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Emeritus Professor JAMES IDEMUDIA IGHALO

EMERGING ISSUES IN NIGERIA'S BUILT ENVIRONMENT



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CHAPTER SEVEN

Housing Quality and the Challenges of Coronavirus Pandemic in Nigeria: A Critical Review

Oluronke O. Odunjo & Samuel B. Oladimeji

Introduction

The health of a man is dependent on the quality of the house he lives in. The house influences one's psychological, social, and general well-being and it is a major determinant of man's welfare and life sustenance. Health, according to the World Health Organisation (WHO, 2004), is defined as the state of complete physical, mental, and social wellbeing and not merely the absence of diseases or infirmities; it also refers to a good condition of body and mind, while healthy living depends solely on the possibility of living in a good home or healthy housing. This, therefore, implies that there is a deep-rooted relationship between quality housing and health.

For many years, housing quality has been acknowledged as one of the main settings affecting human health; it is the physical condition of a person's home as well as the quality of the social and physical environment in which the home is located (The Healthy People, 2020). Indoor air quality, home safety, noise, humidity, mould growth, indoor temperature, asbestos, lead, radon, volatile organic compounds (VOC), lack of hygiene, sanitation, and overcrowding are some of the most relevant possible health threats found in buildings (Adesola, 2017); thus, housing quality plays a decisive role in the health status of residents.

Throughout the world today, the coronavirus pandemic is an indispensable health issue. The most common symptoms are fever, dry cough, and tiredness, while the less common symptoms include aches and pains, sore throat, diarrhoea, conjunctivitis, headache, loss of taste or smell, rash on skin, or discolouration of fingers or toes. Housing is regarded as both the cause and cure for the pandemic, though it has been asserted that large-scale housing deficiencies and poor social and residential environments in the form of slums characterise most emerging nations of Africa. Many studies have attributed the problems to rapid urbanization and population growth (Shaw, 2004).

In Nigeria, many observations strongly suggest similar quantitative and qualitative housing problems (Odunjo, 2014; Odunjo, Oladimeji and Okanlawon, 2015; Odunjo and Okanlawon, 2015), and a typical problem is manifested in the spread of the coronavirus pandemic which burst out in 2019. The first confirmed case of the pandemic was announced on February 27, 2020, when an Italian citizen tested positive (Aljazeera News, 2020; Federal Ministry of Health, 2020; Nigeria Centre for Disease Control, 2020). On March 9, 2020, a second case of the virus was reported in Ewekoro, Ogun state, and from there, the spread rate of the pandemic escalated as it spread to other states of the country at times, resulting in death.

Since then, the residents of the country have been in either total or partial lockdown, the resultant effect of which is that people have not been able to go about their daily activities. The virus has been in existence for over two years now, and presently, the omicron version of the virus is trending, and housing is a medium for the spread of the disease, with the quality of a

house having the greatest impact. According to Adam (2020), one in three households had at least one major housing problem relating to overcrowding or poor quality. Poor housing conditions such as overcrowding and high density are associated with a greater spread of COVID-19, and people have to spend more time in homes that are overcrowded and unsafe. Thus, this is a pointer to the fact that housing quality needs to be improved to curb the virus as well as the future occurrence of respiratory viruses. Therefore, the purpose of this paper is to give a fundamental understanding of housing quality in Nigeria as well as the connection with the coronavirus pandemic. In the end, the paper highlights the tasks ahead of individuals in combatting the virus. The chapter is divided into five sections: housing and public health; review of housing quality in Nigeria; the coronavirus pandemic; challenges of the coronavirus pandemic in Nigeria; and the way forward.

Housing and Public Health

Poor housing conditions are associated with a wide range of health conditions, including respiratory infections and asthma. Addressing housing issues offers public health practitioners an important social determinant of health and public health has long been involved in housing issues. In the 19th century, health officials targeted poor sanitation, crowding and inadequate ventilation to reduce infectious diseases. Today, public health departments can employ multiple strategies to improve housing, such as developing and enforcing housing guidelines and codes, implementing 'Healthy homes' programs to improve indoor environmental quality, assessing housing conditions, and advocating for healthy affordable housing.

