FORMALIZING INFORMAL SETTLEMENTS: PRACTICAL IMPERATIVES FOR SUSTAINABLE HOUSING IN NIGERIAN CITIES

S. A. Sumaila[1*], A. A. Isa[2], I. U. Hussaini[1], U. M. Bashir[1], and M. H. Kyari[1]

[1]Department of Architecture, Abubakar Tafawa Balewa University, Bauchi, Nigeria.

[2]Makerere University, Kampala, Uganda.

[*]Corresponding Author's Email: sumailasa66@gmail.com

ABSTRACT: *Informal settlements have become more or less a permanent feature of Developing Countries' Cities. These settlements have developed as a result of the failures of public housing programmes to reach the majority of the poor citizens of these countries. Despite the deplorable condition of housing in these settlements, they remain the only hope of the overwhelming majority of the poor citizens in attaining their housing aspirations. There is therefore the need to develop strategies to eradicate or mitigate the elements of informality of these settlements which give them their negative attributes. Similar strategies have been applied elsewhere, especially in Latin American cities, with some measure of success. This paper explores the viability of applying the strategy of formalizing informal settlements to achieving a sustainable housing development for Nigerian cities. Textual analysis of extant research reports together with a comprehensive survey of a Nigerian city case study constituted the research method. It is revealed that informal settlement characteristics elsewhere, for instance the Latin American region, is not much different from sub-Saharan Africa region in general and Nigeria in particular. Positive engagement by the Nigerian government in easing land titling and formulation of realistic standards would be a major push towards sustainable housing for the masses.*

KEYWORDS: Formalizing, Housing, Informal settlements, Nigerian cities, Sustainability.

INTRODUCTION

Housing remains about the most intractable of the challenges of Developing Countries. Nigeria, with its massive population coupled with a rapid urbanization rate, represents a critical case in this regard (Sumaila, 2024). Housing, more than any other human amenity, encapsulates the most important needs of the modern man and thus represents the most comprehensive indicator of his well-being. Modern housing, beyond the physical shelter it provides, includes a growing number of facilities/services, as well as the physical and social environments of the neighborhood. This growing complexity of housing underscores the multifarious problems its development over time has posed. This has made it imperative for evolution of policies and programmes by governments globally to address the challenge (Zhang & Ball, 2016).

Housing problems manifest where government policies and programmes fall short of effectiveness. This has been the case with Nigeria, like most other Developing Countries, after over five decades of various housing programmes (Awotona, 1984; Abiodun, 1985; Kuroshi & Bala, 2005; Okewole & Aribigbola, 2006; Uji & Okonkwo, 2007; Amao, 2012; Ibem & Adeoye, 2015; Munene, 2018; Bashir *et al.,* 2022). This shortcoming of public housing programmes in Nigeria has led the citizens to resort to 'self-help' housing resulting in what is generally termed 'informal settlements' among other appellations.

Informal settlements, despite some positive attributes, impact negatively on individuals and society in various ways. Amongst the problems they pose are environmental degradation, pollution, disease epidemics, crime/juvenile delinquency, social disharmony and low economic productivity (Wahab, 2001; UN-Habitat, 2012; Olotuah & Taiwo, 2015). Although Nigerians have lived in this condition for decades, there is nevertheless the urgent need to address these negative consequences of informal settlements.

Informal settlements provide the bulk of the national housing stock as well as constituting the majority of new housing, and so are veritable vehicles for bridging the housing quantity gap. What is of concern however is the poor quality of these housing which are in fact the causes of the negative attributes of the settlements. Sustainable housing under the purview of this paper is the provision of an adequate number of houses of a minimum quality level commensurate with human dignity within available resources. There should also be strategies to make housing accessible to the greatest majority of the citizens irrespective of their status. The question then arises as to how can the informal settlements of Nigerian cities be formalized for sustainable housing? To address this question, it is imperative to evolve strategies to eradicate or at least mitigate the elements of informality of these settlements. At this juncture, a discussion of the theories of informal settlements becomes necessary.

