



**INVESTIGATING THE PROSPECTS AND CHALLENGES OF
SUSTAINABLE HOUSING ON NATIONAL DEVELOPMENT IN
CONTEMPORARY NIGERIA.**

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Abstract

Over the years, sustainable housing has contributed immensely to the development of the economy; despite all the environmental disunity. Sustainable housing projects involves retrofitting older homed with modern sustainable additions or re-purposing old agricultural or industrial buildings for use as domestic homes. This not only requires fewer manufacturing material, but also makes great use of materials that might otherwise have ended up in landfill. housing will stand in a sustainable relationship to the natural systems. within which they are embedded if their rate of usage of both renewable and non-renewable resources, as well as their rate of waste output, is as expressed above. The paper presents an assessment of the prospects and challenges of sustainable housing provision in Nigeria using the novel Holistic Sustainability Approach (HSA). The HSA can be used to identify, examine and address the challenges and challenges of sustainable housing development in Nigeria based on the core tenets of sustainability; society, economy and environment and the twin concepts of needs and limitation. The study identified that the numerous challenges facing housing provision in Nigeria are largely due to poverty, redundant housing policies and financial bottlenecks. Others include high cost of building materials, lack of financial instrument for building construction projects as well as the palpable lack of innovative building technologies. This is in addition to uncontrolled development, poor maintenance culture and social infrastructure. Despite of these challenges, the authors posit sustainable housing provision has numerous prospects for the

future. Consequently, effective provision of housing in Nigeria will spur sustainable socio-economic leading to enhanced well-being of the society. This will spur a ripple effect in long term socio-economic development of the nation's human capital. Furthermore, it will provide job prospects, disposable income, and improved standards of living, reduce greenhouse gas (GHGs) emissions and improve affordability and overall life span cycle of buildings in the country.

Keywords: *Development, Contemporary, Environment, Housing. National, Nigeria, Sustainability.*

INTRODUCTION

A sustainable house is a home that has the least possible negative impact on our environment. This means energy efficiency, avoiding environmental toxins, and using materials and resources in a responsible manner while having a positive physical and psychological impact on its inhabitants. The goal of Sustainable Housing Development (SHD) initiative as contained in Goal 11 of The United Nations (UN) 2030 Agenda for Sustainable Development is “increased access to sufficient, safe and low-cost housing for the world's poorest people residing in slums by the year 2030”. The main goal of sustainable housing is to develop affordable housing that are

- (1) durable and long lasting;
- (2) cost effective to build & practical to maintain;
- (3) use natural resources and materials efficiently based on their life-cycle environmental impacts;
- (4) Conserve water, reduces runoff and treats waste-on.

Sustainable homes use low-impact, high-performance materials. They're efficient in terms of manufacturing, shipping and installing. Plus, because high-quality materials and systems break less and last longer, they waste less.

Nigeria is the most populous country in Africa with a population of 180 million people comprising over 500 ethnic groups. The nation similarly bears the distinctive hallmark as Africa's largest economy with a gross domestic product (GDP) of \$568.5 billion. Backed by these stellar socioeconomic dynamics, analysts predict that the Nigerian economy will grow at an

impressive rate of 7 % annually over the next five years spurred by growth in the oil, agriculture, telecommunications, and financial services sector.

Economically, Nigeria is

blessed with abundant natural and mineral resources with 37 billion barrels of crude oil (petroleum), 33.7 billion Cubic meters of natural gas, 4 billion tonnes of coal, limestone, uranium and arable agricultural land (78 % of land mass). The dominance of petroleum and natural gas exports which account for over 90 % distinction as the largest crude oil producer in Africa.

Geographically, Nigeria has a total area of 923,768 km² located in West Africa, adjoining the Gulf of Guinea, between Benin and Cameroon on longitude 10 00 N, and latitude 8 00 E. The climate of Nigeria typically varies from arid in the north tropical in the middle belt and equatorial in the south .