Housing is an important determinant of health and substandard housing is a major public health issue (Sharfstein and Sandel, 1998). Each year in the United States, 13.5 million nonfatal injuries occur in and around the home (Warner, Barnes and Fingerhut, 2000), 2900 people die in house fires (Kartel, 2000) and 2 million people make emergency room visits for asthma (National Hospital Ambulatory Medical Care Survey, 2000). The public health community has grown increasingly aware of the importance of housing as a social determinant of health (Marmot and Wilkinson, 1999), yet defining the role of public health practitioners in influencing housing quality has been challenging and the responsibility for social determinants of health is seen as lying primarily outside the scope of public health but left at the door of the architects that design the houses.

Thus, housing and health as a concept are wide and require a holistic approach to analysis. Healthy housing does not mean a specifically designed imaginary house, rather it simply means one that provides an environment that is safe, comfortable and hygienic and one that empowers individuals in achieving their aim. An attempt made to describe healthy housing was "Adequate housing" which is defined as more than having a roof over one's head. The conditions of adequate privacy; adequate space; physical accessibility; adequate security; security of tenure; structural stability and durability; adequate lighting, heating and ventilation; adequate basic infrastructure, such as water supply, sanitation and waste management facilities; suitable environmental quality and health-related factors; as well as an adequate and accessible location about work and basic facilities. All of these should be available at an affordable cost and are said to be the conditions for a house to be adequate (Bonney et al, 2003). More concisely, Pollack et al (2008) summarized all these conditions to be the physical conditions within homes; conditions in the neighbourhoods surrounding homes; and housing affordability, which do not only shape home and neighbourhood conditions, but also affect the overall ability of families to make healthy choices.

A Review of Housing Quality in Nigeria

Housing quality has to do with the general environment and the physical condition of housing units in terms of structural soundness or fitness as well as ventilation (The Healthy People, 2020). It also includes the availability and functionality of essential facilities such as water, electricity, telephone services, toilet, bathroom, and kitchen among others.

There are a lot of indicators used in measuring housing quality. In the research carried out by World Health Organization (2004), indicators such as indoor air or indoor environment, noise, annoyance, respiratory health and other issues such as drinking water, sanitary and exposure to chemicals are all detrimental to human health were used. However, Bonnefoy (2007) listed indicators such as indoor air quality, home safety, noise, humidity and mould growth, indoor temperature, asbestos, lead, the volatile organic compound (VOC), lack of hygiene and sanitation equipment as well as crowding which are some of the relevant possible health threats found in dwellings. Due to all these indicators, physical, mental and social health is affected. However, according to Agbola (2001), at least, four conditions must be satisfied before one can have decent, safe, quality and habitable housing. These are:

- (i) **Physiological needs:** This is the house environment; the house must particularly provide adequate privacy, clean air and adequate natural and artificial light as well as adequate space for playing and outdoor living.
- (ii) **Psychological needs:** The house must provide adequate opportunity for normal family and community life, easy movement within the house and outdoor living.
- (iii) **Protection against accidents:** The house must be properly constructed to prevent fire accidents, protection against electricity, defects and gas poison, injuries at home and traffic hazards.
- (iv) **Protection against disease:** The house must give protection against diseases through the provision of potable water supply, toilet facilities, food storage facilities and sleeping spaces.

In some cases, housing and environmental indicators were adopted. For example, Olotuah (2006) used certain housing and environmental indicators which include nearness to a public facility, source of water supply, age of the building, number of households in building, type of toilet, use of the toilet, type of kitchen, use of kitchen, regularity of electricity supply, mode of refuse collection and frequency of collection of refuse. However, it could be said and generalized that the general score of these is generally low in a typical Nigerian urban centre. The quality of housing in Nigeria is said to be falling below the level of norms because of inadequate housing and lack of, or poor access to essential facilities, (Odunjo, 2014).

Housing quality is determined by the maintenance culture of the residents as regards the housing unit. This is because if the existing facilities are maintained properly, the quality of housing will be very high; but if otherwise, it will be low as certain conditions must be met before one can be considered to satisfy a decent, safe, quality and habitable housing. The problems of housing and its quality in Nigeria are enormous and complex, exhibiting apparent and marked regional differences. Housing quality is determined by several factors, one of which is income (Aribigbola, 2011). The level of income determines the type and quality of housing a household obtains in any given housing market.

Coronavirus Pandemic

The COVID-19 pandemic also known as the coronavirus pandemic is an ongoing global pandemic of coronavirus disease 2019 caused by severe acute respiratory syndrome coronavirus (SARS-CoV-2). The novel virus was first identified from an outbreak in the Chinese city of Wuhan in December 2019 and attempts to contain it there failed, allowing it to spread across the globe. The World Health Organization (WHO) declared a public health emergency of international concern on 30 January 2020 and a pandemic on 11 March 2020. As of December 2021, the pandemic has caused more than 458 million cases and 6.04 million deaths, making it one of the deadliest in history (US Centres for Disease Control and Prevention, 2020; WHO, 2020).