INFORMAL SETTLEMENTS: A REVIEW

A theoretical discussion of the phenomenon of informal settlement should of necessity begin with its definition. Informal Settlements have been defined severally mainly according to the planning and legal frameworks of respective countries (Ali & Sulaiman, 2006). Ali and Sulaiman (2006) define it as 'residential buildings built on planned and unplanned areas which do not have formal approval.' The World Bank and UN-Habitat programme give two related and widely applicable definitions as follows: residential areas where a group of housing units have been constructed on lands to which the occupants have no legal claim; and unplanned settlements and areas where housing is not in compliance with current planning and building regulations (UN-Habitat, 2003). The wide difference of estimated informal settlement sizes globally is largely due to variation of concepts and definitions of the phenomenon. In the same vein, they go by various nomenclatures in accordance with the researcher's conception and/or local traditions. Examples of the commonly used terminologies include 'Squatter Settlements, Spontaneous Settlements, Shanty Towns, Shacks, Slums, Favellas, and Bidonvilles, among others (Turner, 1972; Payne, 1977; Lloyd, 1979; Oestereich, 1981; UN-Habitat, 2016). Slum is often used interchangeably with informal settlements. However, Dovey and King (2011) have subtly clarified the confusion associated with the three widely used terms namely: 'Squatter', 'Slum' and 'Informal'. They conceive them as negative terms defining a lack of tenure, a lack of space, services, etc. and a lack of control over planning, design, as well as construction respectively. Hence, they note that though informal settlements often exist with squatter settlements and slums, they are not at all synonymous. In this paper however, informal settlement is adopted as a generic term covering all three forms of the settlement.

Bruegmann (2005) contends that urbanization is often associated with sprawling in both Developed and Developing Countries of the world. While urban sprawl in Developed Countries leads to suburban development occupied mainly by the rich, it on the contrary results in informal settlements inhabited by the poor for the Developing Countries. Accordingly, rapid urbanization without commensurate development control resources remains the bane of informal settlements formation in the Developing Countries. These countries are constrained financially, technically and managerially to contain their urbanization dynamics, making Acioly Jr (2012) state that urbanization growth is more or less synonymous with slum growth (Table 1).

Table 1: Urbanization Growth and Slum Formation

Region	Urban growth	Slum growth	% Slum growth to Urban growth
SSA	4.6	4.5	0.98
EA	2.9	2.2	0.76
WA	2.9	2.7	0.93

Source: *Adapted from UN –Habitat (2008) in Acioly Jr (2012).*

SSA: Sub-Saharan Africa; EA-East Asia; WA-Western Asia

Two schools of thought can be deduced from literature with regards to informal settlement's utility. A Western-oriented school sees the settlement as a negative development and an antithesis of planning and public order. They therefore advocate its eradication. The opposing

school views informal settlements as a positive development that fills the gap of public housing deficiency. They contend that it is the only realistic means to housing the greatest majority of the poor of Developing Countries and constitute a significant segment of the economies of these nations. They accordingly call for governments' support of informal settlement's activities (Uji & Okonkwo, 2007).

Informal settlement is largely a Developing Countries phenomenon and so, is prevalent in the continents of Latin America, Asia and Africa. Countries in these regions have responded variously to it depending on which school of thought they incline.

Latin American cities have some of the oldest informal settlements of the Developing Countries following political independence, industrialization, and rapid urbanization of their various countries. Uji and Okonkwo (2007) reported that following the works and advocacy of J. F. C. Turner, the governments of the region were the first to view the phenomenon positively. This has largely accounted for the great improvement in the quality of the settlements in recent decades. Hence, Werthmann and Beardsley (2019) report that some of the world's most effective efforts to improve informal settlements are taking place in Latin America. In many Latin American Countries, licensing of sub-divisions and general land titling remains a challenge (Biderman *et al.,* 2008; Goytia *et al.,* 2010). Unfortunately, registration is the sole factor that constitutes legal ownership in many Latin American national legal systems.

