



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

**EDITORS IN CHIEF**

*R. E. Olagunju*

*B. J. Olawuyi*

*E. B. Ogunbode*

**SETIC  
2020  
INTERNATIONAL  
CONFERENCE**

**BOOK OF PROCEEDINGS**

**MAIN THEME:**

**Sustainable Housing And Land Management**



**3RD -5TH MAY, 2021**



**SCHOOL OF ENVIRONMENTAL TECHNOLOGY COMPLEX,  
FUT, MINNA, NIGER STATE, NIGERIA**

**Chief Host**

**Prof. Abdullahi Bala. FSSSN**

*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*

**School of Environmental  
Technology International  
Conference  
(SETIC 2020)**

**3RD - 5TH MAY, 2021**

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

**CONFERENCE PROCEEDINGS**

**EDITORS IN CHIEF**

**R. E. Olagunju**

**B. J. Olawuyi**

**E. B. Ogunbode**

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

---

SETIC 2020 International Conference:

“Sustainable Housing and Land Management”

School of Environmental Technology, Federal University of Technology, Minna

3<sup>rd</sup> – 5<sup>th</sup>, May 2021.

# Proceedings of the 3rd School of Environmental Technology International Conference (SETIC 2020)

**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 2021

ISBN 978-978-54580-8-4

|                          |                                    |   |
|--------------------------|------------------------------------|---|
| <b>Editors-in-chief:</b> | Prof. Olagunju Remi Ebenezer       | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Dr. Olawuyi Babatunde James        | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Dr. Ogunbode Ezekiel Babatunde     | Federal University of Technology Minna.<br>Niger State, Nigeria |
| <b>Editors:</b>          | Dr. Akande Oluwafemi K             | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Dr. Sule Abass Iyanda              | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Dr. Ajayi Oluibukun Gbenga.        | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Dr. Odumosu Joseph Olayemi         | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Surv. Adesina Ekundayo A           | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Mr. Gbenga Morenikeji              | Federal University of Technology Minna.<br>Niger State, Nigeria |
|                          | Assoc. Prof. Dr. James O.B. Rotimi | Massey University New Zealand                                   |
|                          | Asst. Prof. Dodo Yakubu Aminu      | Gelisim University Istanbul, Turkey                             |
|                          | Dr. Babafemi Adewumi John          | University of Stellenbosch, South Africa                        |

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 © 2021 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.

---

SETIC 2020 International Conference:

“Sustainable Housing and Land Management”

School of Environmental Technology, Federal University of Technology, Minna

3<sup>rd</sup> – 5<sup>th</sup>, May 2021.

## PREFACE

The School of Environmental Technology International Conference (SETIC 2020) is organised by School of Environmental Technology, Federal University of Technology Minna, Nigeria. In collaboration with Massey University New Zealand, Department of Civil Engineering Faculty of Civil Engineering and Built Environment Universiti Tun Hussein Onn Malaysia, Malaysia Centre For Professional Development and Industrial Project Development School of Professional and Continuing Education (SPACE) UTM-KL Malaysia, Global Academia, Department of Architecture, Faculty of Engineering and Architecture, Istanbul Gelisim University Istanbul Turkey, Sustainable Environmental and Technology (SET) Research Group, Department of Architecture, Universiti Sains Islam.

The main theme for this year conference is “SUSTAINABLE HOUSING AND LAND MANAGEMENT”. This promotes and encourage innovative and novelty for policy issues for inclusive and sustainable housing; access to finance for housing and land development; sustainable building materials; building cost management; sustainable and resilient cities; geoinformatics for land management; rapid urbanization; sustainable land use and spatial planning and gender issues in access to land.

The responses from participants for this conference are overwhelming, well attended, and successful. The operation mode was virtual for all participants who choose the oral presentation mode and physical for all poster medium presenters. Our participants are from various Universities and other sector across the globe, from countries like United State of America (USA), Turkey, Malaysia, China, Saudi Arabia, Kenya, New Zealand and South Africa just to mention a few. Hence, this conference provides a good platform for professionals, academicians and researchers to widen their knowledge and approach on latest advances in research and innovation. Papers presented in this conference cover a wide spectrum of science, engineering and social sciences.

Finally, a note of thanks must go to SETIC 2020 Local Organizing Committee (LOC) for their remarkable dedication in making this conference a success. We hope the event will prove to be an inspiring experience to all committee members and participants.

## ACKNOWLEDGEMENTS

The effort put together in achieving the success of SETIC 2020 is predicated on the feat of the first and second edition of School of Environmental Technology International Conference held in 2016 and 2018, respectively. The support and goodwill from Vice-Chancellor of Federal University of Technology, Dean School of Environmental Technology, Dr Dodo Y. A., Dr Moveh S. and many other highly motivated people are highly appreciated.

It is also my privilege and honour to welcome you all, on behalf of the Local Organizing Committee (LOC) to the 3rd edition of the Biennial School of Environmental International Conference (SETIC 2020). This Conference which was earlier schedule for 7th to 11 April, 2020 is holding now (3rd to 5th May, 2021) due to the challenges of COVID-19 Pandemic and the ASUU-FGN crisis which made our public Universities in Nigeria to be closed for about one year. We thank God for keeping us alive to witness the great SETIC2020 event, in an improved form exploiting the new-normal situation posed by the Pandemic for a hybrid (i.e. both physical and virtual) form of Conference participation.

The conference provides an international forum for researchers and professionals in the built environment and allied professions to address fundamental problems, challenges and prospects Sustainable Housing and Land Management. The conference is a platform where recognized best practices, theories and concepts are shared and discussed amongst academics, practitioners and researchers. This 2020 edition of SETIC has listed in the program a Round Table Talk on Housing Affordability beyond COVID-19 with selected Speakers from across the globe available to do justice on the topic of discussion.

Distinguished Conference participants, permit me to warmly welcome our Keynote and Guest Speakers:

- Prof. Ts. Dr. Mohd Hamdan Bin Ahmad, *Deputy Vice Chancellor (Development) Universiti Technology Malaysia (UTM);*
- Assoc. Prof. Dr. James O.B. Rotimi, *Academic Dean Construction, School of Built Environment, College of Sciences, Massey University of New Zealand;*
- Assoc. Prof. Sr. Dr. Sarajul Fikri Mohammed, *General Manager, Centre for Professional Development and Industrial Project Development School of Professional and Continuing Education (SPACE), UTM-KL.*
- Prof. Ts. Dr. Zanail Abidin Akasah, *Visiting Professor on Sustainable Solar Integrated Design Building Design, International Micro Emission University (IMEU)/HIMIN Ltd. China & Senior Research Fellow, The Architects Resourcery, Jos, Nigeria;*
- Ar. Dr. Elina Mohd Husini, *Department of Architecture, Faculty of Engineering & Built Environment, Universiti Sains Islam;*
- Asst. Prof. Dr. Yakubu Aminu Dodo, *Department of Architecture, Faculty of Engineering and Architecture Istanbul Gelisim University, Istanbul Turkey*

and the five Speakers for our Round Table Talk on “Housing Affordability beyond COVID-19”

- Dr. Muhammad Mustapha Gambo, *Manager, Policy, Research and Partnerships, Shelter Afrique, Nairobi, Kenya;*

---

SETIC 2020 International Conference:

“Sustainable Housing and Land Management”

School of Environmental Technology, Federal University of Technology, Minna

3<sup>rd</sup> – 5<sup>th</sup>, May 2021.