Contrariwise, the nation is plagued by a plethora of socio-economic and environmental challenges despite its abundant human, capital and mineral resources. These challenges can largely be ascribed to persistent corrupt, slow legislative reforms, unreliable regulatory environment, widespread political instability, inadequate insecurity and unreliable dispute resolution mechanisms due to an incompetent judiciary.

Housing improvement is one of the most important sectors of the economy, which ensures the prosperity of urban development and sustainability (Rahman et al. 2018). The variety of design solutions and innovative technologies incited a lot of challenges in the quality of accommodation and satisfaction of residents. Often, designers strive to maintain the aesthetics of housing appearances and neglect the actual needs of clients (Lopez 2010). Compared to commercial buildings, the residential design must correspond to day-to-day concerns of people's lives and address problems related to their life experience and ambience (Anderson 2016). Besides, due to excessive energy consumption, housing construction must be sustained (Roufechaei et al. 2014). Thus, for successful sustainable housing development, an optimal balance between sustainable housing and customer satisfaction is required (Chan and Adabre 2019).

These complexes are residential neighbourhoods consisting of villas and houses and related administrative and commercial buildings, mosques, schools, and parks. These properties have been designed following the traditional planning of sub districts and villages in mind. The main task in the design was to combine

conventional architecture and innovative technologies through an optimal balance. The results of a study on sustainable social housing in the city of Al Ain (Ahmed 2017) showed that traditional principles of neighbourhood planning and design are less effective for residents as local communities may have different cultural and social development needs. According to the author of the article, it is community residents who can regulate the sustainability of urban forms by giving preference to one tendency over another.

OBJECTIVES OF THE RESEARCH

Investigating the Prospects and Challenges of Sustainable Housing ON National Development in Contemporary Nigeria.

PRINCIPLES OF SUSTAINABLE HOUSING

There are six (6) principle of sustainable housing applied in Malaysia, namely:

• Energy Efficiency

Increasing use of energy by the optimum building orientation, sun minimize entry through building ventilation, natural lighting, adapt best practices in building services, including the use of renewable energy and regular maintenance.

• Internal Environmental Quality

Achieve good performance in indoor air quality, acoustics, visual and thermal comfort. This will involve the use of low volatile organic compounds, filtration applications in air quality, temperature control, conditioning and proper humidity.

• Site Planning and Management of Sustainable

Selecting a suitable site with access to public transport, community services, open space and landscaping. Conservation of environmentally sensitive areas through the development, implementation and management of a systematic construction, and reduce the pressure on infrastructure capacity.

• Materials and Resources

Choosing materials that are not environmentally friendly and have a negative impact on humans, flora and fauna. Sources used in preference to minimum and reusable materials.

• Water Efficiencies

Rainwater harvesting, water recycling and water system equipment.

• **Innovation**

Innovative designs meet the goals and initiatives of GBI.

There are many features of sustainable development among these are;

- Environment - The development of truly taking by human activities on the environment and health.
- Social Equality - Development that contributes to the acquisition and control of a more appropriate source.
- Human Economics - Social and economic development to help people meet basic needs.
- The Future - Ensure that the decision taken not to damage or prejudice the interests of future generations.
- Participation - The process that allows the entire community involved.
- Local Action / Global Impact - Local development that contributes to the resolution of global issues. In conclusion, the principles of sustainable housing can be defined as a way of creation and the management responsible for achieving a healthy development

METHODS AND MATERIAL OF SUSTAINABLE HOUSING

Consequently, the UN seeks to address these pertinent issues particularly sustainable housing due to its significant influence on the overall wellbeing of people living in developing countries .

Accordingly, the analysts posit that sustainable housing provision can improve the access to education, ensure environmental sustainability, promote gender equality, maternal health, reduce child mortality, combat diseases, and stimulate global development . In addition, the strategic importance of adequate shelter and sanitation in developing countries characterized by large population of slum dwellers is responsible for the dedication of the 2 out the 8 MDGs to housing .