Asia comprises one of the most varied racial groups of any region. So also, is the socio-economic constitution which together, reflects in the informal settlement characteristics. Accordingly, case studies in Asia indicate wide variations in the perception and management by city governments of their informal settlements (Satterthwaite, 2008). Reerink and Gelder (2010) describe the policies for informal settlements as being fluid as they are rarely followed through to implementation. A number of slum improvement projects, thus, fail to achieve their stated objectives (Minnery e*t al.,* 2013). Fox (2014) submits that in the Asian nations research reflects that a deeper understanding of the perspectives, interests and values of politicians and policymakers is critical to better outcomes in urban development generally and informal settlements and slums specifically.

Africa is currently the world's most rapidly urbanizing region with an annual growth rate of between 4.5%-5%. More than one billion people will live in cities across the continent by 2050 (Hussaini *et al.,* 2019). Contributors to the 2010 United Nations' Habitat study on the state of African cities stressed the perceived negative effects of the prevailing informal settlement occurrence in urban areas: "Urban slums are one of the major threats to African urban stability and, by extension, to overall political stability". While there are improvements in the informal settlement situation in Latin America and parts of Asia, in Africa, informal settlements are actually increasing in number, rather than decreasing prompting Myers (2011) to assert that "there is a strong trend towards 'informalization' in African cities, meaning an overall growth in, and growing breadth to informal activity, notably in the growth of informal settlements and the informalization of formal settlements". Unfortunately, African governments are way behind their Latin American and Asian counterparts in any effective interventions to improve existing informal settlements or prevent formation of new ones.

The Nigerian urban landscape is conspicuously characterized by large areas of informal settlements that provide accommodation to the large majority of low-income families as well as the main option for new housing (Sumaila, 2024). Bolanle (2017) opines that for as long as

there is inequitable provision and skewed spatial distribution of socio-physical infrastructure as well as livelihood opportunities in rural and urban areas, informal settlements shall continue to develop in Nigeria. Several programmes have been carried out by Nigerian governments towards improving the quality of urban housing and in the process move people out of informal settlements. This is intended to increase the amount of existing formal housing in the cities. These include mainly mass housing and site/services schemes at the Federal and sub-national government levels. Slum clearance and upgrading, as a later strategy, was subsequently adopted, with 36 recorded cases between 1973 and 1995 (Ibem, 2011). All these have not in the least helped in checking the growth of informal settlements in Nigerian cities. Indeed, it can be unarguably asserted that not a single city of any size, including the capital city of Abuja, is without substantial areas of informal settlements (Hussaini *et al.*, 2019).

APPROACHES AND METHODS

This study focuses on achieving sustainable housing development for Nigerian cities, especially with regards to its quality and universal access. The objective is to examine the potential offered by the large stock of housing located in the informal settlements, as well as new developments in the urban periphery. This is with the view to eliminating the informal elements, which in fact constitutes the negative consequences of the settlements. The research approach comprises a textual analysis of extant studies on informal settlement improvement in Developing Countries, especially in Africa and Nigeria. This is in conjunction with a case study of a small but rapidly growing Nigerian city

Informal Settlements Improvement in Developing Countries

Both schools of thought on informal settlements acknowledge the poor housing conditions in the settlements and the need to improve them. Developing Countries' governments are therefore obliged, even if symbolically, to undertake remedial programmes. How they carry out this responsibility depends on their perception of the informal settlement environment and the social circumstances of the inhabitants. The general strategy however is to address the two major ills of the settlements namely: the illegality of tenure and non-compliance with planning/building standards that result in the poor quality of the houses and their environments.

