

Housing Development and Environmental Security in Nigeria: An Appraisal

Abubakar Halidu¹

Civil Engineering Technology Department,
Federal Polytechnic, P.M.B. 001 Nasarawa- Nigeria.
abubakarhalidu2007@yahoo.co.uk

Saleh Mamman Abdullahi²

Civil Engineering Technology Department,
Federal Polytechnic, Nasarawa, Nigeria.

salehtawa@yahoo.com

Abdulkadir Osu Sabo³

Civil Engineering Technology Department,
Federal Polytechnic, P.M.B. 001 Nasarawa- Nigeria.
asosusabo@gmail.com

Jibrin Sule⁴

Nigerian Building and Road Research Institute,
Building Research Department, Jabi- Abuja, Nigeria.

Jibrinsule2005@yahoo.com

Abstract—Nigeria is grappling with a rapid housing development (HD) due to its exponential growth in population most especially in the urban cities of Abuja, Kano, Lagos and Porth court. The United Nation sustainable development goals which stipulate an increased access to affordable and sufficient housing for the poorest population globally by 2030. Due to the United Nation's Agenda for sustainable housing development initiative which Nigeria has domesticated. The implementation of the housing development initiative in order to balance rural to urban migration has led to serious environmental security (ES) issues such as flooding, droughts, soil degradation, and pollution among others. This study seeks to appraise HD and ES in Nigeria between 2015 and 2025, where analysis of Nigeria policy implementation interventions, implementation gaps, and sustainable strategies to improve housing delivery while safeguarding the environment is being carried out. A review of global best practices and Nigeria's institutional frameworks was carried out and the paper recommended actions to be carried out to enhance HD and ES through effective urban planning, renewable energy integration and strict compliance to environmental regulations.

Keywords—Housing development, environmental security, sustainable housing, urban planning, Nigeria.

INTRODUCTION

Nations globally recognize the pivotal role in providing shelter for citizens. In line with this imperative, a nation is classified as developed when it is able to provide its citizens with the basic necessities of life such as food, healthcare and affordable housing, among others. Housing Development (HD) refers to measures taken by State government and its agencies to provide adequate, affordable and eco-friendly housing scheme for its people, which is an important part of Environmental Security (ES).

Environmental security connotes the protection of the natural environment and preservation of biodiversity towards ensuring the survival of human society. Hence, worldwide, governments constantly seek to improve HD in order to ensure sustainable ES.

In 2009, the United States (US) launched the Housing and Urban Development (HUD), Green Retrofit Programme to promote sustainable housing in the country [1]. Accordingly, the US Department of HUD allocated US\$250 million under the American Recovery and Reinvestment Act to retrofit over 1,500 multi-family housing units, benefiting low-income families [2]. The programme prioritized energy efficiency, reducing carbon footprints, and lowering utility costs by an estimated 25 per cent. Additionally, the construction and retrofitting efforts generated around 15,000 jobs, and contributed approximately 15 per cent to US GDP in 2022 [3]. The HD programme not only strengthens ES by mitigating climate change impacts but also ensures economic stability through revenue generation and job creation, thus, demonstrating a model of sustainable development for enhanced ES in the US.

In 2014, Egypt, launched a HD plan known as the Social Housing Programme. It was supported by the World Bank and the Egyptian government [4]. In 2015, the programme received about US \$500 million to provide affordable housing for over 1 million low-income Egyptian citizens [4]. Key factors considered include energy-efficient building materials, renewable energy integration, and urban planning to reduce environmental degradation. By 2023, the HD programme generated approximately 1.5 million jobs, contributing to economic growth, with housing and construction accounted for about 16 per cent of Egypt's GDP [5]. Thus, these initiatives have improved the ecosystem by reducing emissions and promoting green spaces for enhanced ES in Egypt.

In Nigeria, several Governments have made concerted efforts to improve HD and ES. The Federal Government of Nigeria (FGN) for instance, introduced the National Housing Fund (NHF) in 1992 [6], and the Family Homes Funds (FHF) in 2017, with the aim to

address housing deficit which stood at over 22 million units as of 2022 [7]. Accordingly, in 2024, the FGN considers to allocate ₦500 billion to housing programmes for the year 2025, with a focus on integrating renewable energy and eco-friendly construction materials to mitigate environmental degradation for enhanced ES [8]. However, these efforts have been hampered by poor urban planning, exacerbating urban sprawl, and a lack of enforcement of environmental standards. The purpose of this paper, therefore is to improve HD for enhanced ES in Nigeria. The paper will address conceptual clarification, overview, issues and challenges as well as contributions, before considering prospects and strategies to improve HD for enhanced ES in Nigeria. The paper will cover the period from 2015 to 23 January 2025, which represents period of the FGN's most recent efforts to improve HD for enhanced ES in Nigeria. The aim of this paper is to appraise HD as it affects ES in Nigeria, with a view to making recommendations.

