Perceptions on Critical Urban Issues in the COVID-19 Pandemic Crises

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Abstract

COVID-19 Pandemic crises have further challenged the achievement of sustainable urban or cities development as they are now a potential threat for quick transmission of disease between humans and other urban areas due to their connectivity via rail, flights, or roads. The absence of sustainability features of smart cities such as well numbered buildings, street naming for effective contact tracing, and tracing index contact of infected persons prevents effective infection management. The COVID-19 disease has therefore brought out the need to address the emerging urban challenges been faced, drawing from the perception of the urban dwellers, especially on what and how to achieve efficient management of pandemic in the urban areas, building urban resilience, and achieving sustainable development goal (SDG) 11 target of safe, inclusive and sustainable cities. Thus, this paper aims to interrogate the urban dwellers' perception in Jakarta, Indonesia, and Lagos, Nigeria, on emerging urban issues brought out by the COVID – 19 pandemic management and how they could be managed in the future. The study utilizes a questionnaire developed in the google form and distributed using email and WhatsApp platforms to three hundred respondents, one hundred and fifty respondents in each city, picked by their expertise and official responsibility in the urban-related field. The results reveal that key urban planning issues such as weak health systems, crowd management, adherence to government orders on handwashing and sanitation, social distancing, and socio-cultural issues need to be given utmost attention. Recommendations were made in line with effecting an integrated planning policy, citizen reorientation, and the need to re-plan these cities, amongst others.

Keywords: COVID-19; crises; critical; integrated planning; pandemic; perceptions; policy; urban issues

1. Introduction

The United Nations Population Fund (UNPF) has alarmed the growth rate of urban areas globally. This is not unconnected with the fact that half of the world's population is reportedly living in an urban area, and by the year 2030, the number may reach 5 billion (UNPF, 2016). In another record, it is assumed that about 1.5 billion people will be living in the urban areas, with the tendency to reach 3 billion by the year 2050. These urban areas are homes to a large population of people living with their families, working therein, with their children attending schools, and performing other social activities. The preference for staying in the urban area or cities are enormous and varies from the opportunity to live a comfortable urban life, presence of government infrastructure such as – good roads, rail, airports, and other social activities like golf, stadium, museum, and shopping malls. All these urban amenities attract many people to

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the urban areas both in developing and developed nations. However, central issues in urban management are the tendencies for crowd formation at parks and transportation hubs, markets, malls, or banking halls; disparities in housing development and possibilities of slum and the consequent public health issues that could come out of this (Bell et al., 2009).

Important features of the government responses to urban development are the town and urban planning. This process whereby urban areas are mapped, designed, planned by ordering the settlements to achieve a sustainable city. The government engaged in the urban renewal of inner cities to achieve aesthetics and safety (Wheeler, 1998). However, achieving sustainable urban or cities development has been the challenge the urban and regional professionals and the government faced in all these cities. Most of the urban areas in the developing countries are bedeviled with an absence of sustainability features of smart cities where buildings are well numbered. Streets are named, making contact tracking and index contact of infected persons easy, preventing effective infection management (Lee et al., 2020). Thus, most of the urban areas are therefore a potential threat as it serves as the quick transmission of disease between humans (Li et al., 2020) and the possibility of the transmission of the disease to another urban area as a result of their connectivity via rail, flights or roads (Bogoch et al., 2020) as evident in the COVID 19 transmission to all cities of the world (WHO, 2020).

The COVID-19 disease has therefore brought out the need to address the emerging urban challenges been faced in the efficient management of pandemic in the cities especially as it is threatening the achievement of sustainable development goal (SDG) 11 which target a safe, inclusive and sustainable cities critical for achieving 17 other SDGs by 2030 (Weekes, 2020). In this light, this paper proceeds with the study on issues that could further discuss building urban resilience as the present pandemic crisis is already affecting sustainable cities management projects. The paper discusses major issues that could aid perceptions on critical urban concerns concerning the pandemic.

The first review is the need to understand pandemics from historical perspectives and their impact on urban development. The first pandemics look at is the plaque, popularly referred to as The Black Death, which occurred in the fourteenth century in Europe. According to Herlihy and Cohn (1997), the pandemic, which affected 50-75 million people worldwide, was transmitted via trading routes from China along the Silk Road to Europe via seaport into the cities. The Spanish influenza pandemic of 1918 – 1919 also had a significant impact on the urban areas. It was estimated that over 50 million people died in this pandemic, with a more significant amount in the urban centers (Johnson & Mueller, 2002). This was the same with Severe Acute Respiratory Syndrome (SARS), Avian, and Swine Influenza (Wardekker et al., 2010), which happened more recently. In SARS, Yuen et al. (2020) reported that the virus was transmitted from animal to human in the first instance, and the index patient infected hospital staff who later traveled from China to Hong Kong. From the cities of Hong Kong, the disease got transmitted to major cities in work within days. The utilization of quarantines controlled these viruses, restriction of movement, closure of ports (Sloan, 1973), but the implication on the urban areas was the conversion of many houses or spaces meant for building expansion to parks, urban squares, and promenades as seen in some cities in Europe (Grant, 2020).

The second review looks at the pandemic and urban management from access to water and sanitation challenges and their implication on water-related diseases. Urban dwellers, especially those living in developing nations, lack the necessary water and sanitation as an essential hygiene protocol for managing pandemics. According to the WHO (2019), two billion people depend on contaminated drinking water sources globally. This contaminated water is capable of transmitting diarrhea, cholera, dysentery, typhoid, and polio. Equally, the World Health Organization reported that as of 2017, 1.4 billion people relied on an improved water source within a round trip of 30 minutes, while 206 million people drink from an improved water source requiring more than 30 minutes to collect water. Also, 435 million people were taking water from unprotected wells and springs, and 144 million people were collecting untreated surface water from lakes, ponds, rivers, and streams (WHO, 2019). These were situations before the coronavirus pandemic, and the pandemic's impact on these sets of people is better imagined. Major import and response to these were many city governments put in place sanitary reforms and measures such as strengthening of town planning offices and creation of waste management's department for the management of waste and sanitation and ministry of water resources for the provision of water to the public, regulation of borehole drilling and rural water supply. Further measures included street lights in the street, creating parks and urban spaces, beautifying and modernization of homes, street naming, and building or property numbering.