In Latin American nations, because of the strict requirement of registration/documentation for legal ownership, the governments adopted the key strategy of easing and streamlining the licensing of sub-divisions and plot registration (Fernandez, 2011). Improvement of infrastructure was left mostly to the organized community of settlers who now have the guarantee of secure tenure. However, there are often cases of clearance of the worst settlements for reorganization as reported by Fernandez (2011). In Asia, the social conditions of informal settlement inhabitants vary widely; so also, are the physical environments created and governments' efforts to improve them (Satterthwaite, 2008). Das (2017) reports that some city governments' projects are driven by neo-liberal development strategies that demonstrate strong policy links between city governments, developers, and the establishment of large-scale urban development projects. These have little hope of success and have been the bane of improvement efforts in parts of Asia. Uji and Okonkwo (2007) report a lack of coordinated policy on informal settlement engagement in Africa. They suggest that this is probably because of the more permanent nature of the structures here as different from those of Asia and Latin America.
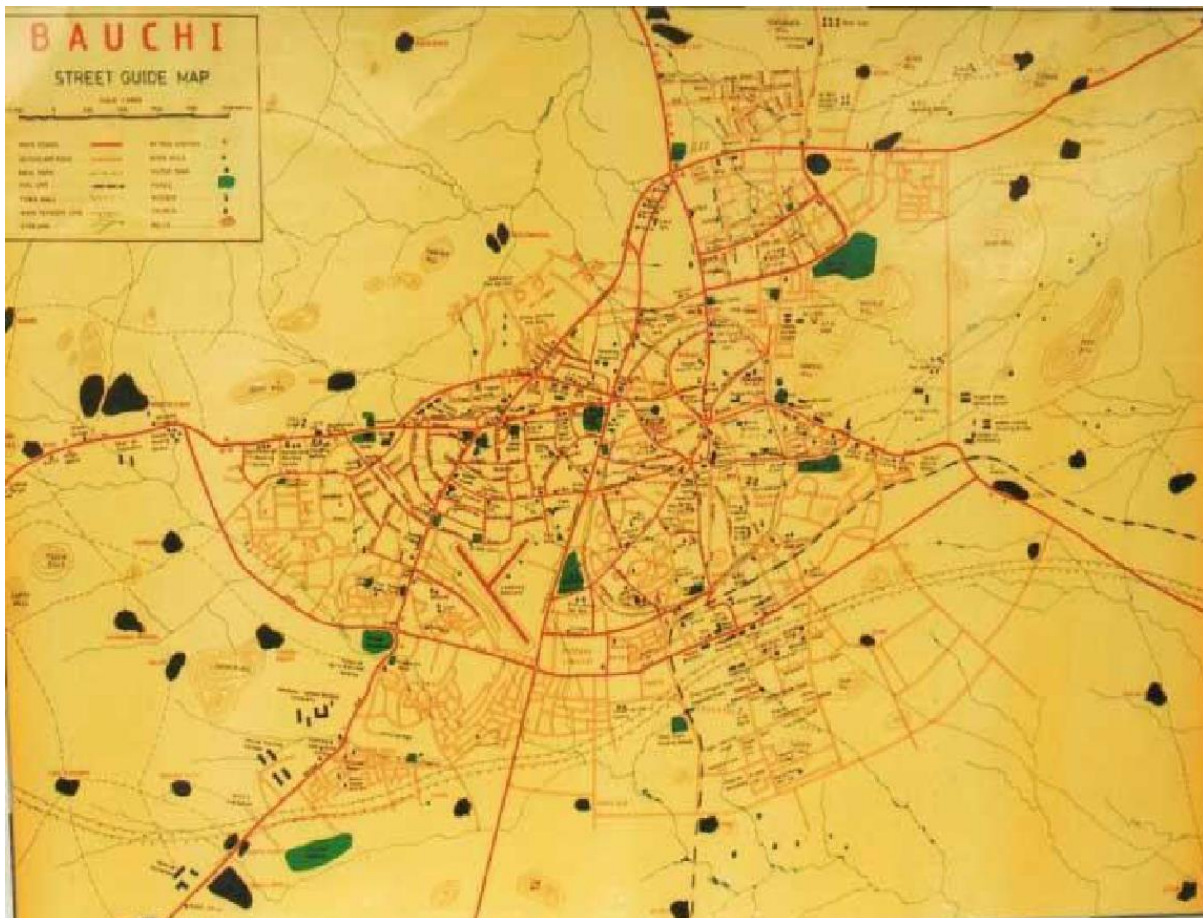
Informal Settlement Upgrading in Nigeria

