

Engaging the Concept of Resilience in Housing Delivery Approach in Nigeria

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Abstract: The rapidly increasing population in Nigeria is posing numerous challenges of rising need for housing, especially in cities. With the increasing deficit in housing stock, it is evident that approaches adopted in housing provision in Nigeria are not effectively meeting the needs of adequacy, availability and affordability. The provisions and supply of housing so far do not seem to be targeted towards basic needs, and so the gap between supply and need keeps widening. This makes the need for rethinking the housing delivery approach in Nigeria necessary. This paper discusses the engagement of the concept of resilience in housing delivery, and how the approach could help in shrinking the gap between housing need and supply in Nigeria. The concept of resilience has been defined as the ability of a system to adapt to any form of stress or shock or trauma; in this case, the urban fabric is the system and the surging population is the stress that acts upon it. When considering to solve the housing deficit issues in Nigeria, therefore, there has to be an involvement of the causes and sources of the deficits. Housing as 'need' should be clearly understood as different from housing as 'demand'. This paper uses systematic literature review and content analysis of secondary data as methodology to tease out challenges of existing housing delivery approaches in Nigeria, and to suggest complimentary resilience strategies that can help to promote successful housing delivery. It is hoped that the recommendations would guide housing policy reviews, implementations by industry professionals and stakeholders.

Keywords: *Housing Deficit, Housing Delivery Approach, Nigeria, Resilience, Resilience Concept.*

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I. INTRODUCTION

The need for shelter is said to be the second most important requirement for man next to food. Housing, generally, is the means of ensuring that adequate shelter in which to live is provided for members of society. It is an integral part of human settlement that fulfils basic need and has a profound impact on the quality of life, health, welfare as well as productivity of man [1]. However, housing provision in Nigeria has always been a thing of concern, because it fails to meet the needs of adequacy, availability and affordability. The rapidly increasing population in Nigeria is posing numerous challenges of rising need for housing, especially in cities, bringing about deficits in housing stock. The level of deficit has not been properly documented. In one study, [2] indicated a significant housing deficit of about 17 million units. In the Federal Mortgage Bank of Nigeria Report of 2020 [3] the country's housing stock deficit was put at 28 million units [4]. Reference [4] also noted that other reports by reputable international data-gathering organisations and agencies have put the housing deficit at about 17 to 20 million. By this it is clear that the situation of housing deficit in Nigeria has not been adequately documented, and this also poses a challenge towards planning for residential accommodation. For a successful delivery approach, housing must be seen to effectively address the surge in urban population.

The three categories of residential accommodation can be said to be (i) the Shelter: a structure just to provide basic protection for its users from the elements and for safety; (ii) the house: which is a purposely designed individual unit for human habitation, and (iii) housing: which connotes the provision of homes collectively, where the scope is the entire system encompassing physical, social, economic, environmental and even political characteristics that tie them together. Unlike shelter and house, housing is considered as multidimensional and multi-sectorial [5] with interconnections and interdependencies in the system. For a successful housing delivery strategy, these multifactorial characteristics of housing would need to be reflected in planning and delivery approach. The concept of Resilience is the ability of a system to resist or adapt to any form of stress, shock or trauma [6] [7]. In terms of housing provision in the face of surging population, resilience would be the ability of the urban areas to absorb the population in good housing accommodation, while addressing the multidimensional and multi-sectorial characteristics of housing; thereby not losing its social and environmental functions to problems such as poor sanitation, environmental degradation, slum area propagation, infrastructure breakdown, violence, crime, congestion, overcrowding disease, waste management, pollution. It is, therefore, crucial to acknowledge the inevitability of the stress of urban population surge as integral to housing systems [5], and to engage strategic planning and

resilient-led approaches to develop housing delivery strategies that would efficiently adapt to such stress. Furthermore, the Massachusetts Institute of Technology [8] explains that effective housing would have to help residents cope with the simultaneous urban challenges, economic struggles, changing climate, population surge, and environmental issues, achieved through the application of resilience strategy. Reference [9] also buttress the point of its multifaceted nature, stating that housing resilience unfolds on five levels, among which are 'resilience within housing supply', 'resilience within the housing supply chain', 'between dwellings and community', and 'between dwellings and the natural environment'.

This paper discusses the impact of engaging the concept of resilience as strategy for housing delivery, with the belief that it holds the key to resolving most of housing needs, and thereby would help in shrinking the gap between housing need and supply in Nigeria. The main question this paper addresses is how the concept of resilience be engaged in to benefit housing delivery approach in Nigeria? The paper discusses on the need to differentiate 'housing as need' from 'housing as demand'. It explains the resilient concept and how it may be engaged within the housing delivery process in Nigeria, with the view to highlighting the potentials a resilience approach would offer. The paper envisages that this strategy would provide the template to guide policy makers and housing sector professionals on evolving a housing development strategy towards bridging the gap in housing deficit.