- Prof. Dr. Soumia Mounir, *Department of Architecture Ecole Nationale d'Architecture d'Agadir [The National School of Architecture of Agadir], Morocco*
- Dr. Said Alkali Kori, *General Manager, Projects and Portfolio management, Family Homes Fund, Federal Ministry of Finance, Abuja;*
- Ts. Dr. Sasitharan Nagapan, *Department of Civil Engineering, Faculty of Engineering and Built Environment, Universiti Tun Hussein Onn Malaysia, Malaysia;*
- Dr. Mercy Nguavese Shenge, *AIA Assoc. Historic District Commissioner, City of Rockville, MD, USA.*

for accepting to share from their knowledge, wealth of experience and be available to interact with participants on varied issues on “**Sustaining Housing and Land Management**”.

As reflected on the Conference program, the Conference activities will be Virtual for power point presenters to run in four parallel sessions on the Zoon platform while the participants for Poster presentations (mostly Postgraduate students) are expected to have their Posters displayed in the Environmental Complex Building of the Federal University of Technology, Minna. With a total of One Hundred and One (101) articles captured in the Conference Proceedings covering the seven subthemes of the Conference, I have no doubt that we are all in for an impactful experience at SETIC2020 as we brainstorm, exchange ideas, share knowledge and participate in evolving more approach to sustainable housing and land management drives.

I implore us all to enjoy every moment of the deliberations and ensure we maximize the great opportunity offered by the Conference to network for better research and career development as we also make new friends.

I also on behalf of myself and the LOC express our appreciation to the Dean, School of Environmental Technology and the entire Staff of the School for giving us the opportunity to steer the ship for SETIC2020. To the Reviewers and various Committees that served with us, I say thank you for helping us through despite the pressure of work.

Thanks, and God bless you all.

**Olawuyi, B.J. (PhD)**  
**Chairman, LOC**  
**SETIC2020**

## COPYRIGHT STATEMENT

© Copyright. School of Environment International Conference (SETIC) 2020. The copyright for papers published in the SETIC Conference Proceedings belongs to authors of the papers.

Authors are allowed to reproduce and distribute the exact format of papers published in the SETIC Conference Proceedings for personal and educational purposes without written permission but with a citation to this source. No unauthorized reproduction or distribution, in whole or in part, of work published in the SETIC Conference Proceedings by persons other than authors is allowed without the written permission of authors or organizers of the SETIC Conference.

We have taken all necessary cautions to comply with copyright obligations. We make no warranties or representations that material contained in the papers written by authors do not infringe the intellectual property rights of any person anywhere in the world. We do not encourage support or permit infringement of copyrights / intellectual property rights by authors. Should you consider any violation of your copyrights please do not hesitate to contact the conference secretariat at [setic@futminna.edu.ng](mailto:setic@futminna.edu.ng)

SETIC accepts no liability for copyright infringements or inappropriate use of material in any paper published. All authors developed their papers in line with the guiding principles of academic freedom and are responsible for good academic practice when conducting and reporting scientific research.

Correspondence relating to copyrights and requests for permission to use material from the SETIC Conference Proceedings should be made to: Secretariat of SETIC Conference email: [setic@futminna.edu.ng](mailto:setic@futminna.edu.ng)



| S/N      | Title  | Author   | Page       |
|----------|--|--|------------|
| <b>A</b> | <b>SUB-THEME 1: POLICY ISSUES FOR INCLUSIVE AND SUSTAINABLE HOUSING</b>  |  | <b>1</b>   |
| 1        | Methodological Approaches to the Socio-Cultural Studies in Residential Estates   | Abidoye, K.M. & Sagada, M.L.   | 2          |
| 2        | A Critique of the Trusteeship Position of the Governor in the Land Use Act   | Bokani, A.M. & Liman, Y.   | 10         |
| 3        | E-Procurement Implementation in the Public Construction Sector in Nigeria: A Review  | Abdullahi, A., Oyewobi, L., Ganiyu, B. & Shittu, A.                              | 21         |
| 4        | Assesment of the Prospects and Challenges of E-Procurement Practices on Construction Project Delivery in Abuja, Nigeria                            | Mobayo, J. O. & Makinde, K. J.   | 27         |
| 5        | An Assessment of Users’ Satisfaction with the Adequacy of Security Measures in Mixed-use Buildings in Abuja  | Adam A.M. & Olagunju R.E.  | 35         |
| 6        | Allocation of Emerging Risks of E-Communication in Public Private Partnership Projects in Nigeria  | Bashir, A.S. & Muhammad, A   | 42         |
| 7        | Mechanism for Building Standards: Towards an Effective Building Control Practice in the Federal Capital Territory (FCT), Abuja                     | Fadare, O.A., Isa, R.B. & Bilau, A.A.  | 49         |
| 8        | Assessment of Facility Management Practices in Selected Public Health Care Facilities in Niger State   | Yusuf S., Bajere P.A. & Ogunbode, E.B.   | 59         |
| 9        | Evaluation of the Roles of Niger State Housing Corporation under Public-Private Partnership as Strategy for Public Housing Delivery in Niger State | Jonathan, S., Sule, A.I. & Ogunbode, E. B.                                       | 67         |
| 10       | Strategies for Disputes Reduction in the Nigerian Construction Process   | Aka, A., Omotosho, A.O., & Salisu, O.I.  | 76         |
| 11       | Assessment of Energy Conservation Measures in the Design of Postgraduate Student Hostels in Northern Nigerian Universities                         | Ojochegebe, I. & El-Hussain, A.  | 84         |
| 12       | A Review of Housing Potentials in Curbing Pandemic: A Post Covid-19 Analysis   | Garnvwa, J. D., Isa-Bala, C. M., Idris, H. A., Mailafiya, B. Y. & Abdulrazak, B. | 92         |
| 13       | Risk Assessment of Safety for Building Construction Projects in Abuja, Nigeria   | Mamman, J.E., Yakubu M., Y., Shittu, A. & Adamu, A.                              | 103        |
| 14       | Influence of Workforce Diversity on Employee Performance In Construction Firms In Abuja, Nigeria   | Anifowose, M.O. & Mohammed, M.N.   | 113        |
| <b>B</b> | <b>SUB-THEME 2: ACCESS TO FINANCE FOR HOUSING AND LAND DEVELOPMENT</b>   |  | <b>124</b> |
| 15       | Energy Pricing and Poverty in Sokoto City, North West Nigeria: A Lesion in Green House Gas Reduction   | Bello, A., & Bello-Yusuf, S.   | 125        |





