

# The implications of adopting sustainable urbanism in developing resilient places in Abuja, Nigeria

Job Momoh

*Department of Construction, Property and Surveying,  
School of the Built Environment and Architecture, London South Bank  
University,  
London, UK*

Benachir Medjdoub

*School of Architecture, Design and the Built Environment,  
Nottingham Trent University, Nottingham, UK, and  
Obas John Ebohon, Olubisi Ige, Bert Ediale Young and Jin Ruoyu  
Department of Construction, Property and Surveying,  
School of the Built Environment and Architecture, London South Bank  
University,  
London, UK*

## Abstract

**Purpose** - Sustainable urbanism is the study of both cities and the practices to build them, which focuses on promoting their long-term viability by reducing consumption, waste, and harmful impacts on people and place while enhancing the overall well-being of both people and place. This paper analyses the implications of adopting sustainable urbanism principles and developing resilient places with Abuja as the area of focus to tackle the highlighted issues.

**Design/methodology/approach** – The paper is based on qualitative research which is centred on a extensive literature review and archival retrieval of historical documents. This includes the emergence of urbanism, sustainable urbanism definition, and current issues surrounding its adaptation. The paper also focuses on a case study area in the capital city of Abuja, Nigeria which is currently undergoing massive urban development. Interviews are conducted with academics (13), practitioners (12), and government officials (10) making a total of 35 participants.

**Findings** - The main findings will create an understanding of the definition of sustainability and sustainable urbanism with a special focus on Abuja city. It was realised from the interviews that sustainable urbanism in broad terms encompasses economic, social, and environmental sustainability, and that these dimensions vary across different contexts even in the developing world. Also, sustainability can be achieved through deploying the right combination of measures, policies, assessment tools, sustainability assessment, good governance, and training/education and incentives.

**Originality** – By reviewing the selected studies which explore a wide range of disciplines and research areas, and conducting this qualitative research, this paper shares insights into how sustainability and sustainability urbanism can be achieved in the development of urban spaces in Abuja environs.

**Keywords:** Developing countries, Sustainability, Sustainable Urbanism, Urbanisation, Urban Regeneration

## 1. Introduction

It is estimated, today, that more than half of the world's population resides in towns and cities. This population explosion has affected the development of urban areas. Such uncontrolled growth often results in the destruction of arable lands, congestion, various forms of pollution, slums, and shantytowns (OECD, 2020). This perspective brings a

pressing reality to the necessity to build tomorrow's world on sustainability principles. Urbanisation is understood in most cases as a shift from a predominantly rural society to an urban society which represents major irreversible changes in production and consumption and how people interact with nature (Dodman et al., 2017). Dodman et al (2017) state that cities in sub-Saharan Africa are predicted to experience a certain degree of the most severe impacts from urban vices like pollution, health crisis, flooding, and urban decay, amongst others. This is due to the low levels of adaptive capacity among the urban populace in adopting sustainability principles (Adewumi et al., 2019). On the other hand, urbanism characterises people's way of life. Urbanism in general is defined as the study of cities which also has a different focus on different aspects (Lemanski, 2014). In architecture and urban planning, much emphasis is placed on urban form/structure (Annez and Buckley, 2009). In sociology, urbanism is perceived as the social interaction within communities in the context of cities. Urbanism is viewed as the consequence of urbanisation and cities are a product of people's way of life (urbanism) (Murray, 2017). To achieve sustainable urbanism, the scale of urbanisation must be accepted and urban development processes must be guided and managed with a sustainable approach alongside the need to adopt political, governance, economic, social and cultural changes which will take place in African towns and cities (Dijkstra et al., 2020). Urban environments across the globe have been a source of income generation for most countries – hence the need for population shift. Urbanisation and growth go hand in hand because no country has ever reached middle-income status without a significant population shift into cities (Annez and Buckley, 2009; Muller, 2021).

According to recent statistics by United Nations Department of Economic and Social Affairs (UNDESA), the world's population has grown drastically since 1950 from 746 million to 3.9 billion in 2014. Currently, the world's population is estimated at 7.8 billion people (UN-Habitat, 2020). Asia's population accounts for 53 per cent of the world's urban population followed by Europe at 14 per cent, and Latin America and the Caribbean at 13 per cent each. It is projected that the world's population will increase by 2.5 billion people by 2050; hence the urgent need for urban regeneration schemes and building resilient places (Sanderson, 2013; UN-Habitat, 2020). In the coming decades, the level of urbanisation is projected to increase in all regions and major countries in Africa, and Asia will be urbanising faster than the rest of the continents (Henderson et al., 2017; Momoh et al., 2021). These areas are anticipated to hit 56 and 64 per cent of total urban dwellers, respectively, by the middle of the twenty-first century (Potsiou, 2010; UNDESA, 2008).