COVID-19 symptoms range from undetectable to deadly, but commonly include fever, dry cough and fatigue. It is transmitted when people breathe in air contaminated by droplets and small airborne particles containing the virus. The risk of breathing in is highest when people are nearby, but can be inhaled over longer distances, particularly indoors. Transmission can also occur if contaminated fluids reach the eyes, nose or mouth and rarely, via contaminated surfaces. Infected persons are typically contagious for 10 days and can spread the virus even if they do not develop symptoms (Medical News, 2020; US Centres for Disease Control and Prevention, 2021).

Challenges of Coronavirus Pandemic in Nigeria

There are various dimensions to the challenges of the coronavirus pandemic in Nigeria as a result of housing quality such as:

1. *Slum or Squatter Settlements*: What is obtained in Nigeria's urban centres today is a slum or squatter settlement which is a haphazard pattern of development of housing in which large sections sprang up through the efforts of the informal sector without any form of regulation. Many of these have been accepted as de-facto townships or parts thereof (Fadamiro, Bobadoye and Adelowo, 2005) and therefore can aid the spread of the coronavirus as a result of substandard houses. This high rate of uncontrolled and unplanned urban growth in Nigeria has greatly contributed to poverty and poor quality of the environment, which now plagues most of the urban centres. The present unwholesome situation is a pointer to the ineffectiveness of the various efforts made in the past and or are still being made to ameliorate the urban poverty crises. Factors that have been compounding, instead of solving the problems include the existence of a weak financial base, wrong perception of the problems and overlapping conflicting and confusing urban management institutions in which several agencies such as local and state governments, town planning authorities, housing corporations and urban renewal boards among others, operate on the same scene with little or no cooperation and coordination and at times, without communication. The slums are unsafe and unhealthy and characterized by a lack of windows and indirectly lack fenestration which can cause a shortage of breath. They are also overcrowded and can aid in spreading the virus and have limited or no access to basic infrastructures such as water, electricity, and toilet among others.



Plate 1: A slum in Ilorin

Source: Author's field survey (2021)

2. *Housing shortage:* There is a monumental deficiency in housing in Nigeria. This manifests both in qualitative and quantitative terms. The rural areas generally lack social services and public infrastructure and the characteristics of the materials used are poor. The urban centres suffer quantitative deficiency. Buildings in urban centres are often of poor quality and generally sited in the slum as well as congested. This is because the urban population is largely made up of low-income earners who are mostly in irregular and informal employment, with low incomes and housing problems such as lack of space. This is a result of the rapid urbanisation that Nigeria witnessed in the last one hundred years (Olotuah, 2000). There is massive rural-urban drift which has been occasioned by lack of development in the rural areas, the urban bias of the government in the location of public infrastructure and poor economic condition of the rural dwellers. Thus, the proportion of the Nigerian population living in urban centres has increased phenomenally over the years. While only 7% of Nigerians lived in urban centres in the 1930s and 10% in 1950; by 1970, 1980 and 1990, 20%, 27% and 35% lived in the cities respectively (Fadamiro, Bobadoye and Adelowo, 2015). Over 40% of Nigerians now live in urban centres of varying sizes. The incidence of this population in urban centres created severe housing problems, resulting in overcrowding in inadequate dwellings with a lack of spaces for individual activities which can catalyze the spread of the virus.



Plate 2: Housing condition in one of the urban centres

Source: Author's field survey (2021)

3. *Shortage of housing facilities:* There is a shortage of adequate housing facilities in Nigeria. The shortage of water supply for example is a chronic problem for cooking, bathing and most importantly toilet activities. During the lockdown, proximity to the source of water was a big challenge and residents used to go too far places to fetch water. The erratic power supply is another challenge as houses always have an epileptic power supply, as a result of which some are in constant use of solar power or generator. However, the generator makes noise and generates pollution which in turn compounds the breathing of residents. Also, many houses depend on pit toilets or bucket disposal of human faecal waste which is not good as the quality of toilet amenities available in the residential neighbourhood does not only affect the quality of individual houses, but also the quality of the entire environment where they are located. In sharing housing facilities such as a toilet in a house, a lot of problems may emerge. For example, a person in isolation may spread the disease to other occupants which may lead to death if care is not taken.
4. *Overcrowding:* This has social and negative health effects. Poor housing conditions such as overcrowding and high density are associated with a greater spread of *Covid 19* and people have to spend more time in homes that are overcrowded, damp or unsafe. According to Adesola (2017), overcrowding is a specific happening clinically observable and definable. Overcrowding occurs when organisms are brought together in such a manner and numbers as to produce physical reactions to stress; important among these reactions is the stepped-up activity of the adrenal glands. When these reactions to stress are widespread and sustained, they are followed by physical weakening, sometimes rage and

