

COVID-19 and the Built Environment: Informal Sector, Housing, and Shock Challenges in Nigeria



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1 Introduction

Africa is the continent where the greatest proportion of the population does not have access to social protection and adequate healthcare [1]. It also has the largest share of poverty [2] and regularly deals with the heavy burden of diseases that are exacerbated by recurring natural disasters, poor economic performance, and military conflicts [3]. In COVID-19 terms, the impact on the continent, especially for marginalized groups, has been damaging. COVID-19 has taken more lives among the older population even though, i.e., comparatively, Africa has a younger population than other continents. Sadly, higher levels of malnutrition and disease mean COVID-19 could turn out to be deadlier for the African population. Since Africa is en route as the most rapidly urbanizing region in the world, i.e., with 60% of urban settlements being informal, the population of these informal settlements often live in precarious housing conditions. For example, such residents in African countries often share rooms and houses with multiple families that are accustomed to overcrowded public spaces (e.g., buses and markets) which may also affect the pandemic in unpredictable ways. The lack of access to land, shelter, basic services, and transport drives higher risk and makes the countries less resilient to shock events. The real estate industry, as a result, is facing great uncertainty due to the COVID-19 pandemic.

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At the individual level, social distancing precautions have reduced property views, a key part of the selling process, where both buyers and sellers are reconsidering market price fluctuation and instability due to the pandemic. Moreover, sellers are looking for reassurance regarding the health of potential buyers coming to view properties [4]. As a result, thousands of workers from around the world have been made redundant or have been placed on temporary, unpaid leave of absence. Correspondingly, this has had a sizable impact on individuals' ability to pay rent, make mortgage repayments, and keep up with ongoing household expenses. To tackle this, in the United Kingdom (UK) the government released a GBP 350 billion (i.e., USD 415 billion) lifeline to allow mortgage lenders the option of a 3-month mortgage delay to those in financial difficulty [5]. The UK Government also recommended that buyers and lenders delay negotiations during the lockdown, bringing transactions to a halt [6]. During the initial stages of the pandemic, many worried that another financial crisis, similar to that of 2008, would impact confidence in the property market. Banks within the UK, for instance, began to take precautions, i.e., high street lenders required up to 40% deposits for a new mortgage to be approved [7]. Housing conditions in Nigeria, on the other hand, regularly need to deal with overcrowding and are at risk, i.e., the perception of quality housing, of decline. The congestion and low quantity of comfortable housing in Nigeria has led several people, especially in informal settlements, to sleep outside amid dangers. The architectural quality of houses in Nigeria is also often alienating and bleak in which local bylaws are often negated or violated by building authorities. This is frequently worsened by low-quality rental properties in which landlords do not consider the negative effects to end-users and the environment. Outdated housing laws vis-à-vis noncompliance to housing guidelines has created a need to rethink, reconsider, and properly promote higher quality standards and awareness for improved housing environments. A novel sustainability-friendly perspective is proposed to curb the spread of disease outbreaks and help develop a best practice way forward. When people are made to stay at home, the definition of adequate and standard housing should be properly explored. This chapter investigates the existing situation of housing with a detailed look at informal settlements, housing environments, and the definition of a safe house in terms of planning and design in the context of the COVID-19 pandemic in Nigeria.

2 Population Density and Informal Settlements

Half of Nigeria's total urban population (i.e., approximately 42 million people) live in informal settlements [8]. Informal settlements, i.e., "areas where groups of housing units have been constructed on land that the occupants have no legal claim to and unplanned settlements, [as well as] areas where housing is not in compliance with current planning and building regulations" [9], by definition are usually overcrowded and cut off from the services associated with big cities. People living in these settlements are more likely to be affected by untreated health issues,