II. 'HOUSING AS NEED' OR 'HOUSING AS DEMAND'

In the housing context, "need" is different from "demand" [10]. Housing as need is the essential requirement for accommodation and it is usually driven by factors such as number of households requiring housing, growth in the household over time, and number of homes required. Housing need, therefore, represents the demography with essential and urgent requirements for housing [11]. Considerations of demographic changes, which include population growth, increasing youth population, aging, causes of homelessness, are given prime attention with regards to housing need. Projections on population growth pattern over time and household sizes should be major consideration in strategy for supply of housing to meet need. Seeking best housing delivery approach to resolve most of the above, would be resolving housing need issues in Nigeria. Housing need makes no allowance for affordability [10].

Whereas, housing as demand, is the desire to purchase or acquire housing, and it is usually driven by the market forces. Reference [10] notes that housing demand refers to the willingness and ability to purchase a house. Housing demand considers the number of households seeking to buy or rent housing; and it is all about economic issues. Housing as demand cares about increased purchasing power, and seeks housing delivery strategies to achieve most of its characteristics. Common terminologies of housing as demand are "consideration of return of investment", "looking for off-takers"; "profit margin". Collaborating this stance, [12] relates housing demand with house prices. Housing as demand

has its place in the economic, social and environmental sectors, no doubt, however, when considering to solve the housing deficit issues in Nigeria, there has to be an involvement of the causes and sources of the deficits.

Reference [13] opines that involvement in meeting housing need ensures fairness in housing provision, and market forces should not have a free rein in shaping housing development. The provisions and supply so far do not seem to be targeted towards basic housing requirements, and so the gap between supply and need keeps widening. And because of the poor definition in strategy, the surge in urban population is reshaping the housing sector in the ways and means of housing provision. Various housing scenarios that have come up as a result of this surge in urban population, apart from housing deficits include unplanned settlements with poor facilities and infrastructure, mainly driven by private individuals with little economic power; impoverished settlements leading to slums; spatial inequality marked by glaring divisions between affluent areas and impoverished settlements. The resultant effects are congestions, overcrowding, poor sanitary conditions, crimes, violence, a large contribution to green gases, climate change, and so on. It is evident that housing provision in Nigeria is not meeting the needs of adequacy, availability and affordability, and so a rethinking of the delivery approach becomes necessary.

III. THE CONCEPT OF RESILIENCE

The concept of resilience has been defined as the ability of a system to adapt to any form of stress or shock or trauma [6] [7]. According to the Resilient Cities Housing Initiative [8], it is asserted that housing that better responds and adapts to stress it faces, increases its capacity for resilience. Furthermore, housing plays a major role in reducing vulnerability and in building resilience [4]. The literature shows two major concepts of resilience as being 'engineering resilience' and 'ecological resilience'. Engineering resilience usually discusses resilience in the way where a system has the ability to return to a steady state after being exposed to a disturbance [7]. Resilience in this case, therefore is measured by the resistance of the system to the disturbance, and the speed by which the system bounces back. The faster the system bounces back, the more resilient it is considered. The emphasis is on return-time qualities of a fail-safe engineering. With the ecological resilience, however, resilience is not only defined by how long it takes for the system to bounce back after a disturbance, but also how much disturbance it can take and still remain within critical thresholds. Resilience here is considered as adapting, rather than resisting, the conditions of its disturbance [14]. In the case of ecological engineering, the system usually adapts to a new stable state.

It could be understood that with engineering resilience the system would require to return and operate in the old stable state for it to be functional; while with ecological resilience a new state may appear, so long as it can provide a new system that is stable and functional. That way, the ecological resistance presumes the existence of alternative stable state, where it is concerned not only with how much of disturbance the system can withstand before it gives way, but most

importantly how that tipping point can be managed so that the system does not give way. Because of the dynamic and the socio-ecological nature of the urban context, ecological resilience is considered more appropriate to urban systems. However, considering the recurrent nature of urban surge in population, the factor of speed and return-time characteristics of engineering resilience becomes an important factor of consideration, as efficient and timely recovery is necessary if a system is to be resilient [15].