Currently, nearly 880 million urban dwellers around the globe reside in slum conditions compared to 689 million in 1990. Consequently, the UN envisages to halve the population of slum dwellers without sustainable access to safe drinking water and basic sanitation and improving the lives of 100 million slum dwellers by the year 2020 . The surge in global slum dwelling population

has been attributed to rapid urbanization, population growth and lack of suitable land and housing policies around the world.

Like most developing countries Nigeria is plagued by lack of adequate housing and modern sanitation facilities especially for urban slum and rural dwellers. According to Muazu and Oktay Nigeria's housing challenges can be primarily attributed to rapid spate of rural-urban migration due to lack of social infrastructure and amenities which leads to migration of rural dwellers into urban centers in Nigeria.

However, these can be attributed to numerous other social, economic and environmental factors. Conversely, the solution to these problems presents promising prospects for national development in Nigeria and the developing world at large. Consequently this study seeks to examine and highlight the challenges and prospects of sustainable housing provision to future national development in Nigeria.

The paper will attempt to institute and propose working relationship between national housing and sustainable development using a holistic approach.

RESULTS AND DISCUSSION

A. National Housing and Sustainable Development

Housing is a fundamental need necessary for the welfare, safety and survival of mankind. The World Health Organization stipulates that good housing must satisfy the fundamental needs of shelter, sanitation and protection from externalities. Sustainable housing is measure or index for assessing the living standards and social importance of people in many societies around the world. Housing can be viewed as the end product of planned, coordinated and implemented construction aimed at providing structural design, lighting space, and sanitary facilities among other human conveniences through urban and regional planning, environmental and construction management.

Housing also encompasses the rehabilitation, maintenance and re-modeling of existing structures to cater for accommodation, relocation and resettling of individuals in a society.

In view of the importance of housing to sustainable national development, the Federal Government of Nigeria (FGN) promulgated the National Housing Policy (NHP) in 1991. This was aimed at alleviating the problems of

housing by providing a legal framework for the achievement of a national housing scheme.

Another goal of the NHP was to proffer solution to the housing crises through provision of affordable, accessible and long term housing to accommodate Nigerians. This is to be achieved taking into consideration vital concerns such as safety, health, finance, social infrastructure, locally sourced building materials, maintenance, repair and policy reform NHP can be viewed as a legal tool for decision and policy makers for effective urban town planning, construction management and housing provision .

However, many years after the enactment of the policy, the provision of qualitative and quantitative housing needs of the populace remains a source of national embarrassment. Numerous authors have examined the housing crises vis-a-vis the NHP in Nigeria and identified the root causes of housing problems. Reasons identified as causes of the housing crises in Nigeria include socioeconomic problems such as lack of basic building technology, uncontrolled urbanization, unplanned development, and inadequate maintenance of existing structures.

Others include poor social infrastructure, poor waste management menace, and health hazard. This can be attributed to economic reasons such as pervasive poverty, high cost of materials, poor utilization of indigenous materials, lack of financial instrument for housing and bureaucratic red tape tied to land acquisition and documentation of title deed related to ownership . The existence of these challenges have prevented the sustainable development of the housing sector in Nigeria.

The concept of sustainable development (SD) has been widely debated in social, policy, and academic circles over the years. However, the most prominent description of sustainable development was advocated by the World Commission on Environment and Development (WCED) in the eminent Brundtland Report .

According to the report, SD can be defined as development that meets the needs of the present without conceding the ability of future generations to meet their own needs. The designation comprises two major parts namely the “concept of needs” and “idea of limitations”. These presuppose the prioritization of societal needs of the poor in spite the socioeconomic and techno-environment limitations.

Consequently, sustainable housing can be defined as the provision of affordable housing that integrates environmentally and societal based practices with the aim of reducing the negative impacts of homes on the environment through the use of sustainable building materials and eco-friendly design. In the Nigerian context, the sustainable provision of housing and other social infrastructure such as health care, education, water, health and sanitation is vital to the needs of the citizenry. Incidentally, the provision of these basic needs for Nigerians is the crux of the 8 objectives of the MDGs which include; poverty and hunger eradication, universal primary education, gender equality for women, eradicating child mortality, improving maternal health, combating infectious diseases, environmental sustainability and global development.

