

# HOUSING NIGERIAN URBAN POOR THROUGH SELF-BUILD HOUSING CONCEPT USING COMPRESSED STABILIZED LATERITE BRICKS

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## ABSTRACT

*Self-build housing methods have been widely used in traditional western Nigeria in housing development. Recently however, there has been a shift to other westernize concepts of housing development which are observed to be more capital intensive than the traditional methods. While these westernized concepts are beneficial to the few high income earners, the urban poor who are in the majority are left at a disadvantage. Therefore, the paper qualitatively examined methods of housing provision employed by the urban poor in Nigeria urban centres and its consequences on the urban landscape. The paper further appraised the self-build housing concept employed in the past by the urban poor in providing affordable housing. The study identified that the urban poor employed rudimentary self-build housing methods as an ingenious way of housing provision in a depressed economy. In addition, it was identified that the increase in slums and squatter settlements in Nigeria urban centres was as a result of the weaknesses inherent in the rudimentary traditional self-build housing methods. The paper concluded that decent and affordable housing for the urban poor can be achieved by harnessing self-build housing methods through acquisition of trado-modern construction technology and providing adequate construction monitoring framework policies. The paper recommends the use of compressed stabilized laterite bricks for self-build housing construction by the urban poor.*

**Keywords:** Self-build housing, urban poor, compressed stabilized earth bricks, housing

## 1. INTRODUCTION

Housing has been universally accepted as the second most important essential human need after food. According to [1], housing represents one of the most basic human needs and has a profound impact on the health, welfare, and social attitudes and economic productivity of the individual. It is also seen as one of the best indicators of a person's standard of living and of his or her place in society [1]. Recent economic realities in Nigeria have made the demand for housing to increase far beyond the supply. This is the case with most developing countries which are experiencing rapid growth in population and urbanization of the cities. The great increase in demand for shelter, infrastructure, and social services in towns and cities has been a major challenge for various governments in developing countries. Deficiencies in urban services

according to [2] particularly affect poor families who lack the income to pay for them directly and whose neighbourhoods yield little or no tax revenues to finance their extension. As a result, the urban poor usually live in communities with few services, or with those of the worst quality. Furthermore, it has been observed that housing deficiencies in urban settlements have steadily increased as a result of heavy flow of rural migrants to the towns and cities. Housing discuss have generated a lot of debate in Nigeria over the last three decades. This has given rise to calls on the various levels of government to give greater priority to the inherent housing problems and to allocate a reasonable percentage of their annual budget to housing [1]. The public sector attempted providing affordable housing for the citizenry through various initiatives. The first attempt which coincided with the pre-independence era of the colonial masters was the

provision of quarters for expatriate staff and for qualified indigenous senior civil servants in some specialized occupations like railways, police, education, etc. [1]. This period saw to the establishment of Government Reservation Areas (GRAs). The period favoured the high and middle-income earners while the low-income earners did not benefit. The second period is the post-independence era of 1960-1979. The housing sector was neglected during this era and further deterioration was witnessed during the civil war. The Federal Government decided to participate directly in the provision of housing in the Third National Development Plan period (1975-1980) which presented the most complete and active involvement by the Government in the housing sector. This period witnessed a steady increase in the active and direct participation of the public sector in shelter delivery, and the awareness of the significance of the shelter sector within the whole economy. 202,000 housing units were proposed (50,000 in Lagos and 8,000 in each of the remaining 19 States) with only 28,500 (14 per cent) delivered at the end of the period. The Fourth National Development Plan period (1981-1985) coincided with the civilian administration of President ShuhShagari. It focused on the direct production of shelter by the public sector. Despite the huge sums of money that was budgeted for housing in all the then 19 states of the Federation and Abuja, it only yielded an overall achievement level of just 23.6 per cent (see Table 1).

Table 1: Assessment of impact of National housing programmes from 1975-1995

| Period      | Planned | Achieved | % Achievement |
|-------------|---------|----------|---------------|
| 1962 – 1968 | 24,000  | 500      | 2.1%          |
| 1970 – 1974 | 54,000  | -        | 0%            |
| 1975 – 1980 | 202,000 | 28,500   | 14.1%         |
| 1981 – 1985 | 200,000 | 47,200   | 23.6%         |
| 1994 - 1995 | 121,000 | 1,014    | 0.84%         |

Source: [3]

The failures of past interventions by the public sector in housing supply led to a fresh review of the sector which led to the call for the need for the preparation of a National Housing Policy (NHP). The new National Housing policy was launched in 1991 with the ultimate goal of ensuring that all Nigerians possess or have access to decent housing accommodation at affordable cost by the year 2000. A decade after

the launch of the NHP, housing deficit is still on the increase. While it is clear there is a housing shortage, it is critical to identify that people can only buy what they can afford [3]. The high costs and administrative complexities of delivering shelter, infrastructure, and services to the poor through conventional means will require governments to look for alternatives [2]. Part of the core objectives of the NHP was to explore indigenous building material for housing. Thus, the paper focused on assessment of the age-long self-build housing procurement method of the traditional people using earth based construction method as an alternative to ameliorating the urban housing deficit in Nigeria.