Fig. 1 Informal settlements in Nigeria: (*top left*) slum area in Lagos—26 March 2020, (*top middle*) poor people scavenging Igando Landfill in Lagos—17 May 2020, (*top right*) open drainage and waste dump in Apete area in Ibadan—14 April 2020, and (*bottom*) open channelization in Osogbo—21 May 2020. Source: Photographs by Adewale O. Yoade

including malnutrition, with limited means to access health services and food [10–12]. In Nigeria, large cities like Lagos and Ibadan have several populated slums. In Lagos, an estimated 60% of the population live in informal settlements, including floating slums such as Makoko. These settlements are characterized by a lack of proper water, sanitation, and hygiene (WASH) facilities, electricity, and other support services [13–16] (Fig. 1). Overcrowding and poor WASH conditions are also common in internally displaced person (IDP) camps across the country as well as garrison towns in North-East, Nigeria, where people fleeing conflict and insecurity have found refuge. In 2018, over 600,000 IDPs (i.e., one-third of the total IDP population in North-East) were living in congested informal IDP settlements—at a total of 5 m² per person. Note, sphere standards indicate a roofed shelter should have at least 3.5 m² per person, excluding cooking space, bathing area, and sanitation facility [16]. Medical research and recent studies on the pandemic in the congested Rohingya refugee camps have shown strong links between overcrowded spaces and



Fig. 2 European Union humanitarian aid camp in North-East: (*top left*) field mission providing nutrition support and healthcare to mothers and their children, (*top right*) living conditions are poor at overcrowded camps and settlements hosting displaced people, (*bottom left*) adult education classes for women, and (*bottom right*) aerial view of a camp hosting displaced people. Source: Photographs by Samuel Ochai on Flickr, Creative Commons Public Domain, 14 August 2018

the risk of spread of various diseases [17–22]. As such, co-morbidities in highly congested IDP camps are common, including high incidence of endemic and waterborne diseases and malnutrition [20, 22–24]. Moreover, people living in congested and unsanitary camps, slums, and garrison towns are more vulnerable to the spread of infectious outbreaks [18]. Making things more complicated, many IDP camps and garrison towns, e.g., in North-East, are not easily accessible by humanitarian organizations (Fig. 2). In the states of Borno, Adamawa, and Yobe (BAY), vaccination campaigns and health services are often disrupted because of conflict and insecurity. In densely populated areas and overcrowded spaces it is extremely challenging to respect physical distancing, or strictly follow hygiene practices due to limited access to clean water. Consequently, people are more likely to be exposed to disease outbreaks and may have limited access to healthcare and medicine if they fall ill.

3 Standardization of Essential Services

The health system in Nigeria is fragile due to underfunding and limited infrastructure. Even before the pandemic, annual health spending in Nigeria was low, at only USD 27.84 per capita, far below other Economic Community of West African States' economies such as Ghana and Ivory Coast. Low spending can often infer that demand for health services will exceed capacity during a health emergency [25–28]. A Reuters survey found that African countries with COVID-19 cases, including Nigeria, have less than one hospital bed and one ventilator per 100,000 people [29]. In 2017, Nigeria had only 120 intensive care unit (ICU) beds for the whole country, i.e., about 0.07 ICU beds for 100,000 people [30]. According to the World Health Organization (WHO), the most critical COVID-19 patients need intensive care and a ventilator [31, 32]. According to less recent data, in 2004 Nigeria had 0.5 hospital beds per 1000 people, placing it among the countries with the lowest rate of beds per capita (i.e., less than 1.7 per 1000 people) [33]. In some areas of the country, hospitals and health centers are understaffed. Although this is not the case across the whole country, COVID-19 poses a threat to the Nigerian health system, especially in conflict-affected areas. Two-thirds of health facilities in the BAY states are not functioning because of conflict-related damage [34]. COVID-19 has put a strain on health facilities in states that record high numbers of cases, including Lagos, Kano, and Zamfara. The Nigeria Centre for Disease Control reported an overburden of isolation facilities in these states with not enough ICU beds for patients [35, 36]. Looking back at the last 2 years, as the number of COVID-19 cases in Nigeria continued to increase, the health system risks became quickly overwhelmed. In a country regularly affected by disease outbreaks, it will be important to integrate the COVID-19 health response into the existing health programs to adequately respond to the pandemic, including future shock events, while also treating patients affected by other epidemics such as measles, malaria, cholera, Lassa fever, and meningitis. Cholera, malaria, and Lassa fever are particularly common during the rainy season, normally spanning from February to July [37–39]. During these months, additional care and attention should be stressed (Fig. 3).