CONCEPTUAL CLARIFICATION

This paper considers 2 variables, namely; HD and ES which are the independent and dependent variables respectively. The variables are conceptualised and their relationship established.

Housing Development. Wallace (2003) views HD as a programme initiated by government to improve access to and qualities of affordable housing in a country. This definition recognises the obligation of government to initiate housing delivery and provides access to housing. However, it does not take into consideration other relevant stakeholders such as private sector. It is not apt, and therefore not considered further. United Nations Human Settlements Programme (2013) defines HD as a combine government financial programme which expands private sector role in affordable housing delivery, with the ultimate goal of removing all barriers to the supply of raw materials not only the physical construction of houses but also the provision of eco-friendly services and infrastructure, as well as amenities that support sustainable livelihoods. This definition succinctly captures the major elements of HD, which is the need for housing to be made affordable to individuals. It is therefore adopted for this paper.

Environmental Security. Matthew (2010) views ES as the relationship between environmental change and human security. It highlights the importance of preserving natural systems to prevent conflicts and protect livelihoods. This definition identified the need to preserve natural systems and protect livelihood. However, it is restricted to conflict and protection of livelihood which makes it unsuitable for this paper. International Labour Organisation (ILO) 2012, defines ES as "the protection and preservation of the natural environment, including its ecosystems, biodiversity, and natural resources, in order to ensure the well-being and survival of human societies. This includes

the creation of green jobs, which are decent jobs that contribute to preserve or restore the environment, be it in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and sustainable agriculture. This definition is explicit as it captures key elements of ES which this paper is situated upon. Thus, it is adopted for this paper.

Relationship between Housing Development and Environmental Security. The attributes of HD include affordable housing delivery, supply of raw materials, provision of eco-friendly services and infrastructure, as well as amenities that support sustainable livelihoods. While attributes of ES include protection and preservation of natural environment, ecosystems, biodiversity, and creation of green jobs. An increase in the provision of affordable housing, supply of raw materials and provision of eco-friendly services and infrastructure that supports sustainable livelihoods would lead to improvement in the protection and preservation of natural environment, ecosystems, biodiversity, and creation of green jobs. Conversely, a decline in the provision of affordable housing, supply of raw materials and provision of eco-friendly services and infrastructure that support sustainable livelihoods would diminish the protection and preservation of natural environment, ecosystems, biodiversity, and creation of green jobs. This shows that improving HD would enhance ES, while undermining HD will lead to decline in ES. Therefore, there is a direct relationship between HD and ES. This nexus provides a basis for an overview of HD and ES in Nigeria.

OVERVIEW OF HOUSING DEVELOPMENT AND ENVIRONMENTAL SECURITY IN NIGERIA

Housing development and ES in Nigeria have evolved through various historical phases, shaped by economic, social, and policy-driven influences. In the colonial era and the early years of independence, housing development was largely ad hoc, catering primarily to colonial administrators and a small segment of urban elites. Public housing schemes began to take shape post-independence in 1960, with initiatives such as the First National Development Plan (1962-1968) allocating approximately US \$12 million for HD [9]. These efforts were modest and largely urban-focused, with little attention to rural housing or ES. This period saw the introduction of low-cost housing schemes and the establishment of bodies like the Nigerian Building Society (NBS) in 1956 and Federal Housing Authority (FHA) in 1973, to manage public housing delivery [10]. Shortly after, the NBS transitioned into the Federal Mortgage Bank of Nigeria (FMBN) in 1977 to provide long-term financing, signifying a shift towards institutionalizing HD. However, environmental concerns were raised regarding roles of organisations in charge of HD, thereby making Institutional Framework (IF) a key factor in HD and ES.

The oil boom of the 1970s marked a pivotal era for housing policy, as the government embarked on

ambitious housing programs under the Third National Development Plan (1975-1980), with an allocation of over US \$500 million for housing [9]. During this period, rapid urbanization and inadequate infrastructure planning began to strain ES in the country. Urban sprawl and informal settlements proliferated, particularly in cities like Lagos, Kano, and Port Harcourt, exacerbating environmental challenges such as flooding, poor waste management, and deforestation [10]. Policy responses, like the Land Use Act (LUA) of 1978, were adopted to streamline land acquisition and allocation but often led to bureaucratic bottlenecks and inequities in land distribution [10]. The inflexible processes and fulfilment of the provisions of the LUA and other housing policies makes Policy Framework (PF) a key factor in HD for enhanced ES in Nigeria.