|          |  |  |            |
|----------|--|--|------------|
| 16       | Assessment of the Determinants of Risk Management Capabilities and Commitments in Public Private Partnerships Projects   | Yamusa, M.A., Abdullahi, M., Bello, A.S.& Bello, A.K.                | 135        |
| 17       | Conceptual Framework for an Effective Management of Public-Private Partnership Infrastructure Project Stakeholders to Minimise Project Failure in North Central, Nigeria | Yusuf, B. G., Bashir, O. G., Luqman, O. O. & Abdulganiyu, A. O.      | 145        |
| 18       | Assessment of Factors Influencing the Various Procurement Methods in the Delivery of Commercial Building Projects in Abuja, Nigeria                                      | Ibrahim, A. & Shittu, A.   | 155        |
| 19       | Assessment of Procurement Risks in FIRS Building Construction Projects in Nigeria  | Zubairu, H., & Saidu, I.   | 163        |
| 20       | Assessment of the Adoption of Building Information Modelling (BIM) in the Nigerian Construction Industry   | Monejo, T. B. & Makinde, J. K.                                       | 173        |
| 21       | Land Use Changing Pattern and Urban Growth Felele Area, Lokoja Nigeria   | Balogun J. O.  | 185        |
| <b>C</b> | <b>SUB-THEME 3: SUSTAINABLE BUILDING MATERIALS</b>   |  | <b>197</b> |
| 22       | Sustainable Building Material for Green Building Construction and Conservation   | Ninalowo, R.O. & Zubairu, S.N.                                       | 198        |
| 23       | Comparative Compressive Strengths of Concrete Using Wood Ash and Cow Bone Ash as Partial Replacement for Cement  | Olaleru, J., Baba, T. & Abdullahi, A.                                | 205        |
| 24       | Assessing Some Mechanical Properties of Reinforcement Bars Made from Recycled Metals as a Panacea to Sustainable Use of Reinforcement as Building Material               | Bello, U. and Thabita, S.  | 212        |
| 25       | Optimizing the Compressive Strength of Binary Mixtures of Laterite-Sand Cement Mortar  | Adetona, A. & Alao, T.O.   | 219        |
| 26       | Assessment of Lean Techniques for Building Materials Waste Minimisation in Abuja, Nigeria  | Ango, A. & Saidu, I.   | 228        |
| 27       | Evaluation of the Significance of Timber as a Source of Sustainable Building Material in Owerri, Nigeria   | Emechebe, L.C., Eze, J. C. & Akande, O.K.                            | 238        |
| 28       | Evaluation of the Compressive Strength of Concrete Using Bush Gravel as Coarse Aggregates Partially Replaced with Broken Bricks  | Baba, T., Olaleru, J., & Alhaji, B.                                  | 247        |
| 29       | Influence of Magnesium Sulphate on the Compressive Strength of Internal Cured (IC) Rice Husk Ash based High Performance Concrete   | Mudashiru, S. A., Olawuyi, B. J., Ayegbokiki, S. T., & Ndayako, S.K. | 253        |
| 30       | Influence of Material Waste Management on Construction Project Delivery in Abuja, Nigeria  | Garba. Y. Y., Yisa. S. N. & Umar. M. I.                              | 261        |



|          |  |   |            |
|----------|--|---|------------|
| 31       | Effective Implementation of Health and Safety Practices on Construction Site: Barriers and Movers  | Eigege, J., Aka, A. & Agbo, A.E.  | 266        |
| 32       | Utilization of Quarry Dust as Partial Replacement of Sand in Sandcrete Blocks  | Garba, A., Saidu, A., Adamu, A.I. & Dalhat, A.S.                              | 272        |
| 33       | Assessment of Shredded Waste Poly-Ethylene Terephthalate (PET) Bottles Usage as Coarse Aggregate in Lightweight SHA Based Concrete Composite | Daniya N. S., Ogunbode E. B., Yahaya T. A. & Alao T.O.                        | 278        |
| 34       | Characteristics and Properties of Rice Husk Ash Based Fibrous Concrete Manufactured with Waste Metallized Plastic Film Fibre                 | Ogunbode E. B., Alhaji_Minin, N., Shehu M. A. & Lukman, M.L.                  | 286        |
| 35       | Evaluation of Shear Bond Strength of Geopolymer Mortar Containing Cassava Peel Ash and Metakaolin  | Wuna, M.A., Nmadu, H.G., Ogunbode, E.B. & Mohoro, I.S.                        | 295        |
| 36       | Determination of the Compressive Strength Properties of Alkali-activated Millet Husk Ash - Calcium Carbide Mortar                            | Onuche, G., Olawuyi, B. J., Saka, R. O. & Danjuma J.                          | 303        |
| 37       | Compressive Strength Characteristics of Mortar Containing Pulverised Volcanic Ash and Metakaolin as Cement Replacement                       | Hassan, I.O., Ali, S.U. & Yunusa, A.  | 312        |
| 38       | Piping Investigation of Kiri Dam Located in Shelleng L.G.A, Adamawa State, Nigeria, Using SEEP/W   | Ahmed Bafeto Mohammed   | 322        |
| 39       | Assessment of Sustainable Traditional Building Materials to Modern Residential Housing in Ibadan, Oyo State, Nigeria                         | Agboola, B.A. & Eze, J.C.   | 330        |
| 40       | Evaluation of the impact of the Use of Roof Concrete Fascia on Embodied Carbon Emission of Residential Buildings in Nigeria                  | Udomiaye, E., Odom, C.U., Umuoghara, R.E., Kalu C. K., Ntaji, P. & Unyime, I. | 341        |
| <b>D</b> | <b>SUB-THEME 4: BUILDING COST MANAGEMENT</b>   |   | <b>349</b> |
| 41       | Influence of Supervision on Labour Productivity of Finishing Works in Ibadan, Oyo State  | Jibril, H.I., Saidu, I., Alhassan, M.I. & Mohammed, M. N.                     | 350        |
| 42       | Analysis of Stakeholder Management of Construction Project in Abuja, Nigeria   | Alayande, A. & Ola-awo, W.  | 359        |
| 43       | Factors Influencing Building Materials Price Fluctuation in Abuja, Nigeria   | Omede, V., & Saidu, I.  | 369        |
| 44       | Assessment of the Effect of Materials Procurement Risks Factors on Time, Cost and Quality Performance of Building Projects in Abuja, Nigeria | Muhammad, M. C., & Saidu, I.  | 379        |
| 45       | Participation of Female Quantity Surveyors in the Nigerian Construction Industry   | Nnamoko, C., & Ola-awo, W.  | 390        |
| 46       | Effects of Skill Gap on Labour Productivity on Construction Sites in Abuja   | Bilau, T.O. & Bamgbade, A.A.  | 398        |