However, without adequate and sustainable housing, the attainment of the MDGs in Nigeria will remain a mirage since according to Tibaijuka, housing provision is an integral part of all the 8 goals of the MDGs. It stands to reason that access to affordable, sustainable and long term housing in developing countries is the unquestionably the most promising route for the achievement of the MDGs. Consequently the challenges of housing provision in Nigeria must be identified, examined and addressed in order to ensure sustainable development in the country. This is also help identify the potential prospects of housing provision to advancement of national goals and aspirations of the Nigerian citizenry. Therefore the outline challenges and future prospects of housing for sustainable development using a novel method called the holistic sustainability approach.

B. Holistic Sustainability Approach (HSA)

The Holistic Sustainability Approach or (HSA) is a novel approach aimed at identifying, examining and addressing the prospects and challenges of housing for sustainable development in Nigeria. The approach takes into cognisance the core tenets of sustainability; social, economic and environmental as well as the key sustainable development (SD) concepts of societal needs and techno environmental limitations. The proposed HSA will be used to outline the challenges and prospects of housing for sustainable development in Nigeria.

C. Challenges of Sustainable Housing

Housing is an integral societal need, yet the provision of this vital necessity particularly in developing countries like Nigeria is plagued by socioeconomic and environmental factors all which hamper sustainable development. Consequently, the provision of housing for sustainable development is based on the application of the core tenet of sustainability from the conceptual stage to construction of the buildings. This is aimed at reducing the socioeconomic and environmental outlays incurred by poor construction thereby minimizing the influences on natural resources, and improving the comfortability of its inhabitants.

i. Socioeconomic Factors

The socioeconomic challenges to housing in Nigeria are largely due to poverty, redundant or inconsistent policies and financial bottlenecks. As a low middle nation, Nigeria is considered low income nation as such pervasive poverty accounts for the problem of housing.

In urban areas as well as rural areas the cost of housing is often beyond the reach of many citizens prompting residence in low quality shelters and abodes. In addition, the high cost of materials and the poor utilization of indigenous materials, also accounts for the socioeconomic factors impeding housing provision in Nigeria. It is important to state that building materials comprise the largest input (60 - 65%) in the construction of houses which ultimately results in higher costs of completed homes. This certainly constitutes a challenge to sustainable housing provision in Nigeria. Other socioeconomic factors include lack of financial instrument for construction and bureaucracy in Nigeria.

In general, the palpable lack of innovative building technologies, uncontrolled development, maintenance culture and poor supporting social infrastructure also contribute to housing shortages in Nigeria.

Since the NHP like all promulgated policies in Nigeria is derived from laws, regulations and organisational practices, it is imperative that it adheres to the fundamental principles of freedom, justice, and equity in the interest of the public.

However, the NHP has failed to adequately cater for the housing needs of Nigerians as stipulated in the statutes of its formulation due to lack of reforms in the policy over the years. Consequently, this has led to redundancy in its

functions and hampered its successful implementation. As such, the NHP needs to be reformed to cater for the present day needs of Nigerians by taking into cognisance the present socioeconomic and political climate in the country.

Hence, the NHP be ratified into the laws and constitution of the country to enable it correct the incongruities marring housing provision, land ownership and financing. Typically expensive and beyond the financial reach of citizenry.

In addition, the importation and utilization of imported building materials results in the emission of greenhouse gases (GHGs) and particulate pollutants which adversely affect the life cycle and environmental burden of buildings in the country. The long term effects is often the short life span evidenced by the spate of building collapses across the country.

Hence, the implementation of green building materials, sustainable practices and life cycle analysis in the building sector will improve housing provision in the country. It is imperative for all tiers of government, the building industry as well as consumers to encourage the use of low cost, renewable and sustainable locally sourced building materials particularly wastes from agricultural residues, municipal solids, and the timber wood industry.