The above issues have brought out critical issues of importance to governments and non-governmental agencies in urban management. The first issue is the housing density, which is a portion of the built or to-be-built residential accommodation, or the number of persons or dwellings located on a unit of area, acre/hectare of a particular site or district. According to King et al. (2017), there is a huge housing gap globally, with a probability of it growing to 440 million households or 1.6 billion people without accommodation by 2025. An instance of a highly dense city is Jakarta metropolitan city in Indonesia, with around 30 million people living within 4,384 square kilometers (1,693 sq mi). The Jakarta city on its own has a very high population density of 14,464 people per square kilometer (37,460/ sq mi), while the metro area has a density of 4,383 people/sq. km (11,353/sq. mi). Such high-density settlements are also noticeable in Africa, with Lagos, Cairo, and Cape Town examples.

These cities are densely populated, without adequate public spaces and affordable housing supply. The implication of this is the springing up of slums and informal settlements to house these people, who

are also in informal employment (Du et al., 2020). These people in the informal employment and informal settlement are the street vendors, minibus drivers, migrant workers, surviving daily on unreliable sources of employment and sharing access to basic services that are sometimes limited or non-existent. They equally do not have bank accounts, insurance, and resources to manage themselves during the pandemic lockdown. They are also far from government safety nets provision as there are no ways for the government to credit them formally. Thus, their adherence to the social distance – a vital pandemic management protocol – is practically unachievable, and their propensity to be a transmitter of a pandemic virus is high. There is a need to address the slum creation issue by upgrading all informal settlements to follow the pandemic management protocols like social distancing. Scholars have argued that two options are available – preventing slum creation in one aspect or upgrading the slum from another perspective (Butala et al., 2010). The scholar opined that new housing laws and regulations need to be put in place to prevent the creation of slums, while the present informal settlement should be upgraded to provide affordable housing for the people (van den Berg, 2020).

Another critical urban issue brought to the fore is the need for more green and blue spaces as a nature-based solution to epidemiological diseases control in the urban areas. This is in line with WHO recommendations on the role of green spaces in urban space to improve the well-being of urban dwellers through its natural salutogenic elements that can bring about psychological relaxation and stress relief (WHO, 2017). It is especially possible to reduce depression, cardiovascular mortality, and rates of obesity, diabetes, and improved mental health and pregnancy outcomes (Hartig et al., 2014). Reports from research on the importance of green and blue spaces to disease management in the United Kingdom have been linked with mental health improvements (Alcock et al., 2014). Similar studies in some parts of Europe linked more excellent time spent in green spaces with improved health and vitality in Spain, Lithuania, the Netherlands, and the United Kingdom (van den Berg et al., 2016). Thus, a new approach to city planning where open spaces, watersheds, forests, and parks were brought into the city planning holistically to support better health, water management, disaster management, emergency services, and evacuation systems is advocated at this crucial time (van den Berg, 2020). There is a need to bring up more green spaces properly in various designs, while their maintenance and operations are given out most attention during post-COVID for urban dwellers to benefit and recover using the nature-based solutions (Lõhmus & Balbus, 2015).

Another issue of importance is access to core services, which van den Berg (2020) referred to as access to essential services such as water, housing, and health care. He opined that lack of access to these core services had been the bane to an effective response to COVID-19 in many cities. Most significantly, lack of access to water makes lockdown orders challenging to be implemented in most urban areas. For instance, implementing a handwashing protocol for 20 seconds frequently requires water, while disinfectants, especially alcohol gel, in a household can only be effective if they are distributed free by the government through nearby healthcare centers. The WHO protocol of managing this coronavirus, such as promoting personal and environmental hygiene, staying at home, and implementing social distancing measures, can only be achieved if access to water, shelter, and healthcare. In the word of Butala et al. (2010), effective pandemic management is possible in the urban areas where individual households have access to good connections of water supply, underground sewage system, toilets, stormwater drainage, stone paving of internal and approach road, improved housing sanitation and access to clean water. Thus, the lack of these has raised the need to address these issues after COVID-19, especially in Africa, India, and Southeast Asian cities, to achieve environmental sustainability.

Another vital issue is the impact of a pandemic on urban areas and the disruption of supply and production chains in other regions. The connectivity of the urban areas to the global world has made the cities more vulnerable to crisis and therefore calls for holistic city and regional planning measures to achieve city resilience. According to van den Berg (2020), Covid-19 has brought out the need for prompt attention to the integrated city and regional planning to achieve urban resilience. He opined that the planning measures must consider various national and local economies, energy provision, transport network, food production as pillars of resilience. Thus, COVID-19 has brought additional stakeholders to discuss city and regional planning to achieve comprehensive resilience, as evident in the current pandemic crises.

In another dimension, Forsyth (2020) opines that the COVID - 19 has brought to the fore the issue of infections management in urban planning, city design, and public health. Two measures manage the pandemic - slowing down the diseases through isolation, quarantining, and physical distancing by constructing a new hospital or creating temporary isolation and quarantining centers. Also, closing down schools, universities, offices, and entrenchment of physical distancing on the entire population for months, causing governments and businesses to change ways they work and students' new ways to study. Therefore, a new set of issues are cropping up and needs to be incorporated in the broader city and regional planning, design, and management, especially the role of neighbors and homes in the provision of support for healthy activities; challenges to help in physical and mental stimulation; and delight in time of stress (Forsyth, 2020).