|          |  |  |            |
|----------|--|--|------------|
| 47       | Evaluation of Cost Management in Building Maintenance by Contractors   | Bello, U. & Nasir, G.                                  | 405        |
| 48       | Effect of Cash Flow on Contractors’ Performance in Building Construction Projects in Niger State   | Alhassan, I., Shittu, A., Mohammed, M. & Jibri, I. I.  | 411        |
| 49       | Assessment of Cost Control Techniques on Road Construction Project Delivery in FCT Abuja, Nigeria  | Alabi, S.S., Anifowose, M.O. & Ochepe, S.              | 420        |
| 50       | Cost of Implementing Health and Safety Measures in Construction Projects in Abuja, Nigeria   | Hassan, K.M., Mohammed, Y.D. & Nmadu, H.G.             | 428        |
| 51       | Conceptual Framework for an Effective Management of Public-Private Partnership Infrastructure Project Stakeholders to Minimise Project Failure in North Central, Nigeria | Gognaje, Y.B., Ganiyu, B.O., Oyewobi, L.O. & Oke, A.A. | 434        |
| 52       | An Evaluation of the Challenges of Tendering Procedures on Building Projects in Kaduna, Nigeria  | Usman, F.A.; Adamu, A.D. & Saidu, I.                   | 443        |
| <b>E</b> | <b>SUB-THEME 5: SUSTAINABLE AND RESILIENT CITIES</b>   |  | <b>451</b> |
| 53       | Integration of Passive Energy Efficient Design Elements for Office Complex, Abuja, Nigeria   | Idris, M. & Muhammad, I.B.                             | 452        |
| 54       | Liveability of Public Housing in Nigeria: A Study of Residents’ Satisfaction in Some Selected Public Housing Estates in Niger State                                      | Haruna, P.B. & Zubairu, S.N.                           | 460        |
| 55       | Assessment of Climate Responsiveness of Public Office Buildings Designs in Selected Tertiary Institutions in Niger State towards Energy Efficient Buildings in Nigeria   | Adebisi, G.O. & Alonge, D.O.                           | 470        |
| 56       | The Characteristics of Kaduna Metropolitan Solid Waste Management Practices  | Habila, S.K. & Rikko, L.S.                             | 478        |
| 57       | Assessment of Crime Prevention through Environmental Design (CPTED) in Shopping Malls in Nigeria: A Case of Ceddi Plaza Abuja, Nigeria                                   | Aliyu, U. & Zubairu S. N.                              | 488        |
| 58       | Assessment of Eco-Friendly Principles in the Design of a 3 Star Hotel at Life Camp in Abuja, Nigeria.  | Ogwanighie, O.A. & Abdulrahman, M.E.                   | 499        |
| 59       | Climate Change Adaptation and Sustainable Eco-Friendly Urban Mass Transit Development in Abuja, Nigeria  | Dukiya, J.J.   | 510        |
| 60       | Water Scarcity Problem and Households’ Adaptation Strategies: Evidence from Literature   | Owuri, A. & Sanusi, Y.A.                               | 521        |
| 61       | Assessment of the Resilience-related Capabilities of Households in Bida Town, Niger State, Nigeria   | Usman, M. Y., Saidu, M. B. & Yahaya, S.                | 531        |
| 62       | Appraisal of Households’ Resilience to Social Shocks in Bida Town, Niger State, Nigeria  | Usman, M. Y., Aliyu, A. A. & Wanciku, Y.               | 540        |
| 63       | A Review of Sustainable Energy Conservation for Residential Buildings  | Adeniji, S.M., Muhammad, I.B. & Isah, A.D.             | 550        |



|    |  |  |     |
|----|--|--|-----|
| 64 | Assessment of an Integrating Design Approach of Passive Cooling Principles in Hotels in Minna, Nigeria                     | Ioron, S. & Ayuba, P.  | 560 |
| 65 | Evaluation of Market Fire Hazard Awareness and Preparedness in Minna Metropolis  | Ayinla K., Akanmu W. & Oyerinde D.                                       | 569 |
| 67 | Employing Proxemics Communication Strategies in Evaluating Prototype Design in Educational Buildings                       | Kabir, M.A., Alkali, I.A., El-nafaty, A.S. & Dodo, Y.A.                  | 579 |
| 68 | Behaviour and Functioning of Children Hospitalized in Nigerian Conventional Hospital Ward Setting                          | Usman B.W., Ojobo, H., Umar, A., Isa, A.A. & Ogunbode E.B.               | 597 |
| 69 | Indoor Occupancy Detection using Machine Learning Techniques   | Aliyu, A. A., Ojobo, H., Nusa, D. J. & Dodo, Y. A.                       | 607 |
| 70 | Assessment of Factors Affecting Performance of Construction Organisations in Abuja, Nigeria                                | Okigbo, O. N., Saidu, I., Olawo W. A. & Adamu, A. D.                     | 615 |
| 71 | Project Managers’ Performance on Sustainable Construction of Residential Estates in Abuja, Nigeria                         | Belgore, U. & Makinde, J. K.   | 623 |
| 72 | Residential Property Use Conversion and Rental Value Trends in Osogbo, Nigeria   | Ankeli, A. I., Nuhu, M. B., Sule, A. I., Popoola, N. I., & Ankeli, U. C. | 633 |
| 73 | Evaluation of Passive Cooling Design Considerations in Faculty of Basic Medical Science Buildings in Northern Nigeria      | Salihu, M. U. & Ayuba, P.  | 639 |
| 74 | Policy Issues and Integration Settlement for Sustainable Development in FCT Abuja  | Unah, M. O   | 650 |
| 75 | Assessment of Design Method on Fire Prevention Strategies for High Rise Buildings in Lagos, Nigeria                        | Muhammad R. & Eze, J. C.   | 659 |
| 76 | Evaluation of Factors Influencing the Adoption of Building Information Modelling for Facility Management in Abuja, Nigeria | Adelusi, C., Adamu, A. D. & Shittu, A.                                   | 667 |
| 77 | Assessment of Shared Parking in Mixed-Use Buildings in Kano State  | Iklimah, S. & Salihu, S.   | 678 |
| 78 | Influence of Urban Recreational Facilities Quality on Domestic Urban Tourists Patronage of Parks in Abuja City, Nigeria    | Mohammed, B.B., Akanbi, M., & Mohammed, M.                               | 686 |
| 79 | Passive Design Strategies for Sustainable Operation of NYSC Camp Buildings, Minna, Nigeria                                 | Adedayo D. I. & Akande O. K.   | 692 |
| 80 | Integration of People’s Perception of Landscape in the Design of Recreational Parks, Minna, Nigeria                        | Aboh, M.E., Muhammad, I.B. & Isah, A.D.                                  | 700 |
| 81 | Impacts of Urban Poultry Farm Activities on Water Quality in Kuje Suburbia, Abuja  | Auta, F.D. & Musa, H.D.  | 710 |
| 82 | An Analysis of the Relationship between Neighbourhood Ties and Crime Perception in Minna, Niger State                      | Abdullahi, M. U. & Musa, H.D.  | 717 |



|          |  |  |            |
|----------|--|--|------------|
| 83       | User Centred Approach to Interactive Architectural Spaces for Sustainable School of Architecture Buildings in Nigeria                    | Gana, G. & Akande, O.  | 723        |
| 84       | Integration of Interactive Spaces in the Design of an Autism Centre, in Kaduna State, Nigeria  | Saliu, S.R. & Eze, J.C.  | 732        |
| 85       | Assessment of Green Design Strategies in Tech Innovation Hubs in Abuja, Nigeria  | Ndanusa, A.M. & Zubairu, S.N.  | 740        |
| <b>F</b> | <b>SUB-THEME 6: GEOINFORMATICS FOR LAND MANAGEMEN</b>  |  | <b>748</b> |
| 86       | Solid Waste Disposal Site Suitability Analysis within Jalingo Metropolis, Taraba State, Nigeria  | Gbedu, A.M., Atenji, D. E. & Adeniyi, G.                               | 749        |
| 87       | Development of a Geospatial Information Software for Cadastral Survey Data Processing and Management                                     | Ajayi, O.G., Ajibade, S.A. & Abdullahi, A.K.                           | 758        |
| 88       | Application of Location Based Service for flood Vulnerability Assessment of Part of Minna, Niger State, Nigeria                          | Adesina, E.A., Adewuyi A. I. & Berthran C. B.                          | 768        |
| 89       | Flood Inundation Mapping of Gbaganu Area Minna, Niger State  | Adesina, E.A., Saka T. T., Adewuyi A. I., Ayoade S.A and Ayandeji, M.A | 779        |
| 90       | Spatio-Temporal Analysis of Urban Sprawl and its Impact on Economic Trees in Gidan Mangoro-Minna, Niger State, Nigeria                   | Hauwa Ahmed Ndagi.   | 783        |
| 91       | Appraisal of Informal Access to Land for Housing Delivery in Karu Urban Area of Nasarawa State, Nigeria                                  | Sulyman A. O., & Danladi A. A.   | 793        |
| 92       | Automatic Extraction of Farmland Boundary Lines from Satellite Imagery Using Fully Convolutional Networks – A Review                     | Isa, A.M. & Ajayi, O.G.  | 804        |
| 93       | Prospectivity Mapping for Gold (Au) Mineralization Using Landsat 8 OLI Data in Part of Niger State, Nigeria                              | Aransiola, A. B. & Odumosu, J. O.                                      | 814        |
| 94       | Assessment of Geothermal Potential Within the Basement Region of Kogi State, Using Aeromagnetic Data                                     | Fidelis I. K. & Adetona, A. A.   | 823        |
| 95       | Delineation of Structures for Solid Minerals within Kubil (Sheet 128) and Wawa (Sheet 159) North Central, Nigeria from Aeromagnetic Data | Kolo, Y.R., Abbas, A.A. & Salako, K.                                   | 830        |
| 96       | Effects of Density of Ground Control Points on the Accuracy of Maps Produced Using UAV: A Review   | Muhammad, B. & Musa, A.  | 837        |
| 97       | Factors Influencing Land Use Changes and Conversion: A Critical Review   | Gwamna, E., Usman, M., Salihu, N. & Alalade, G.                        | 845        |
| 98       | Valuation of Agricultural Properties: Empirical Evidence from OXFARMS Minna, Nigeria   | Olatunji, A., Adama, U., Adoga, O., Ojetunde, I. & Shittu, A.          | 854        |