On another front, the COVID-19 pandemic forced schools to remain closed to allow for social and physical distancing. This resulted in over 46 million students to not attend classes because of government-led school closures. Children from poor households, children living in conflict-affected areas, and displaced children often do not have access to tools that enable home-schooling and distance learning [40, 41]. Access to education was already particularly challenging in Nigeria, especially in the BAY states, where schools have been damaged, looted, or attacked as a result of conflict or used as temporary shelters by the IDP population. Inadequate school infrastructure, insufficient number of teachers, and lack of learning material also hamper access to education in the BAY states [37, 38]. Before the pandemic, about 27% of children between 6 and 11 years old did not attend school and more than 25% of children between 12 and 17 years old did not have access to education [42–44]. As a result, more children are at increased risk of dropping out of school



Fig. 3 Health clinics and health training in Nigeria: (*top left*) small walk-in health clinic in Iyin Ekiti (*top right*) Nigerian lab technicians undergo malaria microscopy mentoring at a Nigerian Air Force hospital near Lagos, and (*bottom*) health center in Iyin Ekiti. Source: (*top left and bottom*) Photographs by Olajumoke I. Omodara, 10 August 2022; (*top right*) photography by Rick Scavetta on Flickr, Creative Commons Public Domain, 22 September 2009

because of the pandemic. Pushed by the need to avoid any “nonessential” costs or the need to have additional family members engaged in labor activities, heads of these households suffering negative economic effects from the pandemic might decide not to send their children to school after containment measures have been lifted and economic strife takes over. For many children, not attending school portends to not having access to essential school services. For instance, some schools offer students, particularly those from poor households, free nutritious meals. Moreover, school closures also cut vulnerable children off from social protection programs, often implemented as part of humanitarian-oriented support [45]. Particularly in North-East, schools normally offer protection services such as psychological care and distribution of hygiene kits [38]. As such, the complexity of the crisis has resulted in an accumulation of several different crises, i.e., a combination of both natural and manmade causes. In this case, multiple overlapping crises affect the most vulnerable and the housing environments these people must sustain.

4 Housing Quality Concept, COVID-19, and Social Equity and Justice

The concept of housing quality has been addressed by the United Nations (UN) in a series of seminars on the social areas of housing, with the use of several terms like adequate housing, suitable housing, and standard and good housing. As it is impossible to have a globally accepted definition for quality and good housing, housing that satisfies residents' needs while promoting their safety is referred to as a good house [46]. It is also important for human dignity, in accordance with the UN Principles on Housing and Property Restitution for Refugees and Displaced Persons, to sustain family and community life by sheltering households, promoting family ties, their participation, and access to community facilities, as well as economic stability [47]. More so, the quality of houses, in a geographic location, provides essential information on the prevailing state of housing stock, delivers essential information for an inclusion in future projects undertaken, and offers insight into the current desires and needs of end-users [13]. This quality can be divided into subjective and objective. The subjective aspect relates to user characteristics which are led by specific desires, needs, and expectations. The objective aspect, on the other hand, involves the notion of "precise significance," i.e., the number of rooms, dwelling type, presence of relevant amenities, and dwelling condition. In other words, assessing the quality of a house at any given time involves the consideration of the housing environment, such as the characteristics of the physical environment as well as that of the community and local residents [48]. A house can be satisfactory when the gap between user needs, aspirations, and the reality of the prevailing residential context is harmonized [49]. Housing may also be viewed as quality and satisfactory when users experience pleasure and wellness. This can indicate the level of success of housing by measuring occupier effectiveness and mental responses to any high points as well as unpleasant aspects of the dwelling, its environment, and predicaments with future events. This can also assist in identifying the contribution to several factors including satisfaction, the difference between diverse factors, and link between the different dimensions of housing [50]. As important as user satisfaction is to the assessment of environmental quality, it is also essential in determining the quality of a house, as existing amenities and services contribute to the productivity of people residing in a particular location [51]. Hence, the higher the quality of the environment and the dwelling, the higher the satisfaction and safety expected from the residents [52]. In the context of the pandemic, the housing quality concept is an idea that, if correctly implemented beforehand, could have alleviated a lot of the distress, especially in informal settlements, during the lockdown measures (Fig. 4).