The Nigerian urban landscape is conspicuously characterized by large areas of informal settlements that provide accommodation to the large majority of low-income families as well as the main option for new housing. Wahab (2001) asserts that informal settlements in Nigeria are faced with the problems of social inequity, poor human health conditions, lack of economic opportunities, political instability, lack of housing utilities, inadequate community facilities, as well as an unsustainable environment. Oduwaye and Olajide (2010) record the presence of over 200 informal settlements in Lagos, while Wahab (2013) reports 143 for Ibadan. Several programmes have been carried out by Nigerian governments towards improving the quality of urban housing and in the process move people out of informal settlements. This is intended to increase the amount of existing formal housing in the cities. These include mainly mass housing and site/services schemes at the Federal as well as sub-national government levels. Slum clearance and upgrading, as a later strategy, was subsequently adopted, with 36 recorded cases between 1973 and 1995 (Ibem, 2011). It can be observed that informal settlement improvement programmes in Nigerian cities have been reactionary rather than been based on any coordinated policy framework. Hence clearance of designated slum areas has been the exercise in most cases; these have naturally been resisted by the inhabitants and therefore unsustainable. There are few cases of programmes to upgrade existing informal settlements without recourse to clearance, for instance the World Bank sponsored upgrading of the Bauchi inner-city informal settlements in 2006 (Sumaila & Babayo, 2009).

Case Study of Bauchi Metropolitan Informal Settlements

Bauchi Metropolis shown in Plate I covers a total land area of 3,687 km^2 and a population of 318,038 according to the 2006 population census (National Bureau of Statistics, 2010; Ogwuche, 2013). This was projected to be 516,996 for 2021 at 4.5% annual growth rate making it a small sized city, but with a rapidly growing informal sector. Power Holding Company of Nigeria/Jos Electricity Distribution Company (PHCN/JEDC) enumeration in 2012 recorded a total of 102 neighborhoods for the metropolis (Babayo, 2017). A survey of the Metropolis in 2021 by the authors established that while no new neighborhoods were found, existing ones had expanded. Eighty–two (82) of the neighborhoods were found to be informal settlements, leaving only twenty (20) as planned areas.

What could go as public improvement of the informal settlements over the decades comprise extension of pipe borne water supply and electricity power grid to some areas. A more comprehensive upgrading was undertaken within the City-core informal settlements in 2006 with World Bank assisted funding (Sumaila & Babayo, 2009). Here, access and drainage were improved through opening up of a few roads together with pavement/drainage channels of the alley ways. In the absence of any strict tenure laws, removing the threat of demolition or eviction, private improvements to the houses had taken place over the years. The major constraint to the improvement efforts as submitted by officials of the State agency responsible for housing and urban development is the paucity of funds. Whereas the inhabitants similarly complain of the high costs of improvement, their experience is that they pay more for water and other services in the absence of public provision of such. It was also observed that the small sizes of the plots and their disorderly arrangement are major impediments to improvements.

Plate I: Bauchi Metropolis Street Guide Map (adopted from Bauchi State GIS (2012)

Challenges of Formalizing Informal Settlements in Nigeria

Making informal settlements formal, which tantamount to improving them, involves basically two things. One is the legal documentation of the property, while the other has to do with carrying out development in accordance with the existing planning/building regulations. These will apply differently to existing informal settlements and the emerging ones. Again, the two major actors in improvement efforts are the governments and the informal settlement inhabitants/developers. A perusal of literature and findings from the Bauchi case study survey has indicated a number of challenges to these efforts in Nigeria (Sumaila, 2024).