|          |  |  |            |
|----------|--|--|------------|
| 99       | Application of Electrical Resistivity Method to Delineate Construction Sites at Gidan Kwano Campus, FUT, Minna, Niger State, Nigeria         | Ebute, O.R., Alhassan, U.D. & Rafiu, A. A.                               | 865        |
| 100      | Computational Fluid Dynamics (CFD) Investigation of Pressure Drop across Highly Porous Metallic Structure                                    | Muhammad, M.S. & Otaru, A.J.   | 875        |
| 101      | Delineation of Solid Mineral Structures within Upper Part of Nasarawa State from Aeromagnetic Data   | Uchenna, C. I. & Abass A. A.   | 881        |
| 102      | Evaluation of Passenger Perception of Public Transport Hubs in Abuja-Nigeria   | Aminu, B.A. & Eze, J.C.  | 891        |
| 103      | An Empirical Approach for Determination of Building Stability Using CORS Data  | Adeniyi, G., Gbedu, A. M. & Opaluwa, Y. D.                               | 898        |
| 104      | Industrial Excavation Pits and its implications on enhancing Sustainable Land Management in Nigerian Cities: A Case Study of Bida Urban Area | Tabiti, S. T., Aremu, S. & Daramola, J.                                  | 907        |
| <b>G</b> | <b>SUB-THEME 7: RAPID URBANIZATION, SUSTAINABLE LAND USE AND SPATIAL PLANNING</b>  |  | <b>920</b> |
| 105      | Influence of Igala Culture on Spatial Relationships and Space Distributions within Households in Anyigba Kogi state                          | Musa, I. A. & Muhammad, I. B.  | 921        |
| 106      | Assessment of Fire Safety Compliance (FSC) in Nigerian Markets: Case Study of Selected Markets in Three (3) Geopolitical Zones               | Longtau, P., Majidadi, T. S. & Arowolo, T.                               | 930        |
| 107      | Evaluation of Passive Security Measures for Tourism Development in Nigeria   | Hayes, N.Y. & Isah, A.D.   | 939        |
| 108      | Terrain Analysis for Effective Spatial Coverage of FM 92.3Mhz Signal in Minna Metropolis   | Gbedu A.M., Adeniyi, G., & James, I.S.                                   | 947        |
| 109      | Effect of Urban Land-Use Planning Regulations on Residential Property Investment Returns: Evidence from Literature                           | Salihu, N., Nuhu M. B., Sanni M. L., Sule I. A. & Emmanuel S. G.         | 954        |
| 110      | Potentials of Effective Urban Planning as Tool for Disaster Risk Reduction in Nigeria  | Sanni, L. M.   | 963        |
| 111      | Analysis of Urban Densification and Housing Market in Bida, Niger State, Nigeria   | Mohammed, J.K. & Sulyman, A.O.   | 972        |
| 112      | Exploring Community-Based Facilities Management Principle Towards a Sustainable Urban Land Management in Minna                               | Adama, U.J., Morenikeji, G., Kemiki, O.A., Popoola, N.I. & Ajayi, M.T.A. | 982        |
| 113      | Management Options for Some Selected Peri-Urban Areas of Kaduna Metropolis, Kaduna State, Nigeria  | Habila, S. K   | 989        |
| 114      | Assessment of Household Knowledge and Practice of Solid Waste Characterization in Kaduna Metropolis  | Yakubu, K. N. & Babagana, A.   | 999        |



|     |  |  |      |
|-----|--|--|------|
| 115 | Assessment of Indoor Thermal Performance for Sustainable Senior Housing Facility in Minna, Nigeria             | Idiagi, E. & Ayuba, P.   | 1009 |
| 116 | Nexus between Social Infrastructure and Residents Wellbeing: A Review  | Ijuo, S. & Musa, H. D.   | 1020 |
| 117 | Impact of the Land Use Act on Sustainable Housing Development in Nigeria from 1978-2018                        | Bokani, A.M. & Mohammed, A.W.  | 1029 |
| 118 | SQL-Driven Spatial Database Transactions in Support of Compulsory Land Acquisition for Road Expansion Projects | Ataguba, J.O. & Kemiki, O.A.   | 1040 |
| 119 | Africa’s Population Growth: Adopting the Smart City Model in Nigeria as a Blueprint for its Future Cities      | Ezeugwu, N.C. & Isah, A.D.   | 1050 |
| 120 | Appraisal of Landscape Elements within the Hospital Environment in Lokoja, Nigeria                             | Isah, O.S. & El-hussein A.S.   | 1063 |
| 121 | Enhancing the Hospital Environment through Healing and Therapeutic Landscape in Hospital Design                | Isah, O.S. & El-hussein A.S.   | 1067 |
| 122 | Prospects and Challenges of Urban Agricultural Practices in Katsina City, Katsina State, Nigeria               | Aminu, G.M., Bello, A. & Ilyasu, I.I.                                    | 1074 |
| 123 | Benefits of Using Green Materials for the Construction of Low-Cost Building in Nigeria                         | Adeniyi, S.M., Mohamed, S.F., Ola awo A W., Yosuf, Z.M. SaidinMisnan, M. | 1082 |



## Evaluation of the Roles of Niger State Housing Corporation under Public-Private Partnership as Strategy for Public Housing Delivery in Niger State

Jonathan, S.<sup>1&2</sup> Sule, A. I.<sup>1</sup> & Ogunbode, E. B.<sup>3</sup>

<sup>1</sup>Department of Estate Management and Valuation, Federal University of Technology, Minna.

<sup>2</sup>Department of Estate Management and Valuation, Federal Polytechnic, Bida.