A. Basic Criteria for Resilience

Knowledge of basic criteria for resilience is necessary for the understanding of applicable strategies that may compliment effective housing delivery approach. Basic criteria of resilience that are applicable to this paper have been identified in the literature as:

- First, there being the presence of trauma, stress or shock that acts on an entity [16]. In this case, the stress is the surge in human population while the entity is the urban area.
- Second criterion for resilience is knowledge of the magnitude of the stress or disturbance. There is the need to understand the rate and frequency such stress acts on the entity.
- The third criteria, is the knowledge of approaching resilience as recovery or approaching resilience as adaptability. This is to enable building of the appropriate resilience capacities within the entity. Resilience as recovery is the ability of a system to bounce back after a stress. It is reactive and mostly applied to sudden, drastic and unpredictable stresses or trauma such as earthquakes, floods, and the like. Resilience as adaptability connotes the ability of the system to persevere, adapt, absorb stress or trauma without breaking down, while still maintaining its functions. Resilience as adaptability is applied to trauma that develops gradually over time, such as the gradual, creeping surge in human population in the cities. Hence it is proactive.
- Lastly, resilience is multidisciplinary [17] and composed of interdependent factors. For this reason, resilience is not approached in silos, rather it is viewed holistically, with the interaction of social, economic, and environmental effects

IV. PREVALENT HOUSING DELIVERY APPROACHES IN NIGERIA

In finding ways to resolve the house deficit condition in Nigeria, various policies, delivery approaches, strategies and systems have been engaged in to effectively address the surging human population, especially in cities. Despite efforts by Government, Corporate bodies, and private individuals to provide housing in sufficient quantity, the gap between housing need and supply keeps widening. The five major housing approaches adopted in Nigeria housing development schemes are:

A. Turnkey Approach

With this approach housing is completely constructed and put up for sale to the public, and the prices are usually well above the 30% of salary benchmark for housing support [18]. Moreover, while the prices of the houses are in millions of

naira, the short-term and sometimes full payment modes of payment are not adaptable to the economic situation of the influx of population seeking basic accommodation [18], and yet having challenges of employment. This delivery system can be seen to be addressing housing as a demand more than as a need.

B. Public-Private-Partnership (PPP)

The PPP is a form of joint tenure partnership between the government and the private sector, where the government provides land and serviced plots, while multi stakeholders acquire and develop the plots for self-use. It is of a general opinion that the PPP has not made much contribution to housing for the low-income [19].

C. Core Housing Approach

With this approach the land is acquired, and the basic core of the building is erected. On acquisition of the core building, the owner is at liberty to upgrade, but according to stipulated building regulations. Access to housing carried out with this strategy is usually by subscription to the National Housing Fund (NHF), by contributing about 2.5% of the monthly salary. Beneficiaries for this housing development approach are mostly persons with formal employments whose salaries would be accessed for deductions from source [18]. This portends that the chances of acquiring houses through this strategy by informal job owners, the unemployed or the poor who cannot contribute 2.5% (or whose 2.5% amount might be negligible), are limited. Again this strategy is aimed at effecting housing as demand.

D. Shell Housing Development

This approach is similar to the core, but only the carcass of the building is constructed. The buyers are expected to acquire in the unfinished stage, and finish to their taste and specification. The high-income buyers [18] are expected to acquire the houses in the unfinished stage and provide the finishes to their taste and specification. Housing thus provided is of higher standards of design, site location and household types, and cannot be said to be accessible to the low-income and thus not supporting housing as 'need'.

E. Site-and-Services Approach

This has been described as a shift from providing houses to providing service plots at subsidized cost. Basic infrastructure provided include water, schools, access roads, and so on. The prospective occupants themselves would produce the housing stock. This approach has been described as being market-led [20], even though intentions have been to provide housing for the majority of the population who are poor or of low-income.

V. PROCESS OF HOUSING DELIVERY IN NIGERIA

The process of housing delivery in Nigeria is usually required to involve the following six stages:

- Land acquisition;
- Funding acquisition;
- Planning and designing of the building;
- Obtaining necessary permits and approval;

- Site preparation and construction;
- and Occupancy.

From the approaches and process of housing delivery it can be observed that very little consideration is given to the causes and sources of housing deficits, and to the prevailing demographic composition of the housing sector.

VI. DISCUSSION

The main issues of housing delivery strategies in Nigeria is having sufficient supply to meet the greater housing needs. It is evident that most of the housing delivery approaches do not address housing needs, rather they tend to address housing demands. In view of the above, the engagement of resilience criteria in housing delivery approach becomes invaluable in the light of urban population surge. Going by the four identified resilience criteria, building resilience capacity for effective housing delivery approach would require first, the identification, recognition and addressing of surging population in cities as the major cause and source of stress on the housing sector; knowing the frequency and intensity of such population surge; devising adaptability strategy to contain the growth; and building adaptive resilience measures that would contain the multifactorial characteristics of housing.