violence of extreme passivity and a breakdown of orderly group behaviour. What may follow is a tidal wave of death, ending when the population is no longer crowded. Thus, when a house or room is overcrowded, a single contact with *Covid 19* carrier will aid in the transmission of the disease to the other. Also, overcrowding is an aberration to the disease in the sense that there is a shortage of air supply to the occupants of the building. Lagos for example has an average of 3.8 persons per room and a density ranging between 5 and 7 persons per room (Fadamiro, Bobadoye and Adelowo, 2005). In considering the global need for housing in the United Nation development decade (1960-1970), it was stated that over 1,000 million people in Africa, Asia and Latin America had about half the total population homeless or living in houses that purported danger to human health which is an affront to human dignity. In addition, it was estimated that over 200 million inhabitants would crowd into the cities during the development decade. In recognition of the magnitude of present and future housing needs, the United Nations estimated that an annual rate of housing construction of 8 to 10 housing units per 1000 persons is needed in developing countries to overcome existing differences and meet future needs which have not been complied with by some countries, Nigeria inclusive. Other infectious diseases commonly associated with overcrowding are tuberculosis, meningitis and measles (Adesola, 2017). The United Nations standard for Nigeria for room occupancy is 2.20, the World Health Organisation (WHO) stipulates between 1.8 and 3.1, while the Nigerian Government prescribed standard is 2.0 per room (Okoko, 2001). Overcrowding is thus, a visible feature of urban housing in Nigeria. It is symptomatic of housing poverty and is considered to lead to irritation, unproductiveness and fatigue. Studies have shown that it could be a determining factor for deleterious social behaviour (such as prostitution and juvenile delinquency) and certainly is a hazard to health (Olotuah, 2005; Odunjo, Abolade and Okanlawon, 2015).

4. *Building layout:* The quality of the environment in most urban centres in Nigeria is a cause for concern. This is not so much dependent on the material characteristics of the buildings, but on their organisation as spatial units. The slow process of urban planning and zoning in the face of rapid urbanisation in most urban centres has resulted in the poor layout of buildings with inadequate roads between them and inadequate drainage and provision for refuse evacuation (Fadamiro, Bobadoye and Adelowo, 2005). Thus, there is a high incidence of pollution (especially air pollution) and an inadequacy of open spaces for other land uses. All of these constitute urban poverty consequential of the rapid urbanisation in the country. This manifests in the environmental stress experienced by urban dwellers. As Odunjo (2020) puts it, coronavirus spread finds expression in an environment characterised by high densities of buildings, lack of space for open-air living between houses, poor health and substandard housing.
5. *Inadequate Infrastructure:* The quality of urban housing is often manifested by a general dearth of internal facilities and conveniences. Urban infrastructure such as water supply, electricity, good roads, drainage, waste disposal systems, open spaces etc. is virtually inadequate. Often, when people mingle together in the limited infrastructure provided such as open space without observing the necessary social distance, the disease can be contracted. However, the underlying reason for the non-provision of these facilities is not due to lack of funds, but the failure of the government to ensure adequate provision (Okpoechi, 2005).