<sup>3</sup>Department of Building Technology, Federal University of Technology, Minna

[jonathansamuel05@gmail.com](mailto:jonathansamuel05@gmail.com); [suleabbass76@futminna.edu.ng](mailto:suleabbass76@futminna.edu.ng); [ezekiel@futminna.edu.ng](mailto:ezekiel@futminna.edu.ng)

Corresponding author: [jonathansamuel05@gmail.com](mailto:jonathansamuel05@gmail.com)

### Abstract

*Public Private Partnership (PPP) as a strategy for public housing delivery in Niger state was introduced by the administration of Ibrahim Babaginda Aliyu in 2007 and it was used for all the seven housing estates embarked upon by the administration from 2007 to 2015 and Niger State Housing Corporation (NSHC) is the only legally recognized public housing development agency, with PPP achieving 0.91% over a period of 8years, this paper examines the role of the agency under the PPP arrangement. Focused interview (FI) was used to obtain data from principal officers of the Corporation such as the General Manager, Directors of Estates, Administration and Planning. Estate officers in charge of the estates and some of the contractors that participated in the execution of contracts were interviewed. Descriptive statistics was used to analyze the data obtained. The study discovered that the law that established the agency is obsolete, inadequate and incapable of accommodating the peculiarities of PPP, it was discovered also that there was no PPP regulatory law, thus, the agency could not function professionally in accordance to international best practices and this contributes to the woeful performance of 0.91% of PPP. The study recommends amongst others for the setting up a body of professionals to put PPP regulatory law in place in accordance to literature and international best practices .*

**Key words:** Public Private Partnership, Niger State Housing Corporation, PPP Regulatory Law, Public Housing Delivery, International Best Practices

### INTRODUCTION

Urbanization has been described as one of the most powerful and irreversible forces in the world and that about 93% of future urban population growth will occur in the urban cities of Asia and Africa and lesser percentage growth in Latin America and the Caribbean. It is further estimated that about 90% of recent urbanization has occurred in developing countries with urban areas recording about 70million new residents annually which is expected to double by 2030, a trend that is prevalent in South Asia and Sub-Saharan Africa that are adjudged to be the two poorest regions in the world (UN-HABITAT, 2011). The growth in urban population results in increases in demand for housing and housing facilities, services and infrastructure and this further asserts pressures on public budgetary allocations and results in the inability of governments all over the world in meeting the housing needs of their citizens. This development calls for the need to develop alternative strategies of public housing delivery that will achieve the dual results of greatly increasing the supply of affordable housing and drastically reduce the financial burden of government and this gave birth to the development of public private partnership as a strategy for implementing urban housing and infrastructure which started in the United Kingdom in 1960s known then as Private Finance Initiative( PFI), Sarafadeen and Akuakanwa,2015. Globally, over 40 nations including United Kingdom, United States of America, Australia, Ireland, Norway, Canada, Spain, France, Japan, Singapore, Finland, Malaysia and South Africa are engaging PPP in implementing urban



housing and infrastructure and the value of PPP projects rose from \$79B with 241 projects to \$350B in 2015 with a total of 1,046 projects (Yahaya, Ibrahim and Hariati, 2020)

In Nigeria, the federal government introduced public private partnership as a strategy for public housing delivery towards increasing the housing stock through the National housing policy of 2006 (Aluko, 2009) which is a collaboration between government and the organized private sector with detailed responsibilities, obligations and benefits of each party to the agreement and states in the country began to take after the steps of the federal government by engaging PPP as strategy for the provision of urban housing and infrastructure. From 1990 to 2009, over 51 projects were implemented through PPP (Vetiva, 2011) while 66 projects were prepared for implementation between the years 2013-2014 (ICRC, 2012), the values executed PPP projects also rose from \$22M in 1997 to \$3.1B in 2009 (Yahaya et al, 2020). To ensure proper implementation, the federal government established the Infrastructure Concession Regulatory Commission in 2005 and approved a comprehensive nationwide PPP policy in 2009 which provides the roles of ICRC, other sectors as well that of Ministries, Departments and Agencies (MDAs) –Wahab, 2000: ICRC, 2012.

In Niger State, PPP as strategy for housing delivery was introduced by the administration of Governor Ibrahim Babangida Aliyu in 2007 which was used for the development of General M.I. Wushishi and Talba housing estates in Minna, Aliyu Makama housing estate, Bida and Bako Kontagora housing estate in Kontagora. Even though, PPP is been considered as a veritable means of housing provision, it has been observed that the extent to which government and its agencies are performing and responding to their changing roles has not been adequately addressed in literature and the paucity of information has obscured understanding on the role of public agencies in PPP and its implications on housing delivery (Eziyi, 2010), Niger State Housing Corporation (NSHC) being the legally empowered public housing development agency, this paper shall therefore evaluate the role of the agency under the PPP arrangement.

### **Research Questions**

The study shall answer the following questions as a guide towards achieving the objectives adopted by the study:

- i. What were the roles of NSHC as enshrined in the law that established it?
- ii. What are the housing projects undertaken through the engagement of PPP as housing strategy?
- iii. What were the roles of NSHC under the PPP as a strategy for public housing development?

### **Aim and Objectives**

The aim of the study is to undertake an evaluation of the roles of NSHC under PPP as a strategy for housing delivery in Niger State and to achieve this the following objectives shall be examined:

- i. Identify the roles of NSHC as contained in the law that established the Corporation.
- ii. Identify the housing projects undertaken through PPP from 2007 to 2015.

- iii. Evaluate the roles of NSHC in the engagement of PPP for the developments of the housing projects identified above.

### The Study Area

Niger state falls in the north central geo-political zone and it stands between longitudes  $3^{\circ} 20'E$  and  $7^{\circ} 40'E$  and longitudes  $8^{\circ} 30'N$ , it has a land area of 76, 469. 903 square kilometers which is 10% of the total land area of Nigeria and it is the state with the largest landmass. Niger state has a population of 3, 905, 249 (NPC, 2006) and it is bounded by Kaduna, Kogi, Nassarawa, Kwara, and Kebbi state as well as the federal capital territory (FCT) which creates an increasing demand on housing in Niger state.

From the creation of the state on the 13<sup>th</sup> day of February, 1976 Niger State Ministry of Works and Housing (NSMW&H) was saddled with public housing development and management until the establishment of Niger State Housing Corporation vide Edict No....of 1979