In the 2000s, successive governments implemented reforms to address the dual challenges of housing deficits and environmental sustainability. The housing deficit, estimated at 17 million units in 2013, required innovative solutions [10]. The NHF, restructured in 1992 and strengthened thereafter, facilitated Public Private Partnerships (PPP), attracting foreign investments of approximately US \$1 billion between 2010 and 2020 [6]. Policies like the National Housing Policy (NHP) 2012 and Vision 20:2020 emphasized affordable housing, climate-resilient designs, use of green infrastructure and urban renewal projects [6]. Despite these efforts, environmental insecurity manifested in urban flooding and poor waste management remains a critical challenge. Efforts to integrate sustainable housing practices, such as green building initiatives and renewable energy integration, have gained traction, reflecting a growing recognition of the interconnectedness of HD and ES in Nigeria. The overview has brought to light some issues and challenges associated with HD and ES in Nigeria.

ISSUES AND CHALLENGES ASSOCIATED WITH HOUSING DEVELOPMENT AND ENVIRONMENTAL SECURITY IN NIGERIA

Some issues associated with HD and ES in Nigeria include IF, PF and green infrastructure. These issues and their corresponding challenges are discussed subsequently.

1. **Institutional Framework.** An IF, as it relates to HD and ES, refers to the organized system or organisations set up to ensure sustainable housing practices and environmental protection. For instance, Rwanda through a robust IF, implemented an effective Green Growth and Climate Resilience Strategy. In 2021, over 30,000 green housing units were constructed in Rwanda [11]. This significantly reduced urban sprawl with attendant positive impact on ES in the country. In Nigeria, a robust IF is necessary to bridge the housing deficit and promote ES. The FGN has made efforts towards supporting institutions like the FMBN and NHF in discharging their responsible in relation to HD. From 2018 to 2024, the NHF disbursed

over US \$2 billion to support affordable housing projects, benefiting more than 50,000 households across the country [6]. Additionally, initiatives like the FHF and the National Housing Program have been institutionalized to enhance housing delivery for ES. A strong IF is therefore essential for addressing Nigeria's housing needs for enhanced ES. The associated challenge to IF in Nigeria's HD, is bureaucratic inefficiencies. Between 2019 and 2024, Nigeria allocated an average of US \$700 million to HD, but audits reveal that less than 65 per cent of this funds were utilized effectively (A.A Muktar personal communication, 10 January 2025). This view was corroborated by O.F. Adetayo (personal communication, 10 January 2025), when he posits that several projects under the National Housing Program were abandoned due to mismanagement, while overlapping responsibilities between agencies led to delays and resource wastage. The absence of a transparent and efficient IF not only hampers HD but also exacerbates environmental concerns, such as unregulated urban expansion and deforestation, further straining Nigeria's ecological balance. Therefore, bureaucratic inefficiencies is a major challenge to HD for ES in Nigeria.

2. **Policy Framework.** A PF, as it relates to HD and ES, refers to a structured set of guidelines, and regulatory measures designed to ensure the sustainable growth of housing infrastructure while safeguarding environmental integrity. In 2023, Singapore has leveraged its Green Building Master plan to promote eco-friendly construction, achieving a 40 per cent improvement in energy efficiency for newly built residential and commercial structures [12]. In Nigeria, the PF which guides HD is the LUA 1978 and NHP 2012. These frameworks require that affordable housing solutions be provided to citizens especially the low and middle-income earners. Excerpts of the LUA 1978 and NHP 2012 are at Enclosure 1 and 2 respectively. Consequent upon this Statuses, the FGN has made notable efforts in housing delivery, with over 15,000 housing units delivered under the Family Homes Fund (FHF) in 2024 [7]. This underscore the importance of a more cohesive and well-implemented PF, which is critical for harmonizing HD with ES in Nigeria. However, unplanned urban sprawl and environmental pollution characterised by inefficient implementation of PF persist. This further undermines ES in Nigeria. Indeed, Chikezie posits that Nigeria's housing deficit remains significant, estimated at over 20 million units in 2024 [13]. This view was corroborated by S. Bayo (personal communication, 10 January 2025) who noted that lack of effective implementation and enforcement mechanisms has seen HD treated with laxity to the detriment of ES in Nigeria. Despite numerous frameworks and programmes on HD, many projects were stalled in the past due to ineffective implementation. Thus, ineffective implementation of NHP 2012 remain a major challenge to HD for enhanced ES in Nigeria.