## 2. MAGNITUDE OF URBAN HOUSING DEFICIT IN NIGERIA

The magnitude of urban housing deficiency in Nigeria has not been fully ascertained. Lack of accurate data and relevant statistics by the authorities in charge of administration of housing in the country is responsible for this. However, research findings by scholars and research organizations have attempted to give working estimates of the housing deficit in Nigeria. The National Rolling Plan from 1990 to 1992 estimated that housing deficit in Nigeria is 4.8 million and is expected to increase to 5.9 million by 2000. The National Housing Policy of 1991 reported that to meet the housing deficit in the nation, 700,000 housing units have to be built annually to meet the target to deliver 8 million houses by the year 2000 [5]. It was noted by [6] that actual delivery fell dismally short of this target, and even by 1994, it was clear that the Government was not seriously committed to its own policy, which unfortunately illustrates the Nigerian Government's general lacklustre attitude towards the provision of housing for the growing population. [7] Estimated that Nigeria needs an average of 1 million housing units per year to meet rising demand. Furthermore, [8] estimated housing deficit in the range of 15 million houses. It is estimated in economic terms that N12 trillion (Naira) will be required to finance this deficit. Recently, [9] reported that the Managing Director of the Federal Mortgage Bank of Nigeria (FMBN), Mr GimbaYa'uKumo, says Nigeria needs at least 56 trillion Naira (about US\$34 billion) to build a minimum of 720,000 housing units annually in the next 20 years to meet the housing needs. He said that the housing delivery target was required to address

the present national housing shortfall of about 16 million units.

From the foregoing, it can be summarized that housing deficit in Nigeria as at the end of year 2011 stands at a whopping sum of 16 million housing units. With a population of over 140 million people, growing at 2.8 per cent per annum, coupled with an annual urban-rural migration rate of 5 per cent, Nigeria needs to yield a minimum of 720,000 housing units per annum to meet this housing deficit.

### 3. METHODS OF HOUSE OWNERSHIP AMONGST THE URBAN POOR

Homeownership is the dream of many households, including the low-income households [10]. There are two route options to realize this dream in the country. The first option is buying a completed house. As observed by [11], this comes with a high minimum entry cost and invariably excludes low-income households. The second option, self-build housing process, has a lower entry cost and consists of a process where individual households build their own houses. The concept of owner-built houses is not entirely new. It is fundamental to the traditional process of building houses in many different parts of the world [12]. Even in urban areas, the self-build process has been identified as a means through which millions of low-income households have been able to provide their own housing units [13].

The work of scholars like JFC Turner catalysed the formal adoption of the concept in the 1970's & 1980's into policy by both national governments and international agencies as evidenced in aided self-help programmes in different countries. It may be pointed out here, however, that many aided self-help programmes failed to capture the dynamism and scope of the informal processes observed in the work of Turner and other earlier advocates of informal self-helping housing. [13] Attributed this failure to the bureaucratic framework, huge overhead costs, involvement of a long list of actors and consequent loss of dweller control of the housing delivery process.

### 4. CONCEPT OF SELF-BUILD HOUSING OWNERSHIP METHOD

As observed by [14], the concept and definition of self-build housing is broad. Self-build housing involves constructing permanent home from scratch by the owner rather than paying a professional builder to do it for you. It differs from self-help housing which includes groups of local people taking back into use empty properties that are in limbo, pending decisions about their future use, or their redevelopment [15]. Both definitions seem to imply that the homeowner does the actual construction of the house himself. However, while [16], [14] and [17] agree with the above they also advance that it has a wider scope, which ranges from actual physical construction by the intending dweller to handing over responsibility for the entire construction to other parties. These may include a builder, contractor or package company as the case may be. It may also be undertaken collectively. Self-build housing contributes 30-70 per cent of the housing stock in developing countries [18].

In the developed countries, self-build may have evolved from the popular do-it-yourself (DIY) concept, which hitherto was mainly used for various forms of home improvements. Over the years, people have become increasingly involved in the initial design and construction of their home. It is estimated that in the United Kingdom, self-built homes rose from 2,000 in the 1970's to about 17,000 in 2007 [14]. Unlike in the developing countries where self-build is more popular with the low-income [11], in the developed countries, it is almost a preserve for the rich and privileged [17]. As would be expected therefore, while the self-build houses in the developed countries are often completed to a high quality standard before occupation, same cannot be said of households in the developing countries. The weaknesses inherent in the rudimentary traditional self-build housing methods were identified as the root cause of increase in slums and squatter settlements in Nigeria urban centres.