Among the challenges, four have been identified in this paper as major and hence hold the key to any effective improvement programme. Taken sequentially, the first and perhaps the most daunting challenge, is that of the huge financial requirement which neither the governments nor the individuals are able to meet. Secondly, there is a lack of accurate and comprehensive data on which a plan of action can be developed. This includes mainly geo–data and social data of inhabitants as well as prospective settlers. Following the above is the problem of existing unrealistic planning/building regulations, and in some cases complete non–existence of any regulation. Consequent upon this is the absence of a policy framework for action. Finally, there is the challenge of lack of community cooperation and participation in governments' programmes. This stems from the inhabitants' previous experience of governments' actions that were not in line with their aspirations.

Practical Options for Sustainable Housing in Nigeria

To move from the realm of aspiration to what is feasible and sustainable, J. F. C. Turner's submission that housing the masses of developing countries is only possible through 'self-help' must be upheld. Self–help housing in Nigeria, like other developing countries, leads to informal settlements. These settlements provide, at least, most of the housing quantity requirement of the poor citizens. The issue of universal access is also largely resolved since most of the disadvantaged groups will reside there. What remains for resolution therefore is the issue of the housing quality. Housing quality in the informal settlements can be improved by mitigating the impediments to their formalization. The main actor here is the governments at all levels.

Financial constraints can be overcome through the appropriate rationalization of existing funding even when increase is not feasible. Most, if not all, government funding presently goes to formal housing activities. A budgeting review should devolve most of the funding to the informal settlement areas and activities where the overwhelming majority of the citizens find their space. This increased funding can be used, as the first step, for generating the needed data for planning. This will include land features/resources and inhabitants' social data, for master planning/masterplan review. The further use of this data will be the formulation of realistic planning/building regulations and policy framework for informal housing. Finally, the issue of community cooperation and participation, which is very critical, will naturally be resolved if the government demonstrates its goodwill through the increased funding and the preliminary activities.

CONCLUSION

Inadequate housing, in terms of quantity, quality and access deficiencies, remains one of the most outstanding indications of inequity in developing countries. This, many believe, is a time bomb for social and political unrest. Despite their paucity of financial resources, appropriate strategies can yet lead to great improvements in the housing conditions of their citizens. Nigeria, for instance, has spent huge financial resources in the last five decades in the housing sector without commensurate results. This is mainly because of the wrong strategy of concentrating on developing formal housing which cannot be produced in the required critical mass. Enabling and supporting her poor citizens in their self-help housing efforts should have led to a more fruitful outcome. Nigerian governments at all levels must engage in, in a coordinated manner, the activities in the informal settlements for sustainable housing of her citizens. This it must do through increased funding of the sector, generation of appropriate data, formulation of realistic regulations and engagement of informal settlements' communities.

REFERENCES

Abiodun, J. O. (1985). The Provision of Housing and Urban Environmental Problems in Nigeria. In J. O. Abiodun (ed.); *Urban and Regional Planning Problems in Nigeria,* University of Ife Press Ltd.

Acioly Jr., C. (2012). Global Housing Strategy: A Process Leading to Paradigm Change. Pg. 5 www.claudio.acioly@unhabitat.org

Ali, M. H. & Sulaiman, M. S. (2006). *The Causes and Consequences of the Informal Settlements in Zanzibar.* Paper presented at XXIII FIG Congress, Munich, Germany Oct. 8-13, 2006

Amao, F.L. (2012). Urbanization, Housing Quality and Environmental Degradation in Nigeria. *Journal of Geography and Regional Planning* 5(16), pp. 422-429. https://doi.org/10.5897/ JGRP12

Awotona, A. A. (1984). *Rural Urban Migration, Urban Growth and the Housing Debate in Nigeria.* A Paper presented as a Contribution to the 1984/85 Guest Lecture Series at the Command and Staff College, Jaji- Kaduna, Nigeria

Babayo, A. M. (2017). *Energy Efficiency Potentials for Residential Buildings in Nigeria: A Survey of Bauchi Metropolis.* Unpublished Ph.D. Thesis, Department of Environmental Management Technology, Abubakar Tafawa Balewa University, Bauchi, Nigeria.