3. **Green Infrastructure.** Green infrastructure refers to a network of natural and semi-natural systems that deliver a range of environmental, social, and economic benefits while mitigating the impact of urban development on the environment. An exemplary case is Australia, which has effectively implemented green infrastructure through its 'Green Plan 2030' urban planning strategy. Australia's Green Plan 2030, aims to plant one million trees, which enhances air quality, reduces urban heat, and improves housing environments [14]. In Nigeria, green infrastructure is increasingly recognized as essential for sustainable HD and ES. The FGN has made notable efforts to create an enabling environment for green infrastructure, one of which was the disbursement of US \$1.5 billion for eco-friendly housing initiatives under the National Housing Programme in 2020 [15]. Similarly, the Lagos State Government's Tree Planting Campaigns have seen the planting of over 7 million trees between 2019 and 2024 [16]. Despite these efforts, green infrastructure adoption remains limited due to inadequate implementation frameworks. Green infrastructure is thus, germane to HD as it offers a pathway to mitigate climate impacts, enhance urban liveability, and ensure sustainable housing systems for enhanced ES. The associated challenge to green infrastructure is inadequate investment in green infrastructure. For instance, in 2023, Nigeria allocated only 0.5 per cent of its annual budget to environmental management, with green infrastructure receiving an even smaller fraction [17]. In contrast, urban expansion during the same period led to the loss of approximately 500,000 hectares of green spaces, exacerbating environmental insecurity [17]. Additionally, institution such as the National Environmental Standards and Regulations Enforcement Agency (NESREA) have faced operational inefficiencies due to underfunding, with annual funding shortfalls averaging US\$15 million between 2020 and 2024. Thus, inadequate investment in green infrastructure is an impediment to HD for enhanced ES in Nigeria.

EFFECTS OF HOUSING DEVELOPMENT ON ENVIRONMENTAL SECURITY IN NIGERIA

The effects of HD on ES in Nigeria include green jobs and renewable energy.

Green Jobs. Green jobs, which entails employment opportunities that contributes to preserving or restoring the environment is a positive effect of HD on ES in Nigeria. Housing development is a critical enabler of restoring the environment, especially in sectors like manufacturing and construction. In 2021, the Federal Ministry of Environment (FMoE) launched the Urban Renewal and Green Cities Initiative, aimed at rehabilitating degraded urban areas with a budgetary allocation of US\$250 million [20]. As of 2024, the initiative had created about 7,000 green jobs in key sector areas like agriculture, forestry and fishery, as well as renewable energy and eco-tourism [18], as detailed at Annex A. It was envisaged that the initiative would create about 2 million additional jobs

by 2035 [19]. This impact on job creations connotes positive effect which guarantees the well-being of citizens in Nigeria. Thus, HD has positive effect on green jobs and by extension enhanced ES in Nigeria.

Renewable Energy. Renewable energy which refers to the generation of energy from natural resources that could be replenished over time, is another effect of HD on ES in Nigeria. According to the International Renewable Energy Agency (IRENA), Nigeria has the potential to generate up to 74.4GW of solar energy, which can power millions of homes and businesses [20]. In 2024, the FGN set up a target to generate 30 per cent of its energy from renewable sources by 2030 [21]. By incorporating renewable energy into HD, Nigeria could reduce its carbon footprint, mitigate climate change, and enhance ES while also stimulating local economies. Hence, HD has positive effects on renewable energy through the adoption of alternative sources of energy for enhanced ES in Nigeria. The effects discussed have highlighted the need to outline prospects of HD for improving ES in Nigeria.

PROSPECTS FOR IMPROVING HOUSING DEVELOPMENT AND ENVIRONMENTAL SECURITY IN NIGERIA

The prospects for improving HD and ES in Nigeria include Nigeria Mortgage Refinance Company (NMRC) 2022 and Building Materials Producers Association of Nigeria (BUMPAN) 2022-2030. These prospects are further discussed in subsequent paragraphs.

