



**SCHOOL OF ENVIRONMENTAL TECHNOLOGY,  
FEDERAL UNIVERSITY OF TECHNOLOGY**  
MINNA, NIGER STATE, NIGERIA



**4<sup>th</sup>**

**INTERNATIONAL CONFERENCE (SETIC2022)**

# BOOK OF PROCEEDINGS

**MAIN THEME:**

**SUSTAINABLE DEVELOPMENT AND RESILIENCE OF THE  
BUILT ENVIRONMENT IN THE ERA OF PANDEMIC**

**6th - 8th February, 2023**

**VENUE: NITDA Centre,  
Federal University of Technology,  
Minna, Niger State, Nigeria**

**Chief Host**

**Prof. Faruk Adamu Kuta**

*Vice-Chancellor  
Federal University of Technology Minna, Nigeria*

**Host**

**Prof: R.E. Olagunju mnia**

*Dean, School of Environmental Technology  
Federal University of Technology Minna, Nigeria*

**EDITOR IN CHIEF  
B.J. Olawuyi**





# **School of Environmental Technology International Conference (SETIC 2022)**

**6th – 8th February, 2023**

**Federal University of Technology Minna, Niger  
State, Nigeria**

## **BOOK OF PROCEEDINGS**

**EDITOR IN CHIEF  
B. J. Olawuyi**

**ISBN 978-978-54580-8-4**



**Proceedings of the 4<sup>th</sup> School of Environmental Technology International  
Conference (SETIC 2022)**

**Published by**  
School of Environmental Technology,  
Federal University of Technology Minna.  
PMB 65, Minna,  
Niger State Nigeria.

© School of Environmental Technology, Federal University of Technology Minna 2023

**ISBN 978-978-54580-8-4**

<b>Editor-in-chief:</b>	Dr. Olawuyi, Babatunde James	Federal University of Technology Minna. Niger State, Nigeria
<b>Editors:</b>	Dr. Ogunbode, Ezekiel Babatunde	Federal University of Technology Minna. Niger State, Nigeria
	Surv. Adesina, Ekundayo A	Federal University of Technology Minna. Niger State, Nigeria
	Dr. Sule, Abass Iyanda	Federal University of Technology Minna. Niger State, Nigeria
	Dr. Ajayi Oluibukun Gbenga.	Namibia University of Science and Technology, Namibia
	Dr, Akande Olufemi K.	Department of Architecture, Federal University of Technology, Minna
	Mr. Morenikeji, Gbenga	Federal University of Technology Minna. Niger State, Nigeria
	Mr. Akande, Olaide S.	Department of Urban and Regional Planning, Federal University of Technology, Minna
	Mrs. Odine, Linda	Department of Quantity Surveying, Federal University of Technology, Minna
	Prof. James O.B. Rotimi	Massey University New Zealand
	Asst. Prof. Dodo Yakubu Aminu	Architectural Engineering Department, College of Engineering, Najran University, Najran, 66426, Kingdom of Saudi Arabia
	Dr. Renuka Thakore	Founder, Institute for Global Sustainable Futures, Progress through Partnership, UK

No responsibility is assumed by the Publisher for any injury and/or any damage to persons or properties as a matter of products liability, negligence or otherwise, or from any use or operation of any method, product, instruction, or idea contained in the material herein.

Copyright © 2023 by School of Environmental Technology, Federal University of Technology Minna, Nigeria. All rights reserved.

This publication is protected by Copyright and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise.