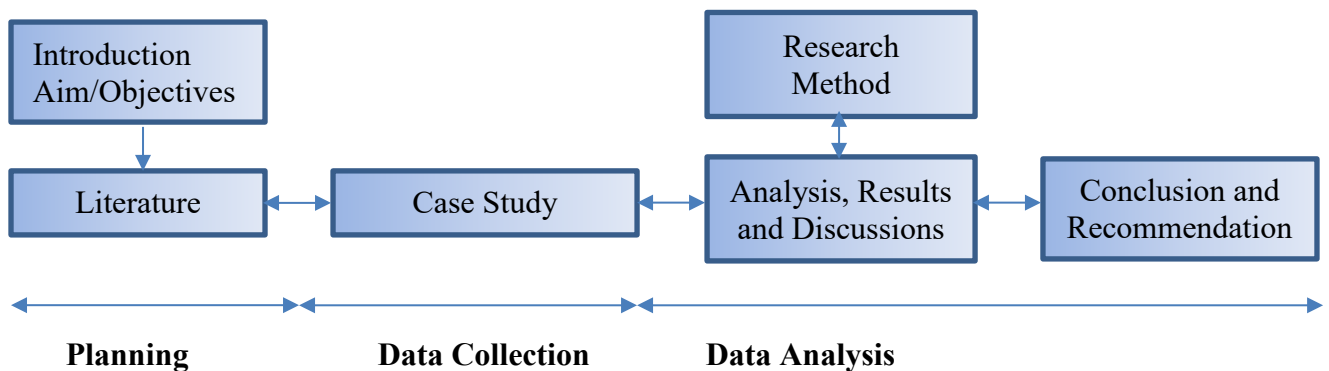
Currently, overall, Africa and Asia are urbanising at a more rapid pace than other parts of the world. The rate of urbanisation is measured as an average annual rate of change in the percentage of urban dwellers. This result will affect the way of life of urban dwellers and, with this projected rise in population, it is paramount to understand how these cities will grow and thrive within a holistic sustainable urban framework. To achieve resilient sustainable futures within developing countries the use of sustainable urbanism and its theories will drastically impact the development of its urban environs.

In this paper, the research aims to understand the implications of adopting sustainable urbanism in developing resilient urban spaces in Abuja, Nigeria. To achieve this aim the following objectives need to be achieved:

- (1) Analyse the current sustainability theories and the definition of sustainability and sustainable urbanism.
- (2) Investigate the need for adopting sustainability principles in the development of cities looking at Abuja as a case study.

- (3) Analyse, conclude and recommend approaches in its successful adoption and implementation in creating resilient cities.

This paper is divided into five sections. Section 1 presents a brief introduction alongside the definitions of urbanism and urbanisation. Section 2 analyses the emergence of urbanism, alongside the definition of sustainability and sustainable urbanism theories. Section 3 focuses on the research methodology. Section 4 reviews the data collected from semi-structured interviews and the responses from participants. Section 5 summarises the paper and recommends how sustainability can help in achieving urban development. Figure 1 showcases the structure of the research.



**Figure 1:** Structure of the Research Diagram

## 2. Literature Review

### 2.1 The emergence of movements in urbanism and current views

The emergence of urbanism can be ascribed to Idefons Cerda in his theory of urbanisation (Cerda, 2018). He clearly defines this as a science of human settlement at various scales in terms of size and time which deals with the theories within that era (Cerda, 2018; Kelbaugh, 2007). Cerda was the first urbanist to envision a self-conscious, modern, scientific theory of the city looking into the relationship of the theories within the city. He suggested that innovation in the advancement of technologies such as electricity and industrialisation would entail an enormous jump in scale and speed for the nineteenth-century modern European cities (Cerda, 2018). As urbanism theory began to expand other theories evolved. These theories are further studied within the current views of urbanism. The characteristics of urbanism include the following: (1) The diversity of social life (Normal and social role conflict); (2) Rapid social and cultural change; (3) Impersonalness and lack of intimate communication; (4) Materialism; (5) Individualism; (6) Mobility; and (7) Increase Informal social control (Cerda, 2018).