#### a. Motivation for self-build housing ownership method

Motivations for self-build housing ownership method are many and varied. Huge shortfall in public housing provision, high cost of completed housing units and the numerous difficulties associated with accessing them, have made self-build attractive to many households in

developing countries [19]. In many of these countries like Nigeria, formal finance systems are not designed to meet the demands for survival and flexibility dictated by the low and intermittent income patterns of the poor [18]; [20].

Self-build housing method provides households more control and autonomy in decision making at virtually every stage of the project life cycle. Such freedom, could amongst others, result in housing that reflects the peculiar circumstances and aspirations of the owner. It also infuses dynamism within a neighbourhood while eliminating the monotony often associated with mass housing projects. [21] Argued that giving dwellers freedom to control and make contributions to the design, construction or management of their housing stimulates individual and social wellbeing.

A major attraction of self-build housing concept is cost reduction, often up to about one third in new constructions [22]. Savings are achieved mainly through reduced labour cost, incremental completion and avoidance of speculation.

#### **b. Self-build Processes in Nigeria**

The starting point in the self-build process in Nigeria is land acquisition. Land may be acquired through formal or informal systems. For the higher-income households, further investment is made as income increases and assets accumulate. For the lower-income households, however, land is more often purchased/accessed through the informal system. Thereafter, the house is constructed incrementally at the pace of the household in accordance with their priorities and requirements of their stage of life. Use of informally hired craftsmen by low income households is common [12]. Over time, a shack is transformed to a more robust dwelling as more rooms and infrastructural facilities are added and components replaced with materials that are more permanent. In comparing the processes of homeownership between emerging (low and moderate-income) countries and high-income industrialized countries (such as the United States), [23] observed a striking contrast. He noted that the low and moderate-income majority in the developing countries build their own

homes incrementally over a period of 5 to 15 years, through a self-build process mainly without the support of official sector private and public institutions. Thus, the term housing in developing countries is used as a verb because households must vigorously accomplish most of the tasks to gain access to land and construct acceptable shelter during a long time period. This way, incremental development is found affordable since the huge investment required for adequate housing is spread over time and made in small steps, while households initially occupy rather substandard units, which are the progressively improved and expanded [11], [20]. In the developed countries on the other hand, with reference to the United States, [23] noted that households buy a complete new or existing and have access to a wide range of mortgage lenders, infrastructure providers, and others. He described the term housing has a noun in high-income industrialized countries because it is a product delivered mainly by a sophisticated network of private firms and public institutions.

#### **5. ACQUISITION OF COMPRESSED STABILIZED LATERITE BRICKS FOR HOUSING THE URBAN POOR**

The likelihood of meeting the housing needs of the urban poor in Nigeria through public intervention alone is not feasible. Hence, there is a need to explore policy options that can increase the capacity of all participants in housing delivery through public-private/self-build initiatives. One of the policy options is to explore the acquisition of indigenous building material and technology of the people in promoting sustainable housing delivery. This was captured in one of the core objectives of the National Housing Policy of 1991 – “encouraging research into and promoting the use of locally-produced building materials as a means of reducing housing costs” [1]. Earth building technology is an age long tradition in Nigeria. It was used through the ages through self-build process to meet the housing needs of Nigerians particularly the rural dwellers. However, research findings by [24] found out a disconnect in the acceptability and use of earth building technology by the urban populace in meeting their housing needs. It found that use of earth building technology was perceived as being associated with the poor. Furthermore, there is also a misconception that it is not durable and aesthetically appealing.

However, studies by [25, 26, 27, 28, and 29] showed that earth building technology in the form of Compressed Stabilized Laterite Bricks (CSLBs) is a product of scientific research. They are durable; the soil needed for production is available in large quantities, cheap and affordable. In addition, it is easy to use, fire resistant, high thermal capacity, low thermal conductivity and porosity, thus it can moderate extreme outdoor temperatures and maintain suitable internal temperature stability [25].

All these advantages make it suitable and environmentally appropriate for self-build housing delivery process by the urban poor. Thus, the paper submits that acquisition of CSLBs through self-help housing process will substantially ameliorate the current housing delivery crisis experienced by the urban poor in Nigeria.

## 6. CONCLUSION

The rapid increase in population and urbanization in developing countries has made it apparent that it will be increasingly difficult, if not impossible for governments to meet the housing needs of the populace particularly the urban poor through public housing programmes. In view of this, the paper recommends a policy option which involves engaging the urban poor in using readily available indigenous building materials will go a long way in improving their housing delivery capacity through self-build process. Since according to [30], 9.6 million (90 per cent) of 10.7 million houses in Nigeria were constructed through self-built process with little or no mortgage add-on. Furthermore, access to land for the urban poor through formal or informal systems should be encouraged by government. The paper concluded that decent and affordable housing for the urban poor can be achieved by harnessing self-build housing methods through acquisition of trade-modern earth construction technologies and providing adequate construction monitoring framework policies. This can be achieved through the use of compressed stabilized laterite bricks for self-build housing construction by the urban poor due to its socio-economic and environmental appropriateness.

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