In terms of coronavirus, it has been globally reported as a strain virus that infects humans [53, 54]. Bats have been identified as the natural hosts of this virus alongside other animals like civets, cats, and camels [50, 54]. Within the family of coronaviruses is SARS-COV-1 which emerged in 2002; since then, the current pandemic has globally prompted a myriad of studies, discussions, and reports with



Fig. 4 Empty streets in informal settlements during the COVID-19 lockdown measures in Nigeria: (*left*) Oja-Oba area in Osogbo—16 March 2020 and (*right*) market area of Idiaraba in Lagos—23 May 2020. Source: Photographs by Adewale O. Yoade

lots of concern for housing sector operations. Due to several governments' concerns on the transmission of the pandemic, COVID-19 has undergone notable lockdown measures over the last 2 years [55]. During this time, the level of homelessness, environmental quality, and housing location became increasingly recognizable and problematic in Nigeria. By definition, a house naturally divides the internal structure and space of the house from the external environment. For a while, scholars in the discipline of housing and planning have been faced with diverse challenges relating to housing quality, standard, inadequacy, and poverty. Various indicators for housing importance in the environment, to the economy, and individual well-being calls for effective enquiry into how quality and safe homes can be promoted during the pandemic, and beyond. As such, there is a need for housing quality and standard that promotes citizen safety in terms of space and the availability of necessary facilities. Issues like the level of crowding in a house, design type, and facilities need to be addressed in view of the pandemic as well as future events.

Housing generally is a major area where the pandemic is experienced [56]. COVID-19 continues to impact housing in several ways, aside from the fact that it will impact an individual's experience of a home and ability to regularly meet household expenses (e.g., rent), it also stimulates the need to promote quality and standard. Hence, housing policy and related procurements need to be better veered toward the curbing of disease spread, especially within low-income groups. Correspondingly, since Nigeria's population is predominantly urbanized, in which the better part of its housing development is occurring in cities and urban limits, this makes housing-related policy extremely important for the future of the country. During the COVID-19 measures, physical distancing and isolation were used as a major preventive measures; however, it is believed that this could have only been fully fulfilled if people had access to secure and safe housing environments with adequate food in reserve [57, 58]. Self-isolation or the restricting of the individual in their home changed their habitation dynamics, politics, and rhythm which may have



Fig. 5 Dilapidated buildings in informal settlements in Nigeria during the COVID-19 lockdown measures: (*left*) Beere area in Ibadan—5 April 2020 and (*right*) core area of Osogbo—26 March 2020. Source: Photographs by Adewale O. Yoade

stimulated several issues such as putting one’s life in danger—especially when the environment of the house was not habitable.

Domestic violence around the housing environment was reported to increase across Nigeria due to the lockdown, especially in the environment when no security measures were available (e.g., the use of neighborhood police). In Nigeria, this made for an unsafe and unsecure formulae—especially within slum areas and at night [38, 59]. Moreover, homelessness across the country grew and live-in slums with no adequate understanding of the pandemic did not prevent themselves from getting ill [57, 58]. As a result, this caused informal settlement residents a lot of health problems such as risk of exposure and risk of disease spread [60]. More so, there has been a huge income loss for households as almost all sectors have faced a reduction in their income as well as some been laid off, i.e., businesses were pushed to operate with limited staff due to limited capital. As a result, a large portion of the population has turned to working remotely from home—partly to care for their family, e.g., to look after their children who are not able to attend schools, and partly to continue to earn a living. Of course, this is pertinent to work that can be done in a remote manner and if the worker had the facilities to work from home. This further highlights the importance of housing quality and standard and brings to the forefront how household health can be affected if improper planning is mismanaged. From the standpoint of informal settlements, this should be underscored as many areas in Nigerian cities have huge tracts of informal housing developments that have not respected any formal policy changes in addressing the pandemic. Self-isolation and physical distancing in such areas may not be totally possible, especially where there is a high percentage of low-income and underserved who have to struggle daily for their survival. As a result, people of all ages were commonly seen roving around the streets even when the total lockdown policy was employed—partly because of their substandard homes as well as the need to search for something to eat [60, 61]. The linkage between health and housing cannot be more visible than it is across Nigeria (Fig. 5). WHO ascertained this by justifying the essential needs of

housing in promoting health and productivity [31]. This factor is fundamental to the curbing of COVID-19 and other diseases, as the lack of quality and adequate affordable housing can delay or abate the swift containment of shock events such as the pandemic. It suffices to say that the long-term structural deficits in Nigeria's housing systems need to be urgently fixed, as this will have a long-term and wide-reaching effect on the entire housing sector.