<b>A</b>	<b>SUB-THEME 1: EMERGING PROPERTY MANAGEMENT STRATEGIES IN A PANDEMIC ERA</b>	<b>1</b>
1	Property Management Strategies in the Post COVID 19 Pandemic Era in Nigeria: Moving Beyond the Myths and Misconceptions	Ankeli, I. A., Salihu, N., Nuhu, M. B., Sule, I. A., Tinufa, A. A. 2
2	Developers Compliance with Urban Residential Development Control Measures in Kaduna Metropolis, Nigeria	Salihu, N., Ankeli, I. A., Nuhu, M. B., Sanni, M. L., Sule, I. A., Aliyu, A. A. Gwamna S. E., & Hamza, U. Y. 10
3	Macro Economic Determinants of Rental Values of commercial Real Estate in Ilorin, Nigeria	Abdulmalik, F.B. & Udoekanem, N.B. 18
4	Real Property Management in the Era of COVID-19 Pandemic in Nigeria: Promoting Real Estate Investment Trust as an Investment Vehicle	Bokani, A.M., Ahmad, M. & Suleiman, B.Y. 27
5	Assessment of Property Management Practices During and After Covid-19 Pandemic in Lagos, Nigeria	Ogungbe, M.A., Akinwamide, D.O. & Jejelola, O.F. 39
6	An Assessment of Valuation Accuracy in the Residential Property Markets in Minna and Abuja	Dangana, U.S., Udoekanem, N.B. 50
7	Biosensor Re-design requirements for Operational Facility Management in the Post-COVID workplace	Ataguba, J.O. 60
8	An Assessment of the Effect of Coastal Externalities on Residential Housing Prices in Badore, Lagos-Nigeria	Ayoola, A.B. & Akande, S.O. 73
9	Commercial Property Market Performance and Macroeconomic Indicators Amid COVID-19 in Lagos: The Causal Linkage	Wahab, M.B., Alalade, O. & Hassan, O.A. 83
10	Factors Affecting Real Estate Project Delivery and Housing Affordability in Abuja	Emokpaire, E. & Mohammed, M. 94
<b>B</b>	<b>SUB-THEME 2: MODERN GEOSPATIAL TOOLS FOR EPIDEMIOLOGY</b>	<b>100</b>
11	GIS Based Land Suitability Analysis for Optimal Choice of Cereal Crops Production in Kaduna State	Abdulraheem, S. & Opaluwa, Y.D. 101
12	Review on Depth Determination Bathymetry Using Remote Sensing Technique- Theoretical Appraisal	Adeleke. A., Nwadiolor I. J., Odumosu, J., Baba.M. & Bako. M 107
13	Assessment of the Hydrological Characteristics of Shiroro Dam, Nigeria	Adesina E. A., Musa A., Onuigbo, I.C., & Adesiji, A. R. 115
14	Remote Sensing and GIS-Based Vulnerabilities Assessment Over Borno State	Attahiru, I.M. & Etim, E.E. 123
15	Drought Analysis in Jega Local Government, Kebbi State, Using Geospatial Tools to Analyse Vegetation Covers	Yahaya, I. A. & Etim E. E. 132
16	Flood Vulnerability Mapping of Communities Along River Kaduna in Lavun Local Government Area, Nigeria	Mohammed, A.B. Y. & Onuigbo, I.C. 139
17	Analysis of Urban Growth Monitoring and Indicator-Based Assessment Using Remote Sensing Technique in Abuja Nigeria	Umar, I.A. & Etim, E.E. 147
18	Estimation of Leaf Area Index using geospatial methods-A review	Oleh, T. C. & Ajayi, O.G. 155
19	Assessment of Climate Change Impact and Population Growth on Concrete Bridges in Minna, Niger State Using GNSS Technology	Ladan, M.D. & Etim, E. E. 168
20	Image Fusion for Improving Spatial Resolution of Multispectral Satellite Images	Gobir, M. O. & Etim, E. E. 177
21	Point and Spatial Evaluation of Some Selected Commercial Software Used in UAV Image Processing	Aliyu, K. A. & Nwadiolor, I. J. 178
<b>C</b>	<b>SUB-THEME 3: ARCHITECTURE, RESILIENCE AND HEALTHY BUILDINGS IN PANDEMIC ERA</b>	<b>186</b>
22	Nigerian Prisons Reformation! Panacea for Reduction of Recidivism - Case Study of Minna Medium Security Prison	Abdul, C. I., Ekule, A. A., Idachaba, M. K., Nuhu, A. A. 187
23	Incorporating Principles of Adaptability in Spatial Configuration to Enhance Spatial Requirement in the Design of General Hospital Suleja, Niger State	Isiaka, A.S., Maina, J.J., Salihu, M.M., Saliu, O.H. 194