The last review is on the impact of culture, beliefs, and norms on pandemic management in the city. The composition of people in the city is an aggregate of people from different cultures, customs, and traditions, and it affects the people's responses to symptom identification, detection, patient tagging, seeking health support, and cooperation with the government (Angel & Thoits, 1987). There have been efforts at incorporating culture and cultural practices in public health, but this has not been thoroughly

researched (Bond & Brough, 2007; Hewlett & Amola, 2003). Thus, COVID-19 has brought the need to increase cultural awareness to achieve effective responses to pandemic management (Fairhead, 2016; Lenters et al., 2013). Most urban dwellers' responses to the pandemic were more from cultural perspectives, where many deny it, some reject it, and some regard it as international politics while the rest believe it is meant for the rich people. These interpretations affected their responses to the instruction of their governments to stay at home, maintain physical distancing and their disposition to people that are infected and burial processes during pandemic. Moving ahead and for effective health communication in an urban area subsequently, cultural interpretations and awareness need to be incorporated in pandemic management (Leclerc-Madlala et al, 2009). This could be achieved by carrying out enough research to unravel those cultural interpretations and responses, utilization of traditional and community stakeholders that are culturally inclined to implement culturally appropriate strategies (Jenkins, 2004; Kreuter & McClure, 2004).

Based on these reviews, the paper aims to interrogate urban dwellers in Asia (Jakarta, Indonesia) and Africa (Lagos, Nigeria) on the critical issues that are cropping up in urban spaces due to COVID-19 Pandemic to proffer practical recommendations toward tackling the challenges which are necessary for the achievement of SDG 11 in Jakarta, Indonesia, and Lagos, Nigeria.

2.   Research Methods

This paper adopts a quantitative method of data collection with the use of questionnaire, spread between the cross-section of participants ranging from members of the Professional Associations including Architecture, Surveyor, Town Planners, Civil and Structural Engineer, Environmental managers, and Urban and Regional Planners; senior government workers across all facets of profession living in the urban areas and private sector practitioners including non-governmental agencies and civil society organization in two cities of Asia and Africa. The purposively sampled respondents were spread specifically between participants at Lagos city in Nigeria, Africa, and Jakarta city in Indonesia, Asia.

These cities have a huge urban population, housing density disparities, and income inequalities. According to the United Nations Department of Economic and Social Affairs, Jakarta has an estimated 10,770,487 population in 2020, within 661.3 km and a high population density of 14,464 people per square kilometer with a growth rate of 1.15 %. On the other hand, Lagos city in Nigeria has an area of 1,171.28 km2, an estimated population of 14,368,332, and a population density of 6,871 residents per square kilometers, and a growth rate of 3.67 %. They both have high numbers of coronavirus infections. Out of 15,438 infections in Indonesia as of 16 May 2020, Jakarta carries 5,375, representing 35.98 percent of the national infection figure. In the case of Lagos, out of 5,445 infection cases recorded, Lagos accounts for 2.099 confirmed cases.

Research instruments were developed on gathering data on two major variables – awareness of COVID 19 at the urban areas and emerging urban issues, using the Google Form Platform and sent as a link to be clicked and filled via email and Whatsapp to the respondents mentioned above. This was in line with the government's instruction to work from home, which prevented the physical distribution of the questionnaire. Over three hundred messages were sent from 2 February 2020, while as of 21 May 2020, when this paper was being written, only eighty-seven respondents filled the questionnaire.

The link to the google form is accessible at shorturl.at/bhqIP. The majority of the respondents, which accounted for 79.3 %, were male, and 20.7 % were female, implying that more males than females responded to the instruments distributed. More so, respondents above 45 years of age accounted for 9.2 %, while the lowest age was 28 years (1.1%). The age bracket of the chunk of respondents was 29 to 45 years, implying active, smart years and matured age that can provide a robust response to the issue at hand. The study further found out that the respondents' educational qualification was 55.2 % having Master's Degree and Ph.D. while 40.2 % possessing BSc/HND and 4.6 % of the respondents possess a Secondary School certificate/OND. Furthermore, 58.6 % of the respondents were civil servants, while 26.4% were private-sector professionals, and 13.8% were self-employed, implying that the respondents were experienced enough to provide reasonable responses for this study.

3.   Result and Discussion
3.1. Awareness of Coronavirus

There are concerns about awareness, acceptability, and readiness to comply with COVID-19 pandemic management in these cities. Most urban dwellers doubted the existence of the pandemic. Some believe it is more of global politics than real, while some believe it is a disease for wealthy people. This study gave a contrary result to these assumptions as the respondents' responses to questions to find out the level of awareness of the respondents on coronavirus before and after it occurred shows that before the coronavirus pandemic incidence in Jakarta and Lagos, 68.4 % of the respondents were aware and considered the Coronavirus pandemic as very accurate. In comparison, 6.4 % believed coronavirus is not valid, and 24.1% were in doubt. However, after the coronavirus had reached these cities, the level of awareness increased as expected. The respondents, 93.1 %, became more aware of the coronavirus pandemic than 6.9 %, which were still in doubt of its existence. The level of education and professionalism can account for this in these two cities, which may warrant some level of pragmatism of respondents. However, reduction in the percentage of people in doubt reduces from before 24.1 percent to 6.9 percent

when the reality of the coronavirus began to reflect in the cities in the form of friends, rich and poor, contacting the disease, implying that many people in the cities still believe in the cliché 'seeing is believing,' wherein it is when the issue at hand happens under their nose that they will believe. Many issues could be responsible for this seeing belief attitude, such as religious, cultural belief or reliance on some natural reality such as the 'virus does not thrive well in dry season syndrome. This is supposed to have been dealt with by various National Orientation Agency and other Mass Communication platforms in these two countries. The issue is that a new approach and method need to be devised to correct doubt in people living in the cities to aid their favorable response to pandemic management.