These characteristics have helped in the formulation of various urbanism theories. Douglas Kelbaugh writes about three urbanisms on the critical edge of hypothetical and proficient theories in western architecture and cities across the world. In his article *Towards an Integrated Paradigm: Further Thoughts on the Three Urbanism* Kelbaugh (2007) talked about how to design the built environment in transforming society into social, cultural, economic, technological, and ecological environments. Kelbaugh further stated that there are three current paradigms of urbanism which are New Urbanism, Everyday Urbanism, and Post-Urbanism. Kelbaugh emphasised that all three paradigms are directly linked to each other. Each has pros and cons but had not been

adopted in equal proportion in most American cities at this point in their development (Kelbaugh, 2007, p. 11). Other existing movements in urbanism based on this research include Modern, Post-Modernism, Smart Growth, Integral Urbanism, Green Urbanism, and Sustainable Urbanism. Although theories like Green Urbanism are considered to be more similar to sustainable urbanism, this theory addresses urban design with nature alongside shaping better communities and lifestyles. Green urbanism is, by definition, interdisciplinary, as in 'ecological design', which has been and will be interdisciplinary, not the property of any single profession or movement (Ellis, 2015). Moreover, the principles of green urbanism are grounded in the triple zero frameworks which are zero waste, zero emission and zero fossil energy use (Roggema, 2017).

The relationship between these theories has shown a transformation and re-adaptation of the main principles of urbanism based on the revision of similar fundamental practices. Although most of the theories are still in current day practice, they have contributed to the realisation of sustainable urbanism. Sustainable Urbanism is one of the most recent forms of urbanism theory and has been tried and tested in key cities across the globe. The theory also supports the role of the global network and agenda which values factors and responds by using the tools of sustainable urban design (Newman, 2005; Roggema, 2017). Sustainable urbanism addresses critical issues in urban design which include social, economic, and environmentally sustainable community development. It also encompasses topics of sustainability related to the entire process of city development and management (Farr, 2008; Roggema, 2017).

## *2.2 Sustainability and Sustainable Urbanism: The Definition*

The world is more densely populated than ever before and is inhabited by more people who consume increasingly limited resources, creating an environment that is no longer truly sustainable (Adhja et al., 2010). Arguably the problem is not so much population expansion or consumption but rather unsustainable habits. Rapid urban expansion without effective environmental consciousness means that virtually every urban centre is at risk of both natural and human-induced hazards. Urban areas, particularly in developing cities, grow and deteriorate over time, creating cities that are not sustainable; this may initiate the use of sustainability in environmental planning (Dodman et al., 2017; Momoh, 2021). To define sustainable urbanism is to examine sustainability in urban design. Urban design is derived from related matters such as planning and transportation policy, architectural design, development economics, landscape, and engineering (Llewelyn-Davies, 2007, p.10). Also, urban design draws together the many strands of place-making environmental responsibility, social equity, and economic viability into the creation of places of beauty and distinct identity. Urbanism in some cases demands mixed-use development, creating a range of opportunities for people to interact easily within the urban space, and to live, work or travel. It also creates activities within the building and its surrounding environment (Jacobs, 1961). Urbanism is a creative, collaborative process that involves shaping the forms of the city, enhancing how it is experienced, and improving its function as a habitat for human life (Wall et al., 2009).

Sustainability, on the other hand, ensures that the present generation can enjoy a satisfactory quality of life (QOL) which aims to fulfil current needs without compromising the plans of future generations. This principle is based on the whole life cycle of the building materials, use of raw materials, renewable energy sources, minimising the materials used, energy use, raw materials production, and recycling of waste. It also considers the impact of such development on the society as well as its economic benefits and cost in actualising such projects (Gauzin-Müller, 2002, p.12;

Slone and Goldstein 2008). The theories focus on three main tiers or strands of sustainability; these are social/cultural, economic, and environmental (Roggema, 2017). Combining the two principles has resulted in 'Sustainable Urbanism', which Farr (2008) defines as

*...a walk-able and transit-served urbanism integrated with high-performance buildings and high-performance infrastructure; where compactness (Density) and human access to nature (Biophilia) are core values and where aspects of sustainability, functionality and interconnectivity are more important than design (Farr, 2008, p.65).*