## Factors Affecting Real Estate Project Delivery and Housing Affordability in Abuja

Emokpaire, E.<sup>a</sup> & Mohammed, M.<sup>b</sup>

Department of Project Management Technology, Federal University of Technology, Minna

<sup>a</sup>[emokpairenahoro@gmail.com](mailto:emokpairenahoro@gmail.com)

### Abstract:

*This study focuses on the factors affecting real estate project delivery and housing affordability in Abuja, Nigeria. The study adopted a purposive sampling technique where 200 questionnaires was distributed to construction professionals and 178 was retrieved and analysed using SPSS. Findings revealed that the most significant factors affecting real estate project delivery are access to land, finance/funding, cost of building materials, high cost of capital, government policies, and high cost of labour. Also, the most significant factors affecting housing affordability in Abuja are cost of land, household income, house rent, housing expenditure, residential property price and housing preference. Hence, to increase housing affordability in Abuja, policymakers and other stakeholders may consider implementing strategies that address the factors identified as significant in the study. For example, measures to reduce the cost of land, such as land-use planning policies, or incentives for developers to build on underutilized land, could help to decrease the overall cost of housing. Similarly, policies that aim to increase household income, such as job training programs, or wage increases, could also help to improve housing affordability by increasing the ability of households to afford housing.*

**Keywords:** Real Estate, Housing Affordability, Project Delivery

### INTRODUCTION

Housing plays an important role in the development of any nation (Muhammed *et al.*, 2022). It had been ascertained as the basic need of a man (Makinde, 2013; Akinyode and Tareef, 2014). It is the constitutional responsibility of every government to provide an affordable housing to its citizenry. The Nigerian government being faced with limited resources in the fulfilment of this responsibility resort to succour from private organisation (Adediran *et al.*, 2020). In Nigeria, estate developers and the private sector has contributed about 90% of urban housing (Omole, 2001), to assist the government as a result of rapid growth in the urban areas. Despite this, estate developers are faced with the constraints of meeting up the supply of housing (Nubi, 2008; Adegoke and Agbola, 2020), especially in the modern cities such as Abuja metropolis. This is due to the cost of building materials, deficiency of housing finance arrangement, inflexible loan conditions from mortgage banks and government policies (Raji, 2008; Enisan and Ogundiran, 2013) which induced insufficient funding (Ihuah and Fortune 2013; Ihuah and Eaton 2013; Dorosaimy *et al.*, 2015; Tijani and Ajagbe 2016; Mac-Barango, 2017). As a result, housing deficit in Nigeria was put at about 16 million units, in 2009 with a rough estimate of USD40 billion to handle it (Basorun and Fadairo, 2012), this further upsurge by an additional 2 million in 2013 to make 18 million shortages among the 200.96 million population reported by the world population review 2019 owing to the negligence of government towards the housing sector as well as the inability of the estate developers to deliver to sufficiency housing needs of the people (Adediran *et al.*, 2020). Consequently, Nwachukwu and Nzotta (2010) and Desai (2012), opined that the rate at which real estate projects fail, or are abandoned, is retrogressive in most developing economies.