In addition, due to increased awareness due to the coronavirus in cities, city residents are starting to have concerns about the COVID-19 pandemic in these urban cities. Respondents' responses in Figure 1 reveal that they are concerned about the 50.6% chance that everyone will catch the virus; the fact that the virus can be controlled 23% see some patients have been discharged from isolation centers or hospitals but sad that the government's efforts to protect health workers are quite low 16.1% because doctors are difficult 2.3%; staying at home is sickening 3.4% and incidence/city 4.6%.
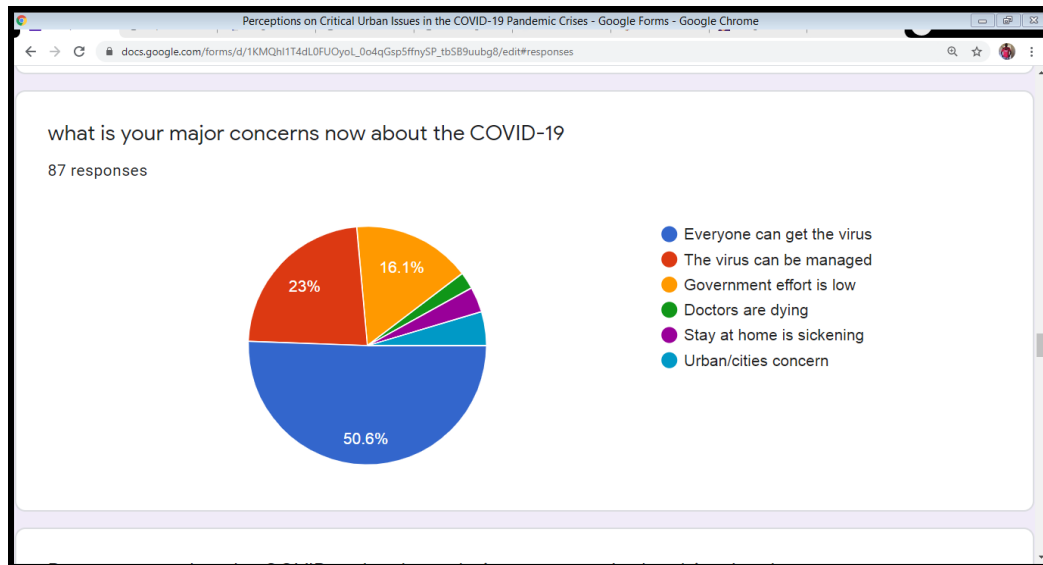

Figure 1. Major Concerns Now about the COVID-19

The fear of everyone getting the virus began to make some urban dwellers abide by the World Health Organisation COVID-19 protocol of physical distancing, washing their hands, and sitting down at home, thereby reducing the number of infections in those cities. Thus, the result emphasizes that it is not the government effort that brought about compliance to these pandemic protocols of managing COVID-19. Instead, the fear of the possibility of everyone getting the virus and the low probability of management of the virus, maybe due to the absence of vaccines, are the reasons people tried to comply.

The result of 'government effort is quite low' this could be interpreted from the perspectives of uncoordinated responses, low availability of testing kits, protective kits, vaccines, death of medical personnel as a resulted of infection of the virus, and non-availability of palliatives for both the downtrodden and people that relied on daily sources of income. These responses agreed with the realities of what transpired in these two cities. For example, as of 17 May 2020, only 9,461 people have been tested in Nigeria, with nearly 200 million, while more than 100,000 people have been tested in Indonesia, with 260 million people. Also, it takes the support of the people in the form of donations before the government of these cities starts importing the testing kits and protective kits for the health workers. It is coupled with above 50 health personnel that died in each city due to inadequate protective gear. Compared with other issues such as the possibility of everyone getting the virus, virus management, and government effort being common, urban issues get a lower response (4.6%). This can refer to the scale or priority that has been considered by the respondent, which is appropriate to the circumstances relating to their urban area.. Thus, in the scale of challenges faced, urban development took the fourth position. After all, its people live in a mansion, so that respondents might consider the urban issues a priority without the virus, the issue of its management, and fear of low government response.

The placement of urban issues as the 4th priority seems to be characteristics of developing nations compared to developed nations. Developed nations, perhaps, because most of the development issues have been addressed holistically with budget and implementation adequately monitored, can respond to any new or emerging issues with policy, planning, and execution. This is contrary to what developing nations face, where there are many social and economic development issues faced with limited resources to carry out every one of the issues. It could be easy for Europe to easily convert many houses or spaces meant for a building expansion to parks, urban squares, and promenades, according to (Grant, 2020) but this may not be easily possible in developing nations where land, even though belonging to the

government, people, traditional rulers, community leaders among others must be carried along for acceptability. Thus, to achieve prioritization of urban issues toward achieving sustainable development goals on Safe city and inclusive urban space, the management of people at the grassroots, as emphasized by Leclerc-Madlala et al. (2009). Especially urgent research on the utilization of traditional and community stakeholders and the implementation of culturally appropriate strategies (Jenkins, 2004; Kreuter & McClure, 2004) by the developing nations would improve prioritization of urban issues Post COVID-19.

3.2. Emerging Urban Issues

The literature has brought various issues that could emerge from the pandemic and the likely responses of the government and non-government agencies. Issues include housing density, inadequate public spaces, affordable housing supply; the need for more green and blue spaces; access to core services; infections management in urban planning, city design, public health, the impact of culture, belief, and norm on pandemic management in the city.