Other factors affecting housing provision in Nigeria include environmental change and land practices. Land availability and its governing laws and statutes directly influences housing affordability and provision, the activities of professionals in the buildings industry, agriculture and urban development in Nigeria can affect housing provision as well. These underlying dynamics need to overhauled, reformed and revisited to improve land availability, practices and utilization for effective housing delivery.

ii. Techno-environmental Factors

The Techno-environmental challenges of housing provision in Nigeria can be attributed to issues related to technicalities related to the choice of building materials, construction of buildings, and environmental land practices. In addition factors such as poor maintenance culture, climate change and improper vocational training of professionals in the field contribute to poor housing provision in the country .

The choice of building materials plays a significant role in the cost, longevity and overall life cycle of buildings. In Nigeria, the natural preference of

professionals in the building industry is to opt for foreign or imported building materials. Since this factor accounts for over 60 % of the cost of the buildings, houses built in the country are International Journal of Scientific Research in Science, Engineering and Technology (ijsrset.com) standards of living for individuals in the society. In addition, the adoption and utilization of sustainable building materials will reduce the nations stock of greenhouse gas emissions (GHGs), pollutant emissions and improve the overall life span and life cycle of buildings in the country.

In the same vein, the use of sustainable green building materials will spur further research into material science and building construction techniques in the nation's tertiary institution, research institutes and centres of excellence.

The incorporation of the proposed HSA will help prioritize the concept of needs and limitations in the buildings industry. This will reduce wastes, excess and unwanted costs of building and constructions and help drive down the prices of houses in the country. With increased affordability the spate of homelessness, destitution and high crime due to lack of basic amenities in the society will be curbed considerably. Overall the socio-economic prospects of sustainable housing provision in Nigeria will improve social wellbeing and economic activities in the country. The techno-environmental prospects of sustainable housing provision can potentially improve the technological knowhow and environmental sustainability in the country. Current practices in the industry have led to undue burden on the environment due to poor material utilization, poor energy efficiency, poor buildings waste management and maintenance. With improved reforms and adoption of sustainable practices such maladies will be relegated to the past.

However, this can only be achieved by improving legislation, training, and skills acquisition by professionals in the Nigerian building sector. Consequently, the success of these measures will strategically reposition the country as hub for innovative sustainable building technology, and construction management in Africa. Ultimately, this will attract greater research funding for the academic, research and construction sectors of the Nigerian society. If achieved, such milestones will increase UN and international cooperation and collaboration on future clean development mechanism (CDM) projects.

Overall the techno-environmental prospects of sustainable housing provision will greatly impact the buildings sector in Nigeria through improved skill training and funding aimed at improving the availability, affordability and life span-cycle of buildings in the country. In addition it will improve the institutional framework for housing delivery, enhance land settlements and development policies, supply flexible housing finance, lower building materials and construction costs, and aid the mobilization of the private sector in monitoring and evaluation future sustainable housing programmes and schemes in the country.

CONCLUSION

Examination of the impact caused by socio-environmental factors on community satisfaction in different areas in Nigeria showed that it becomes higher when houses are placed around a public place or common open space. The provision of well-located open spaces and good access to public infrastructure play a crucial role in increasing urban sustainability.

The prospects and challenges of sustainable housing provision in Nigeria were examined in this study. This was achieved using a novel approach termed the Holistic Sustainability Approach (HSA) which was aimed at identifying, examining and addressing the prospects and challenges of housing for sustainable development in Nigeria based on the social, economic and environmental aspects of housing. The study identified numerous challenges as well as future socio-economic and techno-environmental prospects for the adoption and provision of affordable housing in Nigeria.

The state housing projects in the in Nigeriacan be considered as acceptable for the comfortable life of residents with a high and average level of satisfaction, which fully meets the needs in terms of physiological, social, economic, and environmental characteristics.

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