However, Iben and Aduwo (2013) asserts that the provision of satisfactory housing that meets government prescribed standards of quality and user needs, expectations and aspiration has always been the goal of every public housing programme in Nigeria. Conversely, Adeshina (2010) opines that the causes of the lack of housing affordability resulting from the insufficient delivery of estate projects includes inadequate/improper planning and inflation. Also, poor timing (Ihuah and Benebo (2014); poor estimation of project duration (Adediran *et al.*, 2020); bankruptcy of contractor and incompetent project managers (Mac-Barango, 2017); wrong estimates and variation of project scope (Iben and Aduwo, 2013), faulty designs, unrealistic cost planning and control at the design stage (Gana and Olorunfemi, 2015); delaying in payment, poorly developed clients' brief and working drawings (Olusegun and Michael, 2011); lack of stake holders' involvement and lack of organized work program planning

(Agyemang and Morrision, 2018), among others are also seen as failure inducing factors. These factors are part of the many which have therefore, induced the inability of the estate developers to deliver project to the sufficient needs of the populace within Abuja metropolis. Several studies have been conducted on the real estate delivery and affordable housing (Ibem and Aduwo, 2013; Agbola and Adegoke, 2017; Adegoke and Agbola 2020). Empirically, only few studies have been conducted in Abuja, Nigeria. Therefore, this paper seeks to study the factors affecting real estate project delivery and housing affordability in Abuja, Nigeria.

## LITERATURE REVIEW

According to Ajayi *et al.* (2016), the factors affecting housing estate project delivery include land inaccessibility challenges, increasing construction cost, progressive rise on poverty, stunted financial and mortgage system, policies of government and poor bureaucratic procedures, building materials unabated price increment, population increase, insufficiency of physical planning, statutory regulation and bye-laws, and issues with development control units. Also, Alao and Jagboro (2017), identified the most significant causes of project abandonment and stated issues such as payment delays, fund mismanagement, insufficient budget allocation, insufficient finance, contractors’ inflation, and bankruptcy. They also explored four significant components, including stakeholders’ response capacity, poor financial management, improper planning and monitoring, and unexpected occurrences. In a study also performed in Nigeria with a different kind of project, there were some similar results with the study of Alao and Jagboro (2017), that owners’ insufficient finance, contractors’ bankruptcy, and business failure were considered as the significant factors to the failure and abandonment of multi-storey building projects. Other significant factors found in the study of Adebisi *et al.* (2018), were improper planning at the preconstruction phase, improper scheduling of building project activities, structural failure during construction, and qualified professionals’ lack of involvement. The failure and abandonment factors were then grouped into five components, namely, capability of human resources, contractor selection and variation, planning and structural quality, insecurity and variation, and force majeure and political risk (Adebisi *et al.*, 2018).

Consequently, in other nations, Ikediashi *et al.* (2014), in Saudi Arabia, posited poor risk management to be the paramount failure factor for infrastructure projects, followed by budget overruns and poor communication, respectively. Alaloul *et al.* (2016), investigated failure factors of a public-private partnership (PPP) in the UAE and found that lack of appropriate skills, poor communications between private partners, high project value, and high participation cost were the most critical failure factors. However, a study by Trangkanont and Charoenngam (2014) on critical failure factors of PPP low-cost housing program in Thailand showed that critical failure factors were ineffective change management of public clients, undermined organizational culture and staff’s behaviour of public clients, inappropriate contractors, poor bidding documents, difficulties of low-income groups, political risks, economic crisis, and limitations of housing finance. Another study was also performed to identify failure factors of road infrastructure PPP projects in India (2017). The results of this study concluded that public protest, political parties, influence of higher authorities, force majeure, and maintenance cost overruns were the most responsible factors for the failure of road PPPs in the planning stage, development stage, procurement stage, construction stage, and operation and maintenance stage, respectively, while in the study of Ikediashi *et al.* (2014) in Saudi Arabia, poor risk management was found to be the paramount failure factor for infrastructure projects, followed by budget overruns and poor communication, respectively. Ofori (2000), showed that construction industries in developing countries faced many problems such as resource constraints, lack of technical and managerial capability, lack of knowledge, short-term orientation and lack of focus on construction, falling exchange rates and rising inflation. These problems were found to be critical failure factors of construction projects in previous studies (Nguyen & Chileshe, 2015; Damoah & Kumi 2018; Trangkanont & Charoenngam 2014; Alaloul *et al.* 2016; Alao & Jagboro, 2017). These failure factors to construction projects differ from one country to another, due to the different characteristics of each country, such as culture, economic conditions, or technology advancement.