In this study, urban planning and development issues emerge after weighing against themselves, as evidenced in Figure 2. The respondents' responses reveal that 90.8% agreed that the COVID-19 virus has brought to the fore the need to address salient urban issues. However, it was graded number four compared with other issues, emphasizing more urban issues to the public for proper attention.
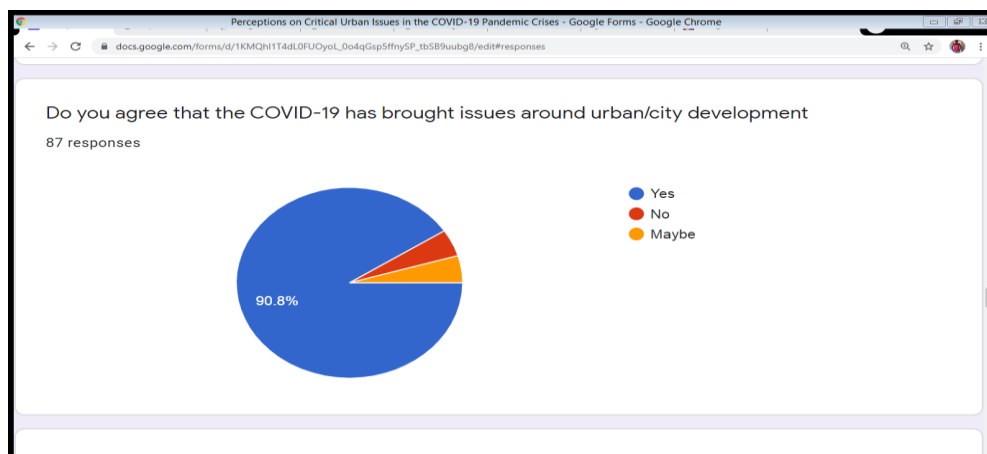

Figure 2. COVID-19 has Brought Issues Around Urban Development

However, when the emerging issues were examined in order of priority of typical urban issues by the occurrence of pandemic challenges in the cities, responses in (Figure 3) revealed that hospital equipment (86.2%), crowd management (65.5%); obeying government instruction on social distancing (59.8%), water for hygiene (56.3%), and urban transportation (52.9%) took a prominent position. These responses show that the perception of urban dwellers is prioritized by immediate need rather than a medium and long-term need of the urban areas. The fact that treatment of the virus is managed by the medical and health officials and shortage of hospital equipment would significantly impact the performance of the health workers could be responsible for its priority in the two cities. The absence of this equipment, representing ill-preparation and response to an emergency like a pandemic in these cities, made the respondents believe this should be the priority. A typical example was relayed in the two cities where medical associations had to threaten to go on strike due to rising infection cases among the health practitioners and the governments of these two cities to respond to the provision of hospital consumables like protecting gears, ventilators, and equipment. Unlike Korea, China, and other Asian countries that utilize artificial intelligence (AI) devices to manage patients, health practitioners have a prevalent infection. These two cities witnessed the slow deployment of AI devices (Indonesia) while it was not utilized at all in Lagos. Perhaps, these could have reduced the rate of infection and death of medical and health workers and COVID-19 patients in these cities.

The case of the crowd found in the slum, market, malls, Transport Park, railway stations, airport lobby, and on the street in many areas in the two cities was in line with the description of Bell et al. (2009). Despite much information and warning sent by the government through various media, people kept responding slowly, which led to COVID-19 through some of these crowded areas across the cities, thereby aggravating public health issues. The issue of concern is, therefore, efficient management of urban spaces, including crowded areas.
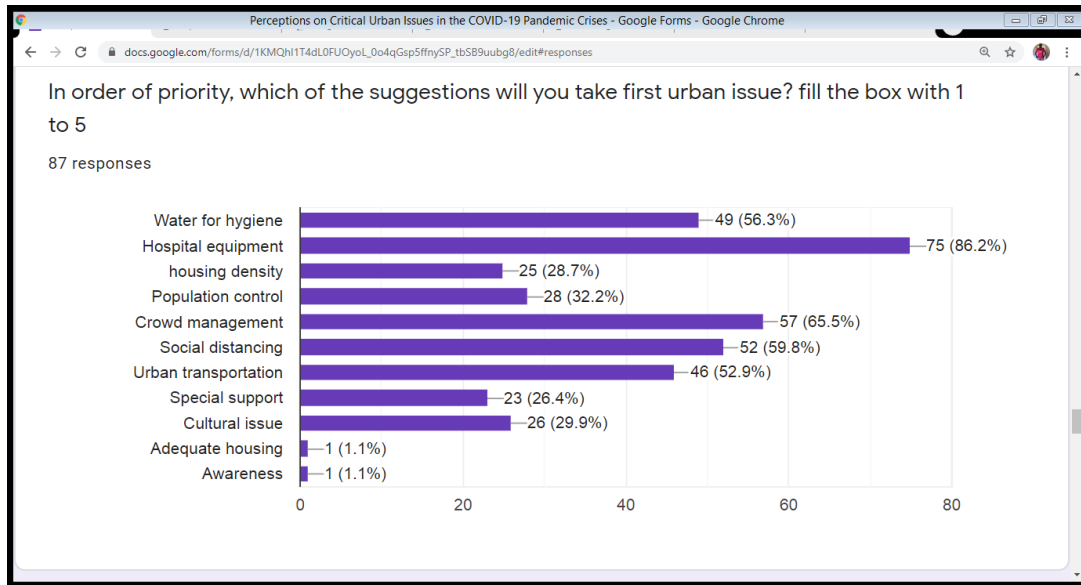
Figure 3. Urban/City Issues Respondents were Worried About in Order of Priority

Most crowded cities are densely populated, without adequate public spaces, full of slums, and serve as informal settlements housing informal employees. The result agrees with the assertion of Du et al. (2020) that these informal employees living in this crowded area are the street vendors, minibus drivers, migrant workers, surviving on day to day, unreliable sources of employment, and sharing access to basic services which sometimes are limited. Therefore, their impact in the cities is significant as their adherence to the social distance – an important pandemic management protocol – is practically unachievable. Thus, this study agrees that addressing the crowd or slum challenges through upgrading all informal settlements (Butala et al., 2010) and developing new housing and urban laws and regulations need to be put in place in line with the advice of van den Berg (2020).