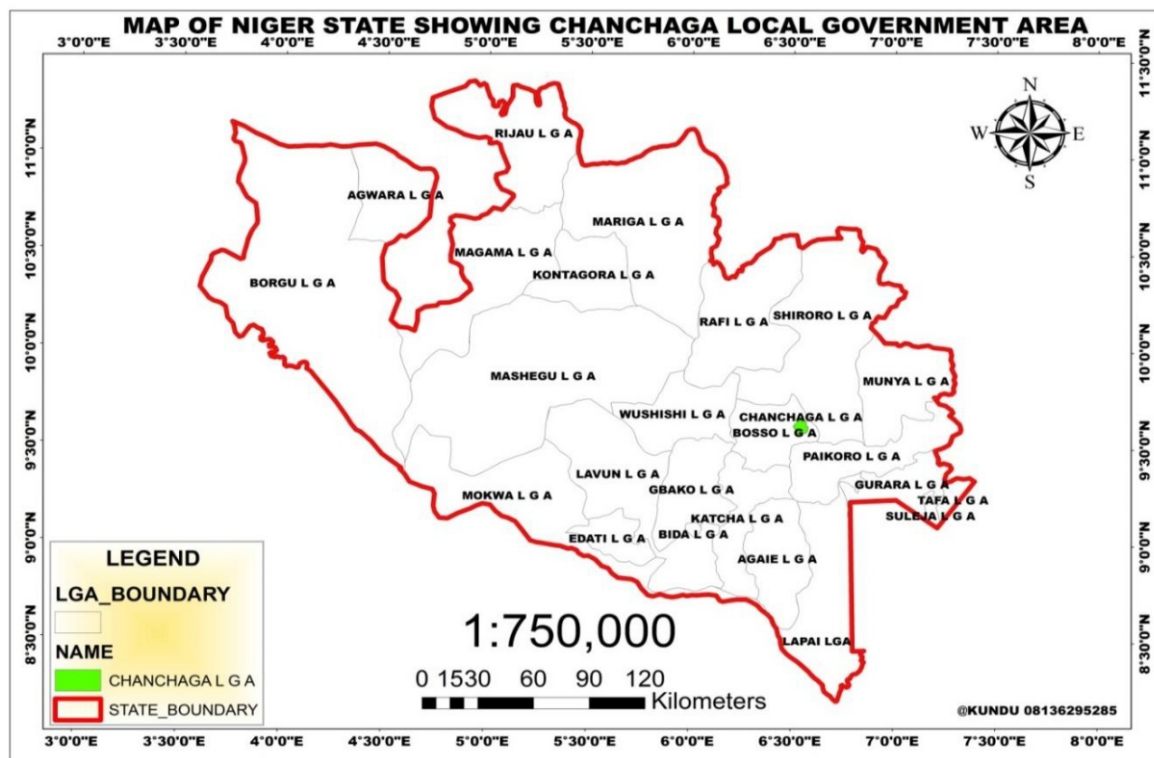


Figure 1: Map of Niger State

Source: Author's field work

### LITERATURE REVIEW

This study reviews literatures on the concepts of public-private partnership, its engagement in public housing delivery, the expected roles of public agencies under the strategy and success factors and challenges in the engagement of the strategy for public housing development.

### Concept of Public Private Partnership (PPP)

SETIC 2020 International Conference:

“Sustainable Housing and Land Management”

School of Environmental Technology, Federal University of Technology, Minna

3<sup>rd</sup> – 5<sup>th</sup>, May 2021.

PPP has been defined as the pooling together of resources which includes financial, human, technical, land and intangibles such as information, political support, skills and expertise from public and private sources to achieve a commonly agreed goal (Fizbein and Lowden,1999), a set of cooperative activities between the public and private sector (Agbola and Olatubara,2003), a collaborative efforts among public, private and third sector organizations who has mutually consented to cooperate together based on trust engaging the principle of division of labour, comparative advantage and a sharing of risks and benefits(Brinkerhoff and Brinkerhoff,2004, UN-HABITAT, 2006b) , it has also been defined as a range of relationship between the public and private sector who has agreed to cooperate together for the provision of specified facilities, services, infrastructure or housing (Kumar and Prasad,2004), a novel concept of executing public projects through a partnership arrangement with the private sector especially in the area of infrastructure (Aluko,2009), a finance model which is entirely driven by collaboration between the public, private and sometimes non-profit sectors and it is generally represents a more dynamic, long term agreement between various parties in which each party contributes and shares some level of risk (UN-HABITAT,2011), it is also viewed as the partnership between the public and private sector for the purpose of designing, planning, financing, constructing and/or operating projects which are traditionally considered as public responsibilities ( Sarafadeen and Akuakanwa,2015).

This paper, views PPP as the pooling together of heterogeneous investors each with distinct capabilities, comparative advantages, skills and resources for the purpose of addressing socio-economic and developmental challenges of the society.

### **Conceptual Framework**

As observed from the concept of PPP presented above, it can be generally referred to as a contractual relationship between the parties and its implementation as well as the outcome is numerous factors such as the composition of the parties, aim and objectives of the project, the roles of the partners and the economic, political, socio-cultural, technological as well as other environmental peculiarities within the area of operation of the PPP (UN-HABITAT, 2006b), furthermore, to ensure success of PPP, Yahaya and Ibrahim (2019) provided what they referred to as “critical success factors “ and these are: favourable legal framework, commitment/responsibility of public/private sector, project technical feasibility, technology transfer, good governance, competitive procurement process, transparency procurement process, financial capability, available financial market, stable macro-economic conditions, involvement of civil society, an efficient approval process, sound economic policy, stable political environment and strong political support. The author’s sequel to the study on the implementation of the strategy made a positive assertion on the capacity of the strategy to deliver adequate and affordable housing if the success factors are followed.

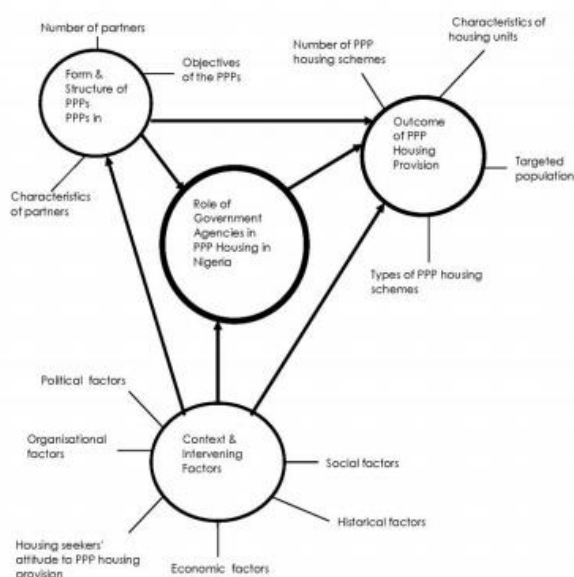


Figure 2: Framework for Assessing the Role of Government Agencies in PPPs (Eziyi, 2010).

For an objective and result-oriented assessments of the role of government agencies in the implementation of PPP, Eziyi, 2011 suggests that the assessor should possess adequate knowledge on the composition and characteristics of the PPP, the context of the situation in which they operate and the outcome of the housing provision scheme and this is in line with UN-HABITAT, 2006b, and went further to developed a conceptual framework (Figure 2) to explain the roles of government agencies in PPP.

The framework consists of three basic components with each component consisting of some variables to be considered for information gathering and analysis. The components are form and structure of the PPP, outcome of the PPP housing provision and context and intervening factors.

## METHODOLOGY

Focused interview (FI) was used to obtain data from principal officers of the Corporation such as the General Manager, Directors of Estates, Administration and Planning, Estate officers in charge of the estates and some of the contractors that participated in the PPP housing projects. Descriptive statistics was used to analyze the data obtained.

## DISCUSSION AND FINDINGS

### The Roles and Responsibilities of NSHC

Table 1 provides a general overview of the functions of NSHC as the public housing development agency. As indicated above, the functions were derived from a law that was enacted in 1979 prior to the recognition and engagement of PPP as public housing development and delivery strategy at both federal and state level in 2007.

**Table 1: Responsibilities of Niger State Housing Corporation (NSHC).**

| S/No. | Description of responsibilities  | Section of the law |
|-------|--|--------------------|
| 1     | Recruitment of staff, staff welfare and discipline, payment of salaries and other sundry issues  | Section A (i-xv)   |
| 2     | Development of housing for the public and management of housing estates  | Section B (6-9)    |
| 3     | Generation of revenues (internally and externally) through borrowing, debenture etc, provision for expenditure, assets and liabilities | Section B (10-17)  |
| 4     | Powers for acquisitions of land and compensation   | Section B (20-21)  |
| 5     | Operation of mortgage bank and staff housing loan scheme   | Section B (m)      |

**Source: Niger State Edict No. 5, 1979.**

From the Table above, the functions of the Corporation as indicated under items 1-4, confers on the Corporation the carrying out of the entire development process which is contrary to the principles, operations and implementation of PPP as revealed in the literature review and this study observed that, there was no comprehensive law or document being put in place to address the complexities and peculiarities of PPP as advocated for in the literature review and the existing law is inadequate. Therefore, there was no proper legal and contractual definitions of the roles, functions and responsibilities of the organization in the implementation of PPP for housing delivery and this impaled the Corporation from functioning efficiently and professionally.