## METHODOLOGY

The methodology involved a descriptive survey with a structured questionnaire administered to construction industry practitioners in FCT, Abuja. This study adopted a non-probability sampling technique known as 'purposive sampling' to select its respondents. A total of 200 questionnaires were administered, out of which 178 (89% response rate) was returned. The questionnaire was divided into three parts: the first part was dedicated to the respondents' background; the second part was related to questions on factors affecting real estate project delivery; while the third part was related to questions on factors affecting housing affordability. A five-point likert scale was used with each point representing different levels of agreement and disagreement. The mean score and relative importance index (RII) were used to analyze the findings amongst these factors. RII has been used in construction related research by such authors like Babatunde *et al.* (2010); Fugar and Agyakwah-Baah (2010); and Amade (2016). Microsoft Excel and the Statistical Package for Social Sciences (SPSS) software were the statistical tools adopted for analysis.

## RESULTS AND DISCUSSION

### Background Data of Respondents

The data analysis was based on 178 valid questionnaires (89% return rate) retrieved from 200 administered questionnaires. The background data of respondents is presented in Table 4.1.

Table 4.1: Background Data of Respondents

Profile	Frequency	Percentage (%)
<b>Educational Qualification</b>		
NCE/ND	6	3
HND/BSC	118	59
MBA/MSC/M. Eng	61	30.5
PhD	15	7.5
<b>Industry Professionals</b>		
Project Manager	46	23
Engineer	30	15
Architect	26	13
Quantity Surveyor	33	16.5
Builder	28	14
Contractor	22	11
Others	15	7.5
<b>Years of Experience</b>		
1 – 5	26	13
6 – 10	31	15.5
11 – 15	52	26
16 – 20	63	31.5
Over 20	28	14

The results of the educational qualifications showed that 3% had NCE/ND, 59% had a first degree and its equivalent, 30.5% had a master's degree and 7.5% had PhD. It indicates that HND/BSC may be the requisite qualification for practitioners in the industry. Also from the results, Project Managers constituted 23%, Engineers (15%), Architect (13%), Quantity Surveyor (16.5%), Builder (14%), Contractor (11%) and others (7.5%). Project managers may be the most professionals in the construction industry. About 31.5% of the respondents had experience spanning 16 – 20 years while 13% had the least experience of 1 – 5 years. This result implies that construction professionals are experienced in their various fields; as a result, the data obtained is reliable, valid and suitable.

### Factors Affecting Real Estate Project Delivery in Abuja

Based on the results presented in Table 4.2, it appears that the respondents agree that the most significant factors affecting real estate project delivery are access to land, finance/funding, cost of building materials, high cost of capital, government policies, and high cost of labour. These factors had a relative importance index (RII) value of 0.97, 0.93, 0.90, 0.88, 0.86, and 0.84, respectively, indicating that the respondents considered them to be highly significant.

*Table 4.2: Factors Affecting Real Estate Project Delivery in Abuja*

Factors	Mean	RII	Rank
Access to Land	4.87	0.97	1
Finance/Funding	4.65	0.93	2
Cost of Building Materials	4.54	0.90	3
High Cost of Capital	4.40	0.88	4
Government Policies	4.32	0.86	5
High Cost of Labour	4.21	0.84	6
Corruption	4.15	0.83	7
Consumer Low Purchasing Power	4.06	0.81	8
Development Control	3.72	0.74	9
Knowledge on Estate Development	3.31	0.66	10