Nigeria Mortgage Refinance Company 2022. The NMRC is a key player in Nigeria's housing financing sector. Its core objective is to provide long-term funding to mortgage lenders, which are anchored on 6 main pillars as detailed at Annex B. In 2022, the NMRC refinanced loans grew by 13.8 per cent to N 24.02 billion [22]. The company has also launched a blockchain-powered technology system for reliable land titling geared towards improving the efficiency and transparency of land registration processes [13]. This would provide opportunities for the various stakeholders in HD to key in and address the perennial flooding and other related environmental concerns currently bedevilling HD for enhanced ES in Nigeria. Hence, the NMRC loan, if sustained, hold good prospect for HD towards improving ES in Nigeria.

Building Materials Producers Association of Nigeria 2022-2030. The BUMPAN 2022-2030 is a n initiative to promote sustainability in HD. Its core objective is to ensure the availability of quality building material, standardize building practices, and encourage sustainable construction method as well as promote the use of eco-friendly materials. Other objectives of the BUMPAN 2022-2030 initiative are detailed at Annex C. The initiative can significantly impact HD for sustainable ES in Nigeria. According to O. Taiwo (personal communication, 10 January 2025), members of BUMPAN are presently producing

cheaper alternative building materials geared towards restoring the ecosystem for enhanced ES. It is expected that the sustainability of this initiative would have significant impact on HD and ES. Thus, the BUMPAN 2022-2030 initiative holds good prospects for HD to improve ES in Nigeria. The following strategies would further improve HD and ES in Nigeria.

STRATEGIES TO IMPROVE HOUSING DEVELOPMENT FOR ENHANCED ENVIRONMENTAL SECURITY IN NIGERIA

The proposed strategies to improve HD for enhanced ES in Nigeria include ministerial order on institutional reforms, timely review and implementation of the NHP 2012, aggressive green building technology development through PPP. These strategies and implementation plan are discussed subsequently.

Ministerial Order on Institutional Reforms. The ministerial order on institutional reforms would overcome the challenge of bureaucratic inefficiency amongst various agencies in HD and ES in Nigeria. The objective of the strategy would be to clearly define and streamline the various overlapping roles and responsibilities of the organisations towards improving HD for enhanced ES. In this regard, the FMoE could liaise with relevant authorities such as NESREA, FMBN and NHF to restructure their roles/responsibilities for effective performance with regard to HD for ES in Nigeria. The reform processes, which would be funded from the budgetary allocation of FMoE, could be completed by the Second Quarter of 2025.

Timely Review and Implementation of the National Housing Policy 2012. The timely review and implementation of the NHP 2012 would overcome the challenge of ineffective implementation and enforcement of PF. The objective of the strategy would be to review and incorporate all environmental concerns as it relates to housing in the policy document. In this regard, the Federal Ministry of Works and Housing Development (FMoWHD) in conjunction with FMoE and other relevant stakeholders who would statutorily make input to commence the review processes of NHP 2012. Preliminary work on the strategy could be funded by FMoWHD, while full funding could be incorporated in the current budget of the both Ministries based on an agreeable sharing formula. Implementation could commence by Third Quarter of 2025.

Aggressive Green Building Technology Development through Public Private Partnership. The aggressive green building technology development through PPP would overcome the challenge of inadequate investment in green infrastructure. The objective of the strategy would be to secure a new funding dispensation through PPP for the development of green building technology. To this end, the FMoE could collaborate with relevant stakeholders and develop a HD Action Plan for

meeting the nation's ES needs. The funding could be drawn from FMoE's statutory provisions, while implementation could commence by Second Quarter of 2025.

CONCLUSION

The paper appraised HD in relation to ES in Nigeria and identified IF, PF and green infrastructure as some of the associated issues. The corresponding challenges are bureaucratic inefficiencies, ineffective implementation of NHP 2012 and inadequate investment in green infrastructure respectively. The effects of HD on ES in Nigeria include green jobs and renewable energy, while NMRC 2022 and BUMPAN 2022-2030 holds good prospects for the improvement of HD and ES in Nigeria.

The proffered strategies to mitigate the identified challenges include ministerial order on institutional reforms, timely review and implementation of the NHP 2012, aggressive green building technology development through PPP. These strategies, if effectively implemented will improve HD for enhanced ES in Nigeria.

RECOMMENDATIONS

It is recommended that the FGN should:

- a. Direct FMoE to work with key agencies to redefine their roles for effective performance by Second Quarter of 2025.
- b. Direct FMoWHD to liaise with FMoE and other relevant stakeholders to commence the review processes of NHP by Third Quarter 2025.
- c. Direct FMoE to collaborate with relevant stakeholders and develop a HD Action Plan for meeting the nation's ES needs by Third Quarter of 2025.

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