In terms of social equity and justice, urban and intercity housing has often been interconnected with the issue of poverty which mainly affects the poor people living in such areas. As the main goal of housing policies is to meet the basic need of all groups of people, when it comes into practice, poor people are, unfortunately, left for last and behind in getting access to a better quality of life. In Nigeria, for instance, affordable housing has been provided for by the government to cater to the need of low- and medium-income people but when it comes to the quality of housing and the environment within the community; the result, however, is quite disappointing. It should be expected that no one should be marginalized in the development process, and the poor also need to benefit rather than to give advantage to the upper group [12]. Therefore, a stepwise housing system that shapes a better future for the poor should be seen as sustainable, responsible, and carefully grown for a better Nigeria. This will include not only new houses, but new homes, in communities that work, where people are pleased to come home at night and happy to raise their children. Nigerians must build not to turn a quick profit, but to create a legacy that lasts for generations to come.

5 Challenges Moving Forward

Whether COVID-19 is creating new housing challenges or simply revealing or exacerbating the deep structural flaws in its existing housing systems, it is an open question that will require more nuanced conceptual and empirical attention as the country moves beyond the pandemic. Housing researchers will need to trace these changes as they play out across the immediate and long term. What worked and what did not? What were the effects of emergency housing policies and provisions? What were the consequences in places where changes were not made? Finally, how might these studies augment how the country understands and theorizes housing? Housing scholars have a wealth of knowledge to draw on. A large collective knowledge about the housing experiences of lower income and vulnerable households, about the connections between housing and health, and about how economic downturn affects all households across income groups and tenures is for future study. It is clear from collective research efforts that the global financial crisis was used by some to further exploit, marginalize, and disadvantage the already marginalized in our society [62]. We have a responsibility to draw on our existing knowledge to prevent this from happening again, i.e., to turn research into advice that can support rapid policymaking and help housing systems, such as in Nigeria, adapt to the short- and long-term reforms that are required to deal with the pandemic.

The COVID-19 pandemic is first and foremost an emergency with severe consequences for health and the economy; it has, however, also served as an example that changes in travel and production quickly and distinctly can improve air quality [63–65] as well as reduce the carbon footprint which translate into improved environmental health [66–68]. It remains to be seen to what extent the changes brought on by the pandemic, such as increases in telecommuting and reduced travel, will remain once the pandemic has completely passed. Obviously, the dramatic actions taken during the pandemic cannot be directly copied in non-pandemic times. However, it is believed that lessons can be learned, and that inspiration can be gained from the fact that quick positive feedback is seen when action is taken. The swift actions against the pandemic imposed by governments have been, to a certain extent, effective and lasting. However, as most of the African population is living from hand to mouth, these measures cannot sustain themselves in the long term. Since countries in Africa started lifting or relaxing their restrictions due to the high impact on their economies, other mitigation strategies to improve their economies and provide basic benefits to the public have been implemented. Based on past experiences, there is the possibility of further suppressing COVID-19, provided governments and the public do not change their behavior as they did previously for Ebola, human immunodeficiency virus, poliomyelitis, and other outbreaks. However, it comes as no surprise that Africans cannot confront this alone, and therefore global support in any form can assist Africa to step ahead of the pandemic. Three recommendations from a top-down perspective should be addressed. First, “vulnerable human settlements need to be [urgently] supported to reduce human suffering, [i.e.,] governments should create special task forces and establish permanent communication with informal settlements” [69]. Second, basic services, e.g., WASH, need to be accessible to the “informal sectors of society [. . .] with special funds to support [future] emergencies” [69]. Third, at a continental level, Africa by way of fiscal assistance needs “multilateral action that integrates central governments, multilateral organizations, and civil society [to cohesively establish] a regional public health emergency fund and coordinate debt relief and deferral of debt repayments with other countries” [69]. By applying these measures, African economies can expect to fast track their economic and social well-being post-COVID-19. To end, the UN should mitigate how urban economies are broken down, understanding that in Africa they represent most of the gross domestic product and have been, in general, worst hit—especially considering the recent upsurge in food insecurity in relation to the Russia-Ukraine conflict [70]. As a result, this conflict’s trickle-down effect amplifies the need, especially within informal settlements, of rudimentary upgrades to the built environment “with access to adequate housing and basic services” [69]. These developments will help alleviate distress and hardship and offer the most vulnerable a chance to live better and a more dignified life—post-pandemic.

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