Access to land is a crucial factor in real estate project delivery, as developers need to acquire land in order to build on it. The availability and cost of land can impact the feasibility of a project, as well as the overall timeline and budget. Finance/funding is another key factor, as developers need access to sufficient funding to purchase land, hire workers, and purchase materials. The cost of capital, or the cost of borrowing money, can also have a significant impact on the feasibility and affordability of a project. The cost of building materials and labour can also affect the delivery of real estate projects. If these costs are high, it can impact the overall budget and profitability of the project. Government policies can also have an impact on real estate project delivery, as developers must comply with various regulations and requirements. Changes in these policies can affect the timeline and feasibility of a project. These findings are in agreement with Wuyokwe & Yakubu (2022) and Ajayi *et al.* (2016) which showed that problem of land inaccessibility, building materials, high cost of capital stunted financial and mortgage system were the factors affecting housing delivery in Nigeria. According to Milala *et al.* (2020) and Ahmed (2022), access to suitable land, however, poses a substantial obstacle to the increases in real estate in this world region, which has an influence on project timetables, development expenses, and, therefore, development prices.

### Factors Affecting Housing Affordability in Abuja

The respondents were asked to indicate their opinion on the level of their agreement with the identified factors affecting housing affordability based on their experience in their organizations/fields. The results presented in Table 4.3 indicates that the most significant factors affecting housing affordability in Abuja are cost of land, household income, house rent, housing expenditure, residential property price and housing preference with an RII value of 0.98, 0.94, 0.93, 0.90, 0.88 and 0.86 respectively.

*Table 4.3: Factors Affecting Housing Affordability in Abuja*

Factors	Mean	RII	Rank
Cost of Land	4.88	0.98	1
Household Income	4.72	0.94	2
House Rent	4.67	0.93	3
Housing Expenditure	4.50	0.90	4
Residential Property Price	4.42	0.88	5
Housing Preference	4.31	0.86	6
Increase in Population	4.25	0.85	7
Demographics	4.15	0.83	8
Lack of Price Control	4.03	0.81	9
Perception of Buyer	3.87	0.77	10
Government Intervention	3.65	0.73	11

The cost of land is a significant factor in determining the overall cost of housing. Higher land costs can make it more expensive to build new housing or to purchase existing homes, which can make housing less affordable for potential buyers or renters. Household income is an important factor in determining housing affordability. Higher incomes generally allow individuals or households to afford higher housing costs, while lower incomes may make it more difficult to afford housing. Furthermore, house rent, or the cost of renting a home, is another factor that can affect housing affordability. Higher rent costs can make it more difficult for individuals or households to afford suitable housing. Housing expenditure refers to the amount of money that individuals or households spend on housing-related



costs, such as mortgage payments, utilities, and maintenance. Higher housing expenditure can make it more difficult for individuals or households to afford other necessities or to save for the future. The price of residential property, or the cost of purchasing a home, can also affect housing affordability. Higher property prices can make it more difficult for individuals or households to afford to purchase a home. Housing preference refers to the type of housing that individuals or households prefer. Some individuals or households may prefer more expensive housing options, such as larger homes or homes in certain neighbourhoods, which can affect their ability to afford housing. These findings are in agreement with Akinyode (2017), Ezennia & Hoskara (2019), and Wuyokwe & Yakubu (2022) who opined that the revealed house rents, housing preference, housing satisfaction, land price and government intervention are the determining factors for housing affordability.

## CONCLUSIONS

The major factors affecting real estate project delivery and housing affordability in Abuja are: Access to land, access to finance funding, cost of building materials, high cost of capital, government policy, high cost of labour, corruption, consumer low purchasing power, development control, knowledge on estate development.

Better government bureaucratic process will help to increase housing affordability in Abuja. Policymakers and other stakeholders may consider implementing strategies that address the factors identified as significant in the study. For example, measures to reduce the cost of land, such as land-use planning policies or incentives for developers to build on underutilized land, could help to decrease the overall cost of housing. Similarly, policies that aim to increase household income, such as job training programs or wage increases, could also help to improve housing affordability by increasing the ability of households to afford housing. Other potential strategies could include efforts to decrease the cost of building materials, such as through import tariffs or subsidies, or measures to increase the supply of affordable housing, such as through the construction of public or low-income housing. It is important to carefully consider the specific context and needs of the housing market in Abuja when designing and implementing these strategies in order to maximize their effectiveness.