Bashir, U. M., Musa, H. & Kyari, M. H. (2022). A Leap for Affordable Housing for Low Income Families in Abuja. *Journal of Architecture and Civil Engineering. Vol. 7-Issue 10 (2022). Pp:12-25 ISSN (Online):2321-8193*

Bideman, C., Martin, O., Smolka, M. O. & Sant'Anna, A. (2008). Urban housing informality: Does building and land use regulation matter? *Land Lines 20(3)* 19.

Bolanle, W. (2017). *Transforming Nigerian Informal Settlements into Livable Communities: Strategies and Challenges.* Lead Paper Delivered at the 2017 Edition of Mandatory Continuing Professional Development Program (MCPDP) of the Nigerian Institute of Town Planners, held at Awka, Osogbo and Katsina, Nigeria in April, May and July, 2017.

Bruegmann, R (2005). *Sprawl: A Compact History*. Chicago. University of Chicago Pres

Das, A.A (2017), City of Two Tales: Shelter and Migrants in Surabaya. *Environ Urban ASIA 8*, 1–21.

Dovey, K.; & King, R. (2011), Forms of Informality: Morphology and Visibility of Informal Settlements. *Built Environ 37,* 11–29.

Fernandez, E. (2011). *Regularization of Informal Settlements in Latin America.* Policy Focus Report, Lincoln Institute of Land Policy. Pp. 48, ISBN 978-1-55844-202-3. Policy Focus Report/code PF023.

Fox, S. (2014), The Political Economy of Slums: Theory and Evidence from Sub-Saharan Africa. *World Development 2014, 54*, 191–203.

Goytia, C., Mendoza, C., & Ricardo, P. (2010). *Land Regulation in the Urban Agglomerates of Argentina and its Relationship with Households' Residential Tenure Condition.* Working Paper. Cambridge, MA: Lincoln Institute of Land Policy.

Hussaini, I. U., Abubakar, S. K., Danmaraya, M. A., Sumaila, S. A. & Ibrahim, S. K. (2019). *Sustainable Urban Development and the Challenges of Urban Sprawl in 'Abuja' The Federal Capital City of Nigeria.* In Laryea, S. & Essah, E. (Eds.) Proceedings of the West Africa Built Environment Research (WABER) Conference, Accra, Ghana 5th- 7th August, 2019. 1031- 1050

Ibem, E. O. (2011), The Contribution of Public Private Partnerships (PPPs) to Improving Accessibility of Low-Income Earners to Housing in Southern Nigeria. *Journal of*

Housing and the Built Environment 26 (2), pp. 201– 217. DOI: 10.1007/s10901-011-9213-1

Kuroshi, P. A. and Bala, K. (2005). Development of Housing Finance in Nigeria, *Nigerian Journal of Construction Technology and Management 6(1),* Faculty of Environmental Sciences, University of Jos, Nigeria.

Lloyd, P (1979). ***Slums of Hope? Shanty Towns of the Third World.*** Harmondsworth, Penguin Books Ltd.

Minnery, J.; Argo, T.; Winarso, H.; Hau, D.; Veneracion, C.; Forbes, D. *et al.* (2013). Slum Upgrading and Urban Governance: Case Studies in Three South East Asian cities. *Habitat Int.* 39, 162–169.

Munene, A. (2018): Nigeria to invest US £1bn in bridging housing deficit. *Construction Review Online. Nov 2nd 2018*

Myers, G. A. (2011). ***African Cities: Alternative Visions of Urban Theory and Practice.*** London and New York City: Zed Books.