The respondents' responses on consideration of urban transportation system as fourth priority was a panicking result, with the role that most airports in the two cities which were closed relatively late than expected, with the two busiest airports Soekarno Hata Airport and Muritala Muhammed airport still receiving traveler from other countries up to March/April 2020 before formal closure. The two cities also had Seaports that received ships carrying some people that had tested positive for coronavirus. Also, many Gojek, Grab, and Bluebird drivers in Jakarta and Molue, Cab drivers, and okada in Lagos were seen carrying passengers despite the increase in the COVID-19 virus in the cities. The major import from this is poor understanding of the impact of the connectivity of these urban areas to the global world, which has made the cities more vulnerable to crisis. In line with the assertion of Van den Berg (2020), there is a need for holistic city and regional planning measures that must consider various national and local economies, energy provision, transport network, and food production as pillars of resilience to achieve city resilience. Thus, there is a need to develop a better response of the transportation system to pandemic management post-COVID-19.

The role of culture and urban life in the spread of COVID-19 needs to be given more attention. The rate of neglect and denial of the coronavirus in these cities is worrisome. The condition brought the need for more roles for the community and youth leaders in the orientation of people in the city. It took police and military interventions in some cities to stop clubbing, opening the market, public transportation, and obeying sitting at home. During this pandemic, some people celebrated a birthday, marriage ceremony and even conducted burials. This is precisely the issue of concern to Leclerc-Madlala et al. (2009), Jenkins (2004), and Kreuter & McClure (2004). These scholars have raised concern about how cultural interpretations and awareness are yet to be incorporated into pandemic management in the cities. They suggested the need to de-orientate people from those cultural interpretations, which brought the denial and attitudinal problem to the COVID-19 responses. The available structure of traditional and community leaders could pursue vigorous community stakeholders sensitization and implementation of culturally appropriate strategies for future pandemic management.

Other issues that are of concern to the respondents were population control (32.2%), housing density (28.7%), and water for hygiene (56.3%). The disparity in housing density between formal and informal settlements and the population of people in the city need to be given utmost attention. Although it was observed that more infection came from wealthy people that brought the disease from their travels around the world, the disease was quickly passed down to the drivers, house helps, aides, and co-workers who relate with other people in the markets, shopping complexes, schools and on the road. These aides live in an informal settlement as they cannot afford the exorbitant house rent in these cities, and they interact with their people in this setting, thereby leading to the spread of infection. Perhaps if the aides, drivers, cooks live in a formal settlement, where buildings are adequately spaced, facilities are present, water and sewage system are present, the spread of disease might not be much. Therefore an issue of formalization

of informal settlement and slum upgrading in all informal settlements. This is best done by looking into the possibility of developing new housing laws and regulations to prevent the creation of slums and the provision of affordable housing for the people (van den Berg, 2020). The need to prevent rural-urban migration is now more important than before. This can only be addressed when those facilities and jobs in the cities are provided in the rural and semi-urban areas.

A very great response is on the water for hygiene, which is very central to coronavirus pandemic management as a whole. The World Health Organisation protocol encourages washing hands for at least 20 seconds with soap or alcohol-based sanitizer while everyone stays at home. The implication of this is that more water will be needed to be as safe as possible. According to the WHO (2019), these cities lack adequate public water supply to accomplish these directives. At the moment, 1.4 billion people, including those living in these cities, rely on an improved water source within a round trip of 30 minutes, while 206 million people drink from an improved water source requiring more than 30 minutes to collect water. This is different from 435 million people taking water from unprotected wells and springs and 144 million people collecting untreated surface water from lakes, ponds, rivers, and streams (WHO, 2019). How will the pandemic be quickly resolved? How can physical distancing be achieved when people are relying on 30 minutes round trips to access water? How practicable is the directive? Going forward, water and sanitation in these cities need to be given more attention.

3.3. Government Responses Before the Pandemic

The question of what the government did not do before the pandemic crisis, especially in the management of urban areas, was examined to see the reaction of the respondents to the government's readiness to face the pandemic. Figure 4 reveals that the government in the two cities is not doing well in developing urban policy (41.4%), primarily as those policies in place are poorly implemented (40.2%).
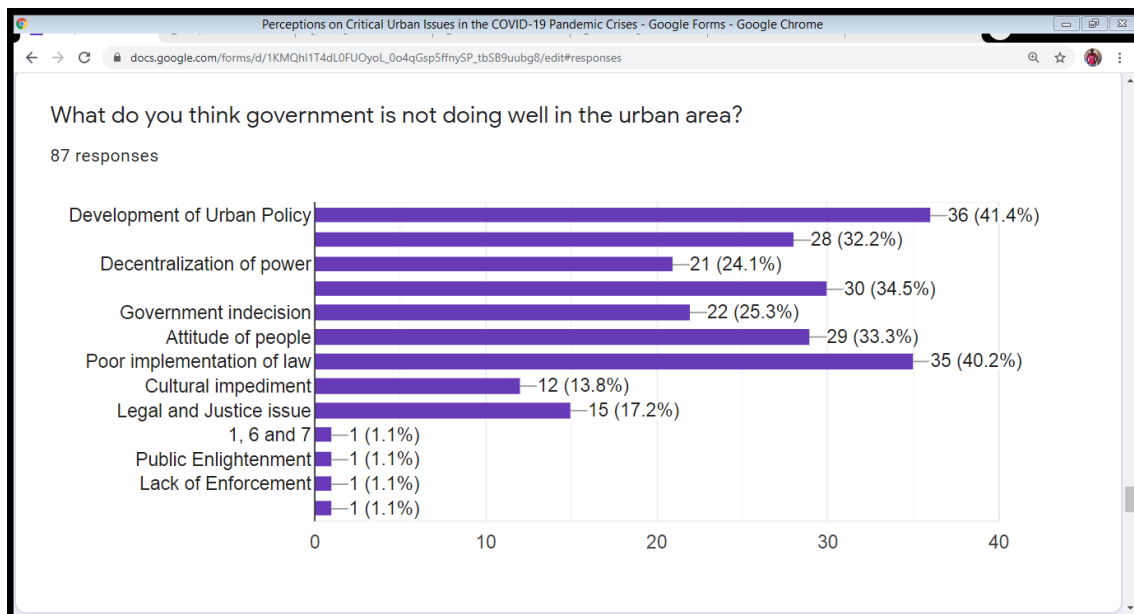

Figure 4. What government is not doing Well in the Urban Areas

The poor implementation of the law are blamed on poor inter-sectoral collaboration (34.5%) which makes coordination difficult in these cities. Laxity of the regional and town planners (32.2%) in developing and implementation of smart city plan, an attitude of the people in terms of poor compliance and wanting to use short cut (33.3%) and government indecision (25.3%) in dealing with offenders as well as utilizing the political will in ensuring slum are not created, were noted to be ill-doing of the government for sustainable urban management.