Table 2 indicates the housing projects that were embarked upon from 2007 to 2015, a total number of 219,000 was planned for development, 2000 housing units were developed and this gives an overall achievement of 0.91% which is below 1.0%.

**Table 2: Housing Projects Embarked Upon through PPP from 2007 to 2015**

| S/No | Location                  | No planned     | No constructed | % Achievement |
|------|---------------------------|----------------|----------------|---------------|
| 1    | Minna                     | 10,000         | 1000           | 10            |
| 2    | Suleja                    | 10,000         | 300            | 3.0           |
| 3    | Kontagora                 | 5,000          | 250            | 5.0           |
| 4    | Bida                      | 5,000          | 250            | 5.0           |
| 5    | New Bussa                 | 4,000          | 100            | 2.5           |
| 6    | Baro                      | 5,000          | 100            | 2.5           |
| 7    | 20 other local government | 180,000        | -              | -             |
|      | <b>Total</b>              | <b>219,000</b> | <b>2,000</b>   | <b>0.91</b>   |

Source: Field Survey, 2019

The study reveals that as a result of lack definitions of the roles of NSHC through a PPP regulatory law, there was therefore no requisite structure for proper implementation of the strategy and this did not prepare the agency for the critical roles it was to play towards the success of PPP and gives room for the politicization of the development process operation of

the PPP as housing development strategy was politicized as the duties, obligations and powers of the NSHC was usurped by politicians thereby reducing the Corporation to a mere supervisory agency. Furthermore, the state government did not prepare the agency for the critical roles it was to play towards the success of PPP housing projects by way of training, seminars and conferences and this does not allow the agency to perform professionally and successfully, this affirms the positions of Yahaya and Ibrahim (2019) and Yahaya, Ibrahim and Hariati (2020).

### **Evaluation of the Roles of NSHC under PPP Housing Projects**

Due to lack of a comprehensive regulatory law for a successful implementation and operation of PPP thereby making the agency not being able to discharge its professional and crucial roles, the roles of the agency were reduced to the following:

- i. Assigning representatives to the project sites for the purpose of supervision
- ii. Making progress reports available to the government
- iii. Receiving and processing of applications for allocation
- iv. Liaising between the appointed mortgage institution and applicants seeking for mortgage loan
- v. Keeping records of the allottees for the purpose loan deductions
- vi. Monitoring of the housing projects to prevent illegal developments
- vii. General management of the housing projects

### **SUMMARY OF FINDINGS**

- i. There was a law which stipulates the roles of and functions of NSHC, however, the law does not conform to the standard contractual requirements of PPP.
- ii. Niger State Housing Corporation (NSHC), the agency saddled with public housing delivery could not perform professionally and efficiently under PPP
- iii. The poor performance of PPP is partly attributable to the inability of NSHC to play its expected professional roles due to lack of PPP regulatory law.
- iv. The actual roles played by the Corporation are secondary functions and mostly clerical in nature.

### **CONCLUSION**

The study has evaluated the role of NSHC under PPP arrangement and lack of PPP regulatory law does not allow the Corporation to play the expected professional and leading role in the implementation of PPP for public housing development and delivery and this contributes immensely to the poor performance of PPP and failure.

### **RECOMMENDATIONS**

Sequel to the analysis herein above presented, the study hereby proffers the following recommendations.

---

SETIC 2020 International Conference:

“Sustainable Housing and Land Management”

School of Environmental Technology, Federal University of Technology, Minna

3<sup>rd</sup> – 5<sup>th</sup>, May 2021.

- i. The State government should as a matter of urgency set up a committee of professionals comprising of Estate surveyors and valuers, architects, builders and other environmental professionals both in practice and academia and PPP experts from within and outside the state for the production of PPP regulatory law
- ii. The government should reposition NSHC through training, seminars, retreats and conferences for acquisition of adequate knowledge and allow the agency to function professionally according to international best practices in the implementation of PPP as housing strategy in the state.
- iii. Government to set up a commission that will be similar to Infrastructure Concession Regulatory Commission (ICRC) which operates at the federal level.

## REFERENCES

- Agbola, T. and Olatubara, C.O. (2003). "Private Sector Driven Housing Delivery in Nigeria: Issues, Constraints, Challenges and Prospects", A lead Paper Presented at the 2<sup>nd</sup> Annual National Workshop on Private Sector Housing Delivery in Nigeria, University of Lagos, 30<sup>th</sup> -31<sup>st</sup> July.
- Aluko, B.T (2009). An Overview of Potential Issues in the Implementation Public Private Partnership Initiatives. A Paper Presented at the MCPD workshop Organized by the Osun State Chapter of the Nigerian Institution of Estate Surveyors and Valuers.
- Brinkerhoff, D.W. and Brinkerhoff, J.M. (2004). Partnerships between International Donors and Non-Governmental Organizations: Opportunities and Constraints. *International Review of Administrative Sciences*, 70(2) 253-270.
- Eziyi, I.O. (2010). An Assessment of the Role of Government Agencies in Public Private Partnerships (PPPs) in Housing Delivery in Nigeria. *Journal of Construction in Developing Countries*, 15(2) 23-48
- Fiszbein, A. and Lowden, P. (1999). *Working Together for a Change: Government, Civic and Business Partnerships for Poverty Reduction in Latin America and Caribbean*. Washington, DC: World Bank
- Infrastructure Concession Regulatory Commission (ICRC) (2012). PPP Manual for Nigeria [Online]. Available at <http://www.ppptoolkit.icrc.gov.ng>
- Kumar, S. and Prasad, J.C (2004). Public Private Partnership in Urban Infrastructure. Accessed from <http://www.kerala.gov.in/keralacallfebo4/pp.36-37>
- Sarafadeen, O. and Akuankanwa, N (2015). Investigating the problems associated with public-private partnership in the process of Housing Delivery in Nigeria. *International journal of Education and research*, Vol. 3, No 1, January, 2015
- UN-HABITAT (2006b). *Public-Private Partnerships in enabling Shelter Strategies*. Nairobi
- UN-HABITAT (2011). *Public-Private Partnerships in Urban Development*, United Nations Human Settlement Programme, Nairobi
- Vetiva (2011). *Construction Industry Report: A haven of Opportunities* [Onlin]. Available at: <http://www.proshreng.com/admim/upload/report/vetivResearchConstructionSectorReportMay2011.pdf>
- Wahab, K.A. (2000). *Implementation of Public Procurement Reforms in Nigeria*, Paper presented at the workshop on World Bank Procurement Procedures, Organized by the Nigeria Economic Summit Group, Golden Gate Restaurant, Lagos, Nigeria
- Yahaya, A. and Ibrahim, A.T.S (2019). Critical Success Factors of Public Private Partnership for Affordable Housing in Nigeria. *International Journal of Recent Technology and Engineering*, Volume 8, Issue 2S9
- Yahaya, A., Ibrahim, A.B.S., and Hariati, B.A.H.(2020). Public Private Partnership for Housing Provision in Abuja. *International Journal for Scientific and Technology Research*, Volume 9, Issue 1