National Bureau of Statistics (NBS) (2010). *Annual Abstract of Statistics.* Federal Republic of Nigeria. Retrieved October 17, 2018 from: www.nigerianstat.gov.ng/pages/download

Oduwaye, L. & Olajide, O. (2010). *Case for Informality as a Course in African Urban and Regional Planning Education Curriculum.* Paper presented at the Second Biannual Conference of the Association of African Planning Schools (AAPS) on Revitalizing Planning Education in Africa, held at Coral Beach Hotel, Dar es Salaam, Tanzania, 5-8 October.

Oestereich, J. (1981), Positive Policies Towards Spontaneous Settlements. *Ekistics Journal 286, Jan/April*

Ogwuche, J. A. (2013): Spatial Location of Solid Waste Dumpsites and Collection Scheduling Using the Geographic Information Systems in Bauchi Metropolis, Nigeria, *9*(11), 374-382 Retrieved April 20, 2018 from: eujournal.org/index.php/esj/article/viewFile/988/1018.

Okewole, I.A & Aribigbola, A. (2006): Innovations and sustainability: in Housing Policy Conception and Implementation in Nigeria, in I. A. Okewole (ed.) *The Built Environment: Innovation Policy and Sustainable Development.* Covenant University Ota, Ogun State, Nigeria 414-420.

Olotuah, A. O. and Taiwo, A. A. (2015), Housing Strategies and Quality of Housing in Nigeria: What Lessons from Wales? *Developing Country Studies 5(6).* Retrieved March 20, 2019 at http://www.iiste.org/journals.

Payne, G.K. (1977). ***Urban Housing in the Third World,*** Boston, Routledge and Kegan Paul.

Reerink, G. & van Gelder, J. (2010). Land Titling, Perceived Security, and Housing Consolidation in the kampongs of Bandung, Indonesia. *Habitat International, 34,* 78–85.

Satterthwaite, D. (2008). Understanding Asia Cities: A Synthesis of the Findings from Eight City Case Studies. *Global Urban Dev. 2008, 4,* 1–28.

Sumaila, S. A. (2024). Development of A Model to Determine Plot Size as an Aspect of Housing Quality in Informal Settlements of Bauchi Metropolis, Nigeria. Unpublished PhD Dissertation, Department of Architecture, Abubakar Tafawa Balewa University, Bauchi, Nigeria.

Sumaila, S. A. and Babayo, A. M. (2009). Slum Occurrence and Characteristics in Bauchi Metropolis: The Challenge of Upgrading and Prevention. *ATBU Journal of Environmental Technology, 1(3).*

Turner, J. F. C. (1972). Housing and the Standards Problem. *Ekistics Journal 196 march.*

Uji, Z. A. and Okonkwo, M. M. (2007). ***Housing the Urban Poor in Nigeria: User Involvement in the Production Process.*** Enugu, Nigeria. EDCPA Publications,

UN-HABITAT (2003). Squatters of the World: The Face of Urban Poverty in the New Millennium. Nairobi. Retrieved October 17, 2018 from http://www.unhabitat.org/publication/slum.report.pdf

UN-Habitat (2016). *Urbanization and Development: Emerging Futures.* World Cities Report. Nairobi, Africa, 2016.

Wahab, B. (2001). *Grassroots Participation in Sustainable Urban Development of Slum and Squatter Settlements.* Paper presented at the 32nd Annual Conference of the Nigerian Institute of Town Planners, Uyo, Akwa Ibom State.

Wahab, B. (2013). Disaster Risk Management in Nigerian Human Settlements. In: B. Wahab, N. Atebije and I. Yunusa (Eds.); *Disaster Risk Management in Nigerian Rural and Urban Settlements ISBN: 978-978-935-509-9,* Pp. 1-37. Abuja: Nigerian Institute of Town Planners and Town Planners Registration Council.