The implication is that before the coronavirus, the governments of these cities were not doing well in developing and implementing urban policies that would promote sustainable development in these cities. In particular, the challenges of implementing urban policies, poor collaboration between sectors, inadequate responses of urban professionals to urban development, and poor public attitudes have contributed to urban challenges exacerbated during the pandemic. Therefore, the two cities and other cities must develop a proper policy and strategies for future management of these urban issues for sustainable pandemic management.

4. Conclusion

The perception of the urban dwellers in Jakarta, Indonesia, and Lagos, Nigeria, were examined on the emerging urban issues occasioned by the management of the Coronavirus pandemic. One of the

major emerging issues is the impact of education and professionalism in these two cities on the level of awareness of covid-19. Strong awareness of the coronavirus in these cities before it occurred and an increase after the virus was detected, including a decrease in the percentage of people who doubted the reality of the coronavirus decreased compared to when it was found in cities. This reveals the need for more investment in education in both urban, semi-urban and rural areas. Furthermore, the need to consider the use of artificial intelligence tools in the management of future pandemics as well as an effective government response to the provision of adequate testing kits, protective equipment, vaccines and palliatives for both those who are oppressed and those who rely on their daily sources of income. , requires the government to be serious in developing an integrated pandemic response policy which will involve the provision of a certain amount of funds. Availability of this fund and policy can sustain the cities during future pandemics.

This study confirmed the lower priority of urban issues compared to other issues brought out the low contribution of urban researchers to public discussion around urban development before the pandemic. This is a challenge to urban professionals and associations practicing in both public and private sectors as more engagement is needed with the government and people to push urban issues more to the public parlance. The role of the culture and urban life in the spread and management of COVID-19 reveals the need for more roles for the community and youth leaders in the orientation of people in the city through the development of culturally appropriate strategies for future pandemic management. This implication to urban and regional professionals is the need to vigorously incorporate the culture and the culturally appropriate strategies in the urban and town management curriculum to develop a crop of professionals in this area.

The study is adding to the call on the government to manage the rural and urban population, housing density, and water for hygiene in the formal and informal settlements through appropriate housing laws and regulations that could prevent slum creation and development of affordable housing for the people. This will be possible when there is the provision of facilities and jobs in the rural and semi-urban areas. Public water provision needs to be given utmost attention for sustainable pandemic management in these cities. This can be best captured in the integrated urban policies that have been advocated that would address the challenge of inadequate cross-sectoral collaboration. In addition, to overcome weaknesses from regional and urban planners, the community's attitude in terms of poor compliance and the desire to use shortcuts, the government's hesitation in dealing with violators, and taking advantage of political will to ensure that slums are not created.

To effectively achieve this, especially to achieve Sustainable Development Goals of Smart city, urgent evaluation of Jakarta City and Metro City Development Plan and Lagos State Greater Urban Master Plan should be carried out. These should provide transportation, traffic control, modern social amenities, proper education, and social amenities, including green and blue spaces. Equally, this must be carried alongside assessing cities' regional development plans with the neighboring towns and cities for sustainability, emphasizing the utilization of data for urban planning and professional experts to implement city and regional planning proposals.

References

Alcock, I., White, M. P., Wheeler, B. W., Fleming, L. E., & Depledge, M. H. (2014). Longitudinal effects on mental health of moving to greener and less green urban areas. *Environmental Science & Technology*, *48*(2), 1247–1255. doi:10.1021/es403688w.

Angel, R., & Thoits, P. (1987). The impact of culture on the cognitive structure of illness. *Culture, Medicine and Psychiatry*, *11*(4), 465–494. doi:10.1007/BF00048494.

Bell, D. M., Weisfuse, I. B., Hernandez-Avila, M., Del Rio, C., Bustamante, X., & Rodier, G. (2009). Pandemic influenza as 21st century urban public health crisis. *Emerging Infectious Diseases*, *15*(12), 1963–1969. doi:10.3201/eid1512.091232.

Bogoch, I. I., Watts, A., Thomas-Bachli, A., Huber, C., Kraemer, M. U. G., & Khan, K. (2020). Potential for global spread of a novel coronavirus from China. *Journal of Travel Medicine*, *27*(2). doi:10.1093/jtm/taaa011.

Bond, C., & Brough, M. (2007). The meaning of culture within public health practice - implications for the study of aboriginal and torres strait islander health. In F. Baum, M. Bentley, & I. Anderson (Eds.), *Beyond bandaids: Exploring the underlying social determinants of aboriginal health.* (pp. 229–238). Australia: Cooperative Research Centre for Aboriginal Health. Retrieved from https://eprints.qut.edu.au/13118/.

Butala, N. M., VanRooyen, M. J., & Patel, R. B. (2010). Improved health outcomes in urban slums through infrastructure upgrading. *Social Science & Medicine*, *71*(5), 935–940. doi:10.1016/j.socscimed.2010.05.037.

Du, J., King, R., & Chanchani, R. (2020). Tackling inequality in cities is essential for fighting Covid-19. Retrieved from World Resources Institute website: https://www.wri.org/insights/tackling-inequality-cities-essential-fighting-covid-19.