## REFERENCES

- Adebisi, E. O., Ojo, S. O. & Alao O. O. (2018). “Assessment of factors influencing the failure and abandonment of multistorey building projects in Nigeria,” *International Journal of Building Pathology and Adaptation*, vol. 36, no. 2, pp. 210–231.
- Adediran, A. O., Oladejo, S. O. & Ijagbemi, C. O. (2020). The Fundamentals to Affordable Home-Ownership in Nigeria. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*. Vol. 7 Issue 4.
- Adegoke, S. A. O. & Agbola, T. (2020). Housing Affordability and the Organized Private Sector Housing in Nigeria. *Open Journal of Social Sciences*, 8, 177-192. <https://doi.org/10.4236/jss.2020>.
- Adeshina, R. (2010). “Abandonment of Construction Projects,”. *Journal of emerging Trends in Economics and Management Science*, vol. 2, no. 2, pp. 142-145.
- Agbola, B. S. & Adegoke, S. A. O. (2017). Residential Satisfaction and the Organised Private Sector Housing in Nigeria. *International Journal of African and Asian Studies*.
- Agyemang, F. S. & Morrison, N. (2018). "Recognising the barriers to securing affordable housing through the land use planning system in Sub-Saharan Africa: A perspective from Ghana." *Urban Studies* 55(12): 2640-2659.
- Ajayi, O., Ajayi, O., Akinsiku, O., & Osunsami, T. (2016). Strategies for housing affordability in Nigeria. *Journal of construction project management and innovation*, 6(sup-1), 1620-1632.
- Akinyode, B. F. & Tareef, H. K. (2014). Bridging the gap between housing demand and housing supply in Nigerian urban centres. A review of Government intervention so far. *British Journal of Arts and Social Sciences*, 18(2), 94 – 107.
- Akinyode, B. F. (2017). Determining factors for housing affordability in Ibadan, Nigeria. *Ethiopian Journal of Environmental Studies and Management*, 10(5), 642-653.
- Alaloul, W. S., Liew, M. S. & Zawawi, N. A. BWA. (2016). “A framework for coordination process into construction projects,” *MATEC Web of Conferences*, vol. 66, p. 00079.
- Alao, O. O. & Jagboro, G. O. (2017) “Assessment of causative factors for project abandonment in Nigerian public tertiary educational institutions,” *International Journal of Building Pathology and Adaptation*, vol. 35, no. 1, pp. 41–62.