A. Identifying the Stress

In this case, the stress is the surging population over time, while the entity is the housing sector of the urban fabric. When considering to solve the housing deficit issues in Nigeria, therefore, there has to be a conscious consideration and an intentional involvement of the causes and sources of the deficits. Housing provisions should be seen as responding directly to the identified housing need.

B. Assessing Frequency and Intensity of the Stress

After the stress of the surging population acts on the entity of urban fabric, the worst hit sector is usually housing. The next step in building resilience adaptive capacity would be to study what elements of housing need would require most attention, the frequency and intensity that characterise the surge in population. Frequency and intensity of occurrence of influx and surging human population in urban areas would enable adequate planning and targeted provision of housing to meet need.

➤ Demographic Records

Demographic characteristics have been noted to be essential tools for housing provision at any level [21]. Demographic records would show the characteristics of a population and how these have changed over time. A good record of demographics of a place would show how the households develop and how the population structure is determined. The variations in the characteristics of the population could dictate the type of housing need. Such characteristics of the population would consist of percentage of age, gender leaning, earnings, marital status, ethnic groupings, household size and patterns of growth, and so on. These records help to explain housing need.

➤ Housing Forecast.

The demographic constitution in the characteristics of the population would influence the kind of housing to be produced. This is regarded as Housing forecast. Housing forecast thus requires the knowledge of the structure of future population, future household, existing stock, estimated deficit or surplus, as well as land requirements. It also helps provide data on style and tenure of houses built.

➤ Appropriate Financial Provision

Not only would appropriate house types be proposed to be provided for as needed, but also appropriate financial provision would be allotted to housing; otherwise, uncontrolled provision could be made for unneeded house types.

➤ Housing Recommendation Delivery Process

The housings recommendations delivery process would include data acquisition. Technical data derived from demographic factors from government gadgets, through census documentations, researches and should be able to give information on population structure, growth, aging inclinations, house types and quantity, the trajectory of population change and attendant housing requirements structure over time; and any such information that would guide in developing data bank for housing need.

C. Building Adaptive Resilience Capacities

Upon the development of the frequency and intensity documentation, would be the building of adaptive resilient capacities to address the particular trajectory of population change discovered from the technical data obtained. Understanding resilience as discovery could be applied to existing rundown housing areas, unplanned settlements or slums. In this regard, the application of disaster reconstruction measures of resilience as recovery may be advised. However, resilience as adaptability could be applied to poorly planned areas, planned gentrification, and to new developments.

D. Applying Multifactorial Characteristics of Housing in the Delivery Approach

According to [22], relationships that connect housing to cities socially, economically, environmentally and politically are vital resilience criteria. Housing, being considered multidimensional and multi-sectorial would, therefore, be better approached by engaging the concept of resilience in its delivery. Housing delivery approach would be such as can simultaneously support the social networks, employment patterns, income patterns, while considerations are given to land use patterns, density structure and infrastructure distribution.

VII. CONCLUSION AND RECOMMENDATION

Housing delivery is the ways, manners and approaches that houses are collectively planned, processed and presented as products for the benefits of people within a society. It is the provision of housing that is of approved standards of quality, safety, health and sanitary conditions. Housing delivery strategy that could promote adaptability to surging population in Nigerian cities need resilience capacities that

would aid at anticipating, responding, adapting its functional structures to the increasing population, if it is to effectively tackle the issues of housing needs in the country. Housing delivery should attempt to provide for all levels of income and of no-income. For it to succeed it must reflect and respect the basic demographic characteristics of that society. In doing so, it should not be seen to exert pressure, but to relieve.

To engage the concept of resilience in delivery approach, this study recommends the following:

- Different levels of Government in Nigeria should be involved in creating a database for housing need within each locality or society of the country. The database would be jointly developed by National Bureau of Statistics (NBS) and the Ministry in charge of Housing [23]. Such database would be updated periodically. The demographic characteristics regarding housing need within a given locality should be clearly and authentically documented in a housing need database.
- Based on the housing need database, housing provisions should be tailored to capture the specific demographic characteristics documented, as much as it is practicable. Housing provisions would then be made to reflect as being in response to such database.
- Government should be willing to invest in housing, not for an immediate return on investments, but to make suitable and sustainable housing provisions for the general wellbeing of citizens. Such investments would be recouped in the long-run, rather than on a short-term basis.
- The housing provision activities of the unorganised private sector (being the providers of a greater percentage of residential accommodation in Nigeria), should be keenly regulated as to house type, quality, specifications and basic standards of delivery requirements.
- Efforts of the unorganised private sector in housing provision should be further complemented by considering the offer of some rebate in development cost. Such offer would stand as an incentive for them to keep to the rules and regulations.
- Housing delivery approach should be multifactorial, taking into consideration the social, economic, and environmental implications of a residential environment.

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