public residential estates in Amuwo-Odofin LGA, Lagos, Nigeria. *International Journal of Research*, 2(6), 2311–2484.
- Atkinson, G. (2005). *Construction Quality and Quality Standards, The European Perspective*, London: E & FN SPON
- Bakar, A; Ali, K.B. & Rasheed, E. (2011). Total quality management practices in large construction companies: A case of Oman. *World Applied Sciences Journal*. 15. 285-296.
- Dharani, K. (2015). Study on negligence of quality assurance and proposing an effective framework for total quality management. *International Journal of Research in Engineering and Technology*, 04(02), 604–609. doi: 10.15623/ijret.2015.0402084
- Dimuna, K. O. (2018). *Evaluating Residents' Demographics and Satisfaction With Public Housing Estates in Benin Metropolis, Edo State, Nigeria*. 5(1), 28–41.
- Federal Government of Nigeria, FGN (2004) National Housing Policy for Nigeria, Federal Ministry of Works and Housing, Abuja
- Ibem, E. O., & Aduwo, E. B. (2013). Assessment of residential satisfaction in public housing in Ogun State, Nigeria. *Habitat International*, 40, 163–175. <https://doi.org/10.1016/j.habitatint.2013.04.001>
- Ibem, E. O., Opoko, A. P., Adeboye, A. B., & Amole, D. (2013). Performance evaluation of residential buildings in public housing estates in Ogun State, Nigeria: Users' satisfaction perspective. *Frontiers of Architectural Research*, 2(2), 178–190. <https://doi.org/10.1016/j.foar.2013.02.001>
- Jambol, D.D, Molwus, J.J and Daniel, M.M (2013) Re-thinking the approaches to mass housing delivery in Nigeria *In: Smith, S.D and Ahiaga-Dagbui, D.D (Eds) Procs 29<sup>th</sup> Annual ARCOM Conference, 2-4 September 2013, Reading, UK, Association of Researchers in Construction Management*, 285-295
- Kemiki, O. A., Odumosu, J. O., Popoola, N. I., Ogungbenro, M. T., & Falana, F. F. (2015). *Empirical Model for Determination of Rent within M . I .* 5(5), 449–457.

<https://doi.org/10.5923/j.economics.20150505.01>

- Krajewski, L.; Ritzman, L.; and Malhotra, M. (2013). *Operations Management: Processes and Supply Chains* (Vol. 1). New York, NY: Pearson
- Mammadi, A., Baba, H. M., Tukur, S., Muhammad, A. A. A., & Abdullahi, U. (2020). Measuring Residents Satisfaction Levels of Public Housing in Maiduguri Metropolis of Borno State, Nigeria. *Path of Science*, 6(3), 3001–3020. <https://doi.org/10.22178/pos.56-3>
- Mohit, M. A., & Abass Iyanda Sule. (2015). City liveability and housing in Nigeria: a case study of low-income housing in Niger State. *AicQoL2015Jakarta*, 02, 1–13. <http://irep.iium.edu.my/43112/>
- Morakinyo, K. O., Okunola, A. S., 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. *International Journal of Civil Engineering, Construction and Estate Management* Vol.2,No.3, pp.46-61, December 2014
- Muhammad, M., & Bichi, A. M. (2014). Constraints and Challenges on Housing Provision in Kano City, Nigeria. *International Journal of Advancements in Research & Technology*, 3(6), 4–23.
- Mukhija, V. (2004). The Contradictions in Enabling Private Developers of Affordable Housing: A Cautionary Case from Ahmedabad, Oakland J.S., Marosszeky M. (2017). *Total Construction Management: Lean Quality In Construction Project Delivery*. Routledge. 634 P. ISBN-10: 1138908533
- Odujio, O. O., Oladimeji, S. B., Okanlawon, S., & Ayorinde. (2015). Housing data base for sustainable housing provision. *Civil and Environmental Research*, 7(3), 140–147.
- Ogbu, C. P. (2017). Building Quality Condition and Maintenance Cost: The Case of Public Low Income Housing in Abia State, Nigeria. *Journal of Construction Business and Management*, 1(2), 24–34. <https://doi.org/10.15641/jcbm.1.2.78>
- Ogunbajo, R. A., Bello, M. O., & Adebayo, M. A. (2017). Assessment of Urban Infrastructure Quality and User Satisfaction in Low Income Residential Neighbourhoods in Minna, Nigeria. *ATBU Journal of Environmental Technology*.
- Okoro, Anthony Chinemenma; Ogbuefi, J. U. (2019). Assessment Of Occupiers Satisfaction With Facilities In Housing Estates In Port Harcourt , Rivers State , Nigeria. 6(4).
- Olotuah, A.O. (2000): "Housing Low-Income Civil Servants in an Emergent State Capital; The Case Study of Ado-Ekiti, Nigeria" Unpublished Ph.D. Architecture Thesis, Federal University of Technology, Akure, Nigeria, 316 pp
- Olotuah, A O; Taiwo, A. A. (2015). Housing Strategies and Quality of Housing in Nigeria : what lessons from Wales ? *Developing Country Studies*, 5(16), 1–7.
- Olotuah, A. O. (2015). Assessing the impact of users' needs on housing quality in Ado-Ekiti, Nigeria. *Global Journal of Research and Review*, 2(4), 100–106.
- Olotuah, A. O. (2016). An Appraisal of Housing and Neighbourhood Quality in Residential Estates in Akure, Nigeria. *Mediterranean Journal of Social Sciences*, 7(3), 424–430. <https://doi.org/10.5901/mjss.2016.v7n3s1p424>
- Önder, D.E.; Köseoğlu, E.; Bilen, Ö. and Der, V. (2010). The effect of user participation in satisfaction: Beyciler after-earthquake houses in Düzce. *ITU A|Z* . VOL: 7 NO: 1 18–37,
- Ishiyaku, B., Kasim, R., and Harir, I. A (2014). Performance Criteria for Public Housing

- Evaluation in Developing Countries (Case Study of Gombe Metropolis, Nigeria). *7th International Real Estate Research Symposium (IRERS 2014)*, 1(April), 2014.
- Salisu, U. O., Odulaja, A. O., Ogunseye, N. O., Fasina, S. O., & Okunubi, S. A. (2019). Residents' Satisfaction with Public Housing in Lagos, Nigeria. *Ghana Journal of Geography*, 11(1), 180–200.
- Sweis, R. J., Shanak, R. O., Samen, A. A. El, & Suifan, T. (2014). Factors affecting quality in the Jordanian housing sector. *International Journal of Housing Markets and Analysis*, 7(2), 175–188. <https://doi.org/10.1108/IJHMA-01-2013-0004>
- Tian T.L., Marc A.S. and Yan G. (2015) A user-centric mass housing design platform. Conference Paper, June 2015 DOI: 10.1007/978-3-662-47386-3\_13.
- Umeora, C. O. (2019). Housing management and residents satisfaction in housing estates Enugu, Case study of Central Bank of Nigeria Quarters. *African Journal Of Environmental Research*, 1(2), 52–63. <https://journal.coou.edu.ng/index.php/ajer/article/view/94/63>
- Ukoje, J.E and Kanu, K. U. (2014). Implementation and the Challenges of the Mass Housing Scheme in Abuja, Nigeria. *American International Journal of Contemporary Research* Vol. 4, No. 4; P. 209-218
- Waziri, B. S., Kadai, B., Biu, H. S., Engineering, W. R., & Maiduguri, R. P. (2014). *Eccentric Problems of Hydraform Building System for Low Cost Mass Housing Construction : Evidence from Some Sites in*. 6(2), 94–99.