- Amade, B., Akpan, E. O. P., Ubani, E. C., & Amaeshi, U. F. (2016). Supply chain management and construction project delivery: Constraints to its application. *Project Management World*, 5(5), 1-19.
- Damoah, I. S. & Kumi, D. K. (2018). “Causes of government construction projects failure in an emerging economy,” *International Journal of Managing Projects in Business*, vol. 11, no. 3, pp. 558–582.
- Doraisamy, S. V., Akasah, Z. A. & Yunus, R. (2015). A Review on Abandoned Construction Projects: Causes & Effects. *Applied Mechanics and Materials*. Vols. 773-774; pp 979-983.
- Enisan, Olugbenga & Ogundiran, Adekemi (2013). Challenges of Housing Delivery in Metropolitan Lagos. *Research on Humanities and Social Sciences*, 3 (20), 1 – 8.
- Ezennia, I. S., & Hoskara, S. O. (2019). Exploring the severity of factors influencing sustainable affordable housing choice: evidence from Abuja, Nigeria. *Sustainability*, 11(20), 5792.
- Gana, A. J. & Olorunfemi, K. O. (2015). “Human Elements and factor contribution and consideration in construction Projects towards completion (the Nigeria Experience),” *International Research Journal of Engineering Science, Technology and Innovation*, vol. 4, no. 1, pp.12-18.
- Ibem, E. O. & Aduwo, E. B. (2013). Assessment of Residential Satisfaction in Public Housing in Ogun State, Nigeria. *Habitat International* Vol.40 pp/66 – 175.
- Ihuah, P. W. & Benebo, A. M. (2014). “An Assessment of the Causes and Effects of Abandonment of Development Projects on Real Property Values In Nigeria,” *International Journal of Research in Applied, Natural and Social Sciences*, Vol. 2, Issue 5, pp. 25-36, 2014.
- Ihuah, P. W. & Eaton, D. (2013). “A Framework for the Sustainable Management of Social (Public) Housing Estates in Nigeria: a pilot study,” A Paper Presented at RICS COBRA Research Conference, New Delhi, India.
- Ihuah, P. W. & Fortune, J. C. (2013). “Toward a Framework for the Sustainable Management of Social (Public) Housing Estates in Nigeria. “*Journal of US-China Public Administration*, vol. 10, no. 9, pp. 901-913, 2013.
- Ikediashi, D. I., Ogunlana, S. O. & Alotaibi, A. (2014). “Analysis of project failure factors for infrastructure projects in Saudi Arabia: a multivariate approach,” *Journal of Construction in Developing Countries*, vol. 19, no. 1, pp. 35–52.
- Mac-Barango, D. (2017). “Construction Project Abandonment: An Appraisal of Causes, Effects and Remedies,” *World Journal of Innovation and Modern Technology*. vol. 1, no. 1, 2017.
- Makinde, O. O. (2013). Housing delivery system need and demand. *Environment Development Sustainability*, 16, 49 – 69.
- Muhammed, A. O., Muhammed, A. A., Yakubu, H. A., Suleiman, A., & Adam, A. (2022). Assessment of Factors Affecting Contractors Tendering Success for Construction Projects in North-Central Nigeria. *International Journal of Real Estate Studies*, 16(1), 87–99. <https://doi.org/10.11113/intrest.v16n1.155>
- Nguyen, T. P. & Chileshe, N. (2015). “Revisiting the construction project failure factors in Vietnam,” *Built Environment Project and Asset Management*, vol. 5, no. 4, pp. 398–416.
- Nubi, O. T. (2008). Affordable housing delivery in Nigeria. The South African Foundation International conference and exhibition, Cape Town, October, 1- 18.
- Nwachukwu, C. C. & Nzotta, S. M. (2010). “Quality Factor Indexes: A Measure to Project Success Constraints in A Developing Economy”. *Interdisciplinary Journal of Contemporary Research in Business*, vol. 2 no. (2), pp. 1-8.
- Ofori, G. (2000). “Challenges of construction industries in developing countries: lessons from various countries,” in *Proceedings of 2nd International Conference on Construction in Developing Countries: Challenges Facing the Construction Industry in Developing Countries*, vol. 5, no. 24, pp. 15–17, Gaborone, November.
- Omole, F. K. (2001). Urban renewal process issues and strategies. Ikeja: Concept books and Publication Company Limited.
- Raji, O. (2008). Public and Private developers as agents in urban housing delivery in sub-Saharan Africa: The situation in Lagos State. *Humanity of Social Sciences Journal*, 3 (2), 143- 150.
- Tijani, M. A. & Ajagbe, W. (2016). “Professional views on the causes and effects of construction projects abandonment in Ibadan Metropolis, Nigeria,” *Ethiopian Journal of Environmental Studies and Management*. vol. 9, no. 5, pp. 593-603.
- Trangkanont, S. & Charoenngam, C. (2014). “Critical failure factors of public-private partnership low-cost housing program in Thailand,” *Engineering, Construction and Architectural Management*, vol. 21, no. 4, pp. 421–443.
- Wuyokwe, G. N., & Yakubu, S. (2022). Exploring the Factors Affecting Property Development and Housing Affordability in Abuja. *Rajasthali Journal*, 1(4), 121-135.