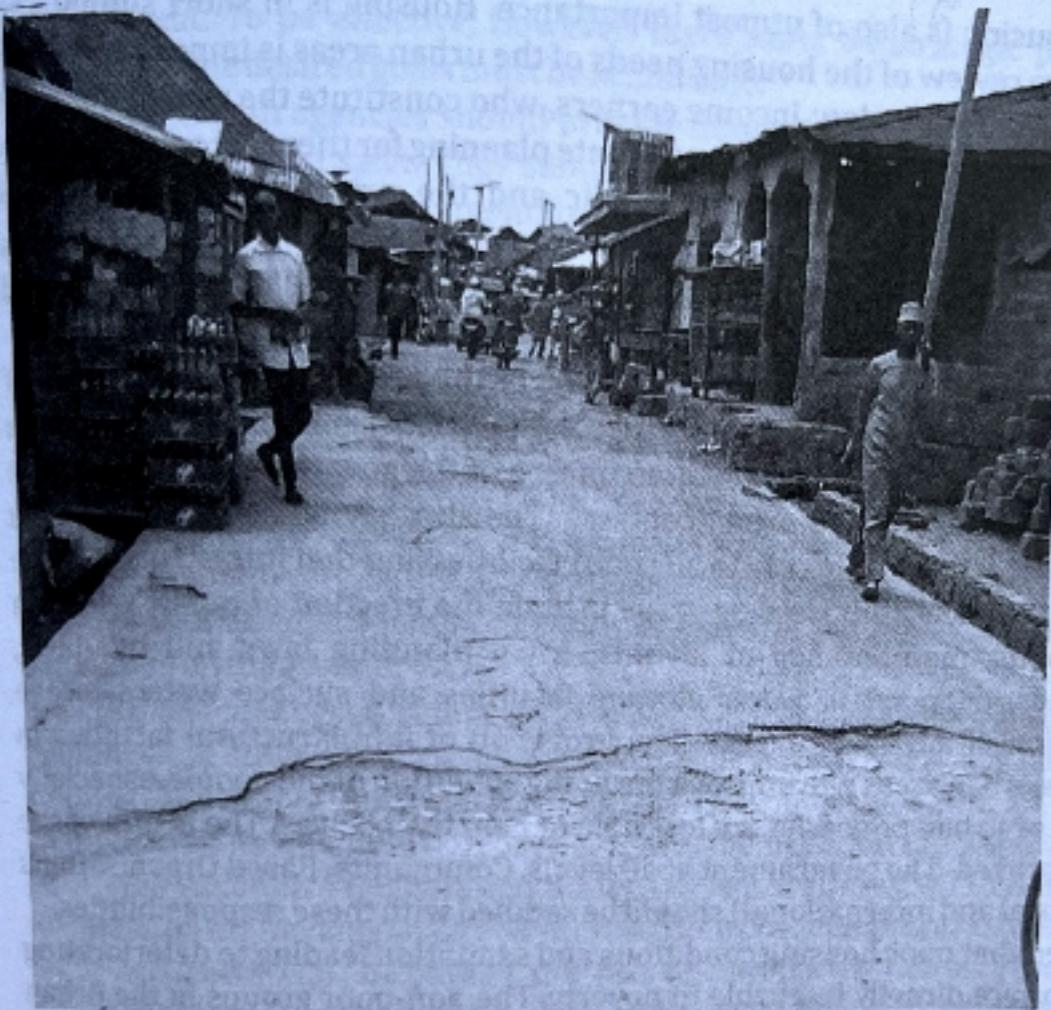


Plate 3: Road condition in an urban area

Source: Author's field survey (2021)

6. *Housing Condition:* This relates to the physical characteristics of houses such as dampness. In Nigeria, a lot of houses are characterized by dampness and studies have linked dampness to several health problems, including respiratory issues such as the coronavirus pandemic. Another aspect that has to do with housing conditions is whether the house has access to a garden or outside space for recreation. This issue was brought to the fore during the lockdown.

The Way Forward

To accelerate the process of housing improvement and provision of new ones, more urban renewal policies and satellite town development by private and public organisations should be carried out, compared to before the eruption of the pandemic. This will encourage the provision of adequate and affordable houses and remove one of the severest problems of the urban poor. It will improve the aesthetics of cities by halting the present tendency toward the proliferation of squatter settlements and ghettos within the cities which can aid in the quick spread of the coronavirus pandemic. The health and social well-being of the people will be enhanced and many of the anti-social behaviours of the urban poor particularly among children and adolescents, caused by homelessness will be checked. This should be carried out in conjunction with agencies such as architects and other professional groups in the building industry, cooperative building societies, housing parastatals of government and the private sectors.

Improvement in urban housing is also of utmost importance. Housing is in short supply and therefore, a comprehensive review of the housing needs of the urban areas is imperative. More importantly, the housing needs of the low-income earners, who constitute the vast majority of urban dwellers, have to be discerned to engender adequate planning for them. A comprehensive housing programme that will involve both the public and the private sector should be formulated based on the housing needs of the urban areas. Furthermore, basic housing facilities needed in houses should be provided by the various authorities concerned in order not to aid the spread of the virus.