Fairhead, J. (2016). Understanding social resistance to the ebola response in the Forest Region of the Republic of Guinea: An anthropological perspective. *African Studies Review*, *59*(3), 7–31. doi:10.1017/asr.2016.87.

Forsyth, A. (2020). What role do planning and design play in a pandemic? Ann Forsyth reflects on COVID-

19's impact on the future of urban life. Retrieved from Harvard University Graduate School of Design website: https://www.gsd.harvard.edu/2020/03/what-role-do-planning-and-design-play-in-a-pandemic-ann-forsyth-reflects-on-covid-19s-impact-on-the-future-of-urban-life/.

Grant, J. L. (2020). What cities can learn from lockdown about planning for life after the coronavirus pandemic. Retrieved from The Conversation website: https://theconversation.com/what-cities-can-learn-from-lockdown-about-planning-for-life-after-the-coronavirus-pandemic-136699.

Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2014). Nature and health. *Annual Review of Public Health*, *35*(1), 207–228. doi:10.1146/annurev-publhealth-032013-182443.

Herlihy, D. (1997). *The black death and the transformation of the west* (S. K. Cohn, ed.). Cambridge, MA: Harvard University Press. doi:10.2307/j.ctvjghwgp.

Hewlett, B. S., & Amola, R. P. (2003). Cultural contexts of ebola in Northern Uganda. *Emerging Infectious Disease Journal*, *9*(10), 1242 – 1248. doi:10.3201/eid0910.020493.

Jenkins, C. (2004). HIV/AIDS and culture: Implications for policy. In V. Rao & M. Walton (Eds.), *Culture and public action* (pp. 260–280). Stanford, CA: Stanford University Press.

Johnson, N. P. A. S., & Mueller, J. (2002). Updating the accounts: Global mortality of the 1918-1920 "Spanish" influenza pandemic. *Bulletin of the History of Medicine*, *76*(1), 105–115. doi:10.1353/bhm.2002.0022.

King, R., Orloff, M., Virsilas, T., & Pande, T. (2017). Confronting the urban housing crisis in the global south: Adequate, secure, and affordable housing. Retrieved from World Resources Institute website: https://www.wri.org/wri-citiesforall/publication/confronting-urban-housing-crisis.

Kreuter, M. W., & McClure, S. M. (2004). The role of culture in health communication. *Annual Review of Public Health*, *25*(1), 439–455. doi:10.1146/annurev.publhealth.25.101802.123000.

Leclerc-Madlala, S., Simbayi, L., & Cloete, A. (2009). The socio-cultural aspects of HIV/AIDS in South Africa. In P. Rohleder, S. C. Kalichman, L. C. Simbayi, & L. Swartz (Eds.), *HIV/AIDS in South Africa 25 years on: Psychosocial perspectives* (pp. 13–25). New York, NY: Springer. doi:10.1007/978-1-4419-0306-8_2.

Lee, V. J., Aguilera, X., Heymann, D., Wilder-Smith, A., Lee, V. J., Aguilera, X., … Yeo, W. Q. (2020). Preparedness for emerging epidemic threats: a Lancet infectious diseases commission. *The Lancet Infectious Diseases*, *20*(1), 17–19. doi:10.1016/S1473-3099(19)30674-7.

Lenters, L. M., Das, J. K., & Bhutta, Z. A. (2013). Systematic review of strategies to increase use of oral rehydration solution at the household level. *BMC Public Health*, *13*(3), 1–8. doi:10.1186/1471-2458-13-S3-S28.

Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y., … Feng, Z. (2020). Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *New England Journal of Medicine*, *382*(13), 1199–1207. doi:10.1056/NEJMoa2001316.

Lõhmus, M., & Balbus, J. (2015). Making green infrastructure healthier infrastructure. *Infection Ecology & Epidemiology*, *5*(1), 30082. doi:10.3402/iee.v5.30082.

Sloan, A. W. (1973). Medical and social aspects of the great plague of London in 1665. *South African Medical Journal*, *47*(7), 270–276.

UNPF. (2016). Urbanization. Retrieved from United Nations Population Fund website: https://www.unfpa.org/urbanization.

van den Berg, M., van Poppel, M., van Kamp, I., Andrusaityte, S., Balseviciene, B., Cirach, M., … Maas, J. (2016). Visiting green space is associated with mental health and vitality: A cross-sectional study in four european cities. *Health & Place*, *38*, 8–15. doi:10.1016/j.healthplace.2016.01.003.

van den Berg, R. (2020). How will COVID-19 affect urban planning? Retrieved from The City FIx & World Resources Institute website: https://thecityfix.com/blog/will-covid-19-affect-urban-planning-rogier-van-den-berg/.

Wardekker, J. A., de Jong, A., Knoop, J. M., & van der Sluijs, J. P. (2010). Operationalising a resilience approach to adapting an urban delta to uncertain climate changes. *Technological Forecasting and Social Change*, *77*(6), 987–998. doi:10.1016/j.techfore.2009.11.005.

Weekes, S. (2020). Pandemic to reshape city resilience and technological investment, says report. Retrieved from Smart Cities World website: https://www.smartcitiesworld.net/news/news/pandemic-to-reshape-city-resilience-and-technological-investment-says-report-5144.

Wheeler, S. M. (1998). Planning sustainable and livable cities. In *The city reader* (pp. 435–445). London: Routledge.

WHO. (2017). *Urban green space interventions and health: A review of impacts and effectiveness*. Copenhagen.

WHO. (2019). Drinking-water. Retrieved from World Health Organization website: https://www.who.int/news-room/fact-sheets/detail/drinking-water.

WHO. (2020). *Novel coronavirus (COVID-19) - Situation report 28*. Geneva.

Yuen, K.S., Ye, Z.W., Fung, S.Y., Chan, C.P. and Jin, D. Y. (2020) SARS-CoV-2 and COVID-19: The most important research questions. *Cell Bioscience, 10*(40): 1-5. doi:10.1186/s13578-020-00404-4.