This definition focuses on the form-based bias of the current architectural theories and practices for understanding sustainability. Sustainable urbanism is also imagined as a grand unification of architecture, city development, and environmental design for a better way of life (Gauzin-Muller, 2002; Polese and Stren, 2000). The theory has its roots in America's search for global urban solutions by facing the problems of suburban development. It targets critical issues and challenges, not only those of urban planning, social, environmental and economic sustainable community development, but also health and climate on local and global scales; and proposes comprehensive solutions for these interdisciplinary tasks of both present and future meaning (Farr, 2008; Wu, 2010). Sustainable urbanism aims to achieve urban regeneration through returning modern suburban designs to an earlier era which had smaller units of mixed-land uses, internal pathways, and a semi-grid street pattern that enhances integration with neighbourhoods and many activities that are done on foot. It also draws attention to the enormous opportunity to redesign the built environment which supports a higher QOL and a healthy lifestyle (Farr, 2008). The likelihood of actualising this theory in developing countries will be as a result of studying how it has been applied in developed countries like the United Kingdom and other parts of the developed world (UNDESA, 2008).

Sustainable urbanism combines the three main dimensions in sustainability by ensuring that urban spaces are environmentally aware, socially inclusive, and economically productive (Adhja et al., 2010). Developed countries have implemented sustainable urbanism in projects using this theory as a platform in the design and planning of infrastructure; key examples are Dockside Green Victoria, British Columbia (Canada), Upton, Northampton (England), and Dongtan, Shanghai, (China) (Farr, 2008; Newman, 2005). The perception of sustainability is gradually emerging in developing worlds but its successful implementation is based on understanding the key underlying principles (Roggema, 2017).

### *2.3 Issues surrounding Sustainability, Sustainable Urbanism and Urban Growth in achieving resilient places*

A 2009 Global Report on human settlements by the United Nations Centre for Human Settlements focuses on revisiting urban planning (Adhja et al., 2010). Renewed interest in urban regeneration/urbanism within the last 10 to 15 years is driving the exploration of the nature and role of urban planning; highlighting emerging global trends, complex urban patterns, and evolving challenges of urbanisation (UN-Habitat, 2020). Urban growth in most parts of the world is characterised by a contradiction which shows that this growth is not uniform and that, as a result, there is huge metropolitan growth, continuous displacement, deterioration, and reduction in the value of the inner core cities. In early 2000 the use of sustainable urbanism theories/practices opened up opportunities and challenges to explore this theory as a new discourse in city planning and urban design (McMichael, 2000; Wheeler and Beatley, 2009).

Urban growth over the last few decades has experienced advances in efficiency and individual wealth. Urban agglomeration and technical advancement are characteristics of progressively complex and interdependent growth (Cook, 2010). At the moment it is estimated that about a billion urban residents are currently living in slums, delinked from trunk infrastructure, without land tenure, unable to reach municipal capitals, and unnoticeable to urban policymakers (Cook, 2010; Wheeler and Beatley, 2009). UN-Habitat has recently changed the themes based on the urgency to mitigate the overwhelming concerns of rapid urbanisation in the world. Given the implications of the increasing urban population in low- and middle-income countries, there is an urgent need to address the overwhelming challenges in the provision of urban basic services particularly decent houses, water and sanitation for the teeming populations in slums where QOL is at its worst. Most countries in Africa, Asia and South America have in the last few decades not been able to deliver on their promises of alleviating the precarious state of the living environment of their citizens (Slone and Goldstein, 2008; UNHABITAT, 2020). Some very good examples are Cuba, India and Nigeria; these countries have embraced a socialist planning philosophy which implies that urban form could take a suitable direction to global economic capitalism (Dodman et al., 2017).

Middle East cities of Dubai, Abu Dhabi and Doha are currently working on incorporating sustainability principles in their master plans and urban regeneration projects to lead the sustainability agenda. Although some of the projects carried out have attracted major criticism in terms of environmental impact, others such as the Masdar city project have become good examples of sustainability (Stilwell and Lindabury, 2008). However, most of their projects are expensive and are mainly technologically driven. Africa is still facing significant problems and most issues are more a combination of various factors. It might take time to achieve sustainable urbanism as it is a gradual process. Most countries in Asia and Africa have higher social problems than in developed countries (WBCSD, 2010). Achieving sustainability in urban development is seen to be expensive because basic survival needs such as food, housing, clothing, education, and healthcare are not always available. To have a healthier house, renewable energy, technology, and environmentally friendly transportation system, it is recommended to first provide adequate affordable housing, energy, rapid urban regeneration, transportation, and basic health facilities before other elements can be incorporated and sustainable urbanism can ultimately be achieved (Gonzalez, 2000, p.2). These are the fundamental requirements needed to develop resilient communities. Emphasis should also be placed on various organisations' and interest groups' spear-heading campaigns for progressive changes in policies, laws, technologies and development strategies towards enhancing sustainable urban qualities to achieve resilient places.

#### *2.4 Sustainable Urbanism in Abuja, Nigeria*

Developing nations experience informal planning, housing dilapidation, and decay. This is as a result of many factors such as lack of effective urban planning systems, weak urban and housing management processes, the land tenure system, urban violence, corruption, and general lack of awareness (Oyeshola et al., 2009). These problems are not been properly managed based on an unequal distribution of income generated by social, environmental, and economic systems. To achieve sustainable urbanism in developing worlds certain measures must be taken by architects, planners, and government officials (Gonzalez, 2000; Momoh et al., 2021). Abuja is the present capital of Nigeria created to be a modern city that is not overpopulated, and also an administrative capital not prone to attacks from neighbouring countries. It is centrally

located in the country. It was initially set up as an economic, social and cultural capital for Nigeria's unification but ended up as a city that has neglected social and economic sustainability and reflects more of the class divisions between people and society (Alkali, 2005). With the current explosive growth rate in Nigeria, Abuja will continue to have human settlement problems, which in turn imposes high demands on the issues relating to infrastructure development, basic services, housing, sanitation, waste management, health, social conflict, and governance (Oyesiku, 2011).

It has been argued that the demand for basic infrastructure in the Nigerian context can be achievable through sustainable urbanism and sustainable development. This collaborative approach can be employed in achieving these so that both future and present generations can benefit from this theory (Oyeshola et al., 2009). Hence it is important to know that the answer to the Nigerian urban chaos is not solely reliant on new policy adaptation but is also determined by a composition of various factors like proper instrument implementation, incentives, education, and public participation, amongst others. However, one of the biggest challenges which threaten the achievement of sustainable urbanism in Nigeria is poverty (Jiboye, 2011b, p. 213). The definition of poverty is said to be a state of long-term deprivation of well-being, a situation considered inadequate for a decent life. Recent World Bank statistics have revealed that 60 per cent of Nigerians live below the poverty line while 30 per cent are middle-income earners and 10 per cent are high-income earners, a ratio of 1:3:6, respectively (UNDP, 2008). To tackle the rapid urbanisation and population explosion the poverty issue has to be properly managed. Because poverty jeopardises political stability, social cohesion and environmental balance of cities, until it is effectively managed, sustainable urbanism will be hard to attain (Olawaju, 2003). Another way of achieving sustainable urbanism is through the adaptation of an effective and operational framework for housing delivery in Nigeria, to improve the standard of living within its habitats, and create cohesion between low-, middle- and high-income earners (Oyeshola et al., 2009).

Another problem faced in Nigeria is the inconsistency in the policies adopted by the government regarding infrastructure provision. Sustainability in housing can be accomplished if the government embarks on policies based on the needs of the people, not self-serving interests. Housing provision should facilitate improved standards of living for people which can create a knock-on effect on the health, productivity, and welfare of the people (Oladunjoye, 2005). Meeting targets should be the main focus of every government regardless of the initiative behind the policy or governmental change (Jiboye, 2011, p.177). Policy adaptation, initiatives, schemes and programmes are some of the tools needed in achieving sustainable urbanism. However, for them to have the desired outcome in Nigeria these strategies must be significant to problems and issues about urbanisation, attitudinal orientation, lapses in the legal and institutional frameworks in urban environmental management, good governance, urban regeneration, extension, enhanced infrastructure development, and collaboration between stakeholders and community. These initiatives will go a long way in achieving sustainable urbanism (Jiboye, 2011; Oladunjoye, 2005).

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high demands on infrastructure development, basic services, housing, sanitation, waste management and health services, as well as social conflict and governance issues (Oyesiku, 2011).

### **3. Research Method**

The research methods employed to collect and analyse data involve the use of specified instruments which include interviews, literature review, and documentary analysis. Research design means all the issues involved in planning and executing a research project from identifying the problem to reporting and publishing the results. The design of this paper is divided into two stages which identify how this research is accomplished. The first stage explores the need for achieving sustainable urbanism within Abuja, Nigeria. The second stage looks at the most appropriate method, data collection approach, and analysis alongside how the findings contribute to knowledge and policy recommendations. The recruiting process involved selecting participants from three groups – academics, practitioners, and government officials. The groups were chosen to create an overall holistic approach in regards to the knowledge gap between them as it could be argued that the academics are known to be the *facilitators*, the practitioners are the *implementers*, and the government officials are the *policymakers*. The selection also considered participants' academic and professional qualifications. The population size involved various experts within the built environment residing in Nigeria, and some across other countries, to capture robust knowledge in regards to this subject area. The sampling strategy used was primarily non-probability sampling as this strategy is better aligned with qualitative research (Walliman, 2011, p.85). This method was used because the researcher had very little or no control in regards to selecting the individuals for data collection (Yin, 2009). The structure of the interview instrument includes pressing questions that address key areas investigated in the research. The research looks at redefining sustainability, sustainability assessment and, last, sustainability implementation.

The interviews were semi-structured which allowed new questions to be introduced during the interview process concerning respondents' answers (Saunders and Lewis, 2012). The semi-structured interviews were analysed by interpreting the data which were subject to thematic and content analysis. The semi-structured interviews, surveys, documents, and results from the interviews/surveys were composed of the views and opinions of the participants. These data were then coded and analysed through qualitative content data analysis. Also, data from the documents studied were synthesised, analysed, and introduced into the discussion to meet the stated objectives of the research (Dawson, 2011).

Qualitative and quantitative research methods are both known to be very robust methods for attaining high validation and reliability of the research. The terms 'validation' and 'reliability' are both closely linked to quantitative research (Bryman and Bell, 2011). To assure reliability the research process was properly explained in this chapter, all documents collected were copied and stored safely by the researcher, and photographs were taken to support the evidence. Also for validity, the data collected were then used to inform the conclusion and recommendation; hence, the collected data influenced the results.

### **4. Analysis, Results and Discussions**

The data collected aim to create an understanding of sustainable urbanism/sustainable urban development and to clarify whether there are opportunities for developing



countries to adopt and utilise its principles. The conceptualisation of sustainable urbanism will create an understanding of urban development and the implementation of sustainability in the context of developing worlds within a holistic approach. This takes into account awareness, economy, socio-cultural, climatic conditions, development level, and behaviours. The interviews generated qualitative data and the sets of interviewees fell within three groups – academics (13), practitioners (12), and government officials (10) making a total of 35 participants. A significant percentage of the participants are based mainly in the Nigerian system (either in tertiary institutions, government agencies, or private practices) while some were contacted across the globe.

The data show that most of the academics have a degree, a Master's and/or a PhD. Specifically one has a Bachelor's degree, four respondents have attained a Master's degree, and eight hold doctorates (making a total of 10). This explains that academics are well-positioned to know about current trends on sustainability in developing countries. Among the practitioners' group, two respondents had undergraduate degrees, seven had Master's degrees and three held doctorates. This shows that the management of construction projects has drifted from the general perception of vocational managers to degree-holding managers, although one may argue that it is not the underpinning perspective of the industry; there are managers with doctorates as well. Last, among the government officials, five held undergraduate degrees, three held Master's degrees and two had achieved doctorates. Also, the adaptation of content analysis was used to analyse qualitative data and formulate a summary for the research findings.

#### *4.1 Theme One: Definition of Sustainability*

##### *4.1.1 Question A: What is your understanding of Sustainability and Sustainable Urbanism in the context of developing worlds?*

There was an agreed definition of sustainability by 13 participants (2, 3, 6, 8, 9, 13, 16, 23, 24, 28, 30, 33, and 35) that sustainability is a buzzword across different sectors and it is suggested that it is

*....the consideration in the use of resources for the present generation without hampering its future extinction, therefore, using resources efficiently in order to meet the needs of our future generation as well... .*

Four participants (1, 6, 8, and 24) suggested that, looking at the Venn diagram, the emphasis in developing countries is not as equal as some people perceive it to be. Most issues affecting people in developing countries are forgotten in the developed world and vice versa due to the level of development. From this understanding of sustainability in developing worlds, economic and social aspects are the more pressing because of the current situation within the context. There are not many enlightenments with regards to environmental sustainability. It is in human nature mostly in developing countries that people tend to manage or conserve their resources, the very act of which represents a form of sustainability, although people are not necessarily aware that they are practising this. The researcher agrees that some aspects of management in the context of developing worlds can be classed as sustainability. For example, water usage management in developing countries is a result of alternative sources of water, e.g. United Nations Department of Economic and Social Affairs, wells, boreholes, streams, rivers, and rainwater collection systems (due to lack of adequate water supply most homes have alternative means of collecting water).