Infrastructural development, on the other hand, involves the provision on a large scale of infrastructural facilities, including recreational facilities in the urban centres. There should be guided urban development which should be a major concern of the government to reduce the environmental stress experienced in the urban centres. The strategy will ensure that each catchment area in the urban centre has access to all social facilities and that infrastructures are maintainable. Some of the critical and pressing areas include the erection of public toilets in traditional neighbourhoods, maintenance of layouts, town planning laws and bye-laws, development of boreholes, deep wells, water storage facilities and surface water storage maintenance and provision of adequate energy. The provision of infrastructural facilities in requisite quantities in the urban areas will improve the living condition of the people, especially the majority low income or urban poor who are less able to help themselves. The health of the people would also be improved. The government at all levels, Community-Based Organisations (CBOs) and NGOs (both local and international) should be saddled with these responsibilities.

It has been identified that poor housing conditions and sanitation leading to deteriorating environmental conditions are directly traceable to poverty. The non-poor groups in the urban areas live in better houses with better access to public infrastructure than the core poor and moderately poor groups. Poverty prevents people from moving to safer areas or investing in improved environments. Poverty reduction is thus, a viable option for housing improvement. Poor economic performance in African cities is a result of the combined impact of debt crises, structural adjustment policies and the unbridled corruption of the ruling elite. Expectedly, the masses bear the burden of policy distortions and economic failures of the leaders. The rejuvenation of African economies is central to the reduction of urban poverty and governments can make enabling environment for private sector participation in job creation. The health and well-being of the urban population as a whole will be safeguarded if appropriate economic policies that favour the urban poor are adopted and implemented.

The planning guidelines designed to prevent unplanned development in urban centres fail to give the necessary powers to promote desirable development. Apart from unsupportive policies and laws by the appropriate authorities, low technical capacity, poor finances and unstable personnel are other problems that hinder the administration and implementation of development control regulations. Improvements in the administration of the diversities and peculiarities of the urban population will aid the enforcement of the regulations and will be a positive step towards recovering the urban environment from congestion and creating a lively and spacious environment.

Housing improvements could be pursued through a combination of education, regulation, government-funded programmes and voluntary initiatives. A sustained effort by the government or non-governmental organisations (NGOs) to enlighten the public on the hazards of unhealthy housing may motivate the public to support the government's efforts at housing

improvement. To be effective, however, there must be strategic planning based on current realities and the desired goals must be achievable.

Public health agencies should provide information to the public regarding ways to make houses healthier and safer. They should offer educational resources in print and on websites regarding indoor and environmental quality.

Challenges for the Architects

To avoid future pandemics about the respiratory problem, architects need to provide functional spaces in houses to allow for enough air to come in. Attention should be paid to materials used for construction, the size of windows, doors and courtyards for cross ventilation to take place. Also, regular advice needs to be given to clients on the need to design based on standards. The minimum standards specified for air spaces, setbacks and built up proportion should be adhered to create a healthy and liveable housing environment. In Brazilian houses where facilities are shared, the number of housing facilities provided must be commensurate with the population on the ground.

Architects engage primarily in the design and the supervision of the construction of buildings and other physical components of the built environment. They play a major role in the shaping, reshaping and management of the physical fabric of the urban centres and consequently its quality. There is, therefore, the need for the Nigerian Institute of Architects (NIA) and Architects Registration Council of Nigeria (ARCON) to advocate for increasing and maintaining the housing stock and the provision of adequate infrastructure.

Architects can encourage the use of alternative building materials such as laterite bricks/stabilized laterite bricks and cement fibre roofing materials for the construction of houses instead of living in squatter settlements or ghettos. The materials are cheaper compared to conventional building materials and architects could set the right examples by building their own houses using the indigenous approach and by encouraging the government to adopt the same for housing schemes.

The NIA and ARCON could further demonstrate their commitment to improving the lot of the urban poor by the rigorous pursuit of 'Neighbourhood schemes' which emphasize public participation and partnership to assist in the provision of infrastructure and the stemming of degradation at the neighbourhood level. The provision of central toilet facilities for compounds in the Foko area of Ibadan by the NIA is a good example and should be intensified.

Architects could help in the increased design of self-help core housing project that is affordable depending on the income of the family. The self-help core housing project involves the provision of environmentally; friendly and structurally strong shelter units that can withstand a range of hazards. The architect can design in such a way that the owner of the house can start with the building of the core house such as the living room or bedrooms to accommodate both horizontal and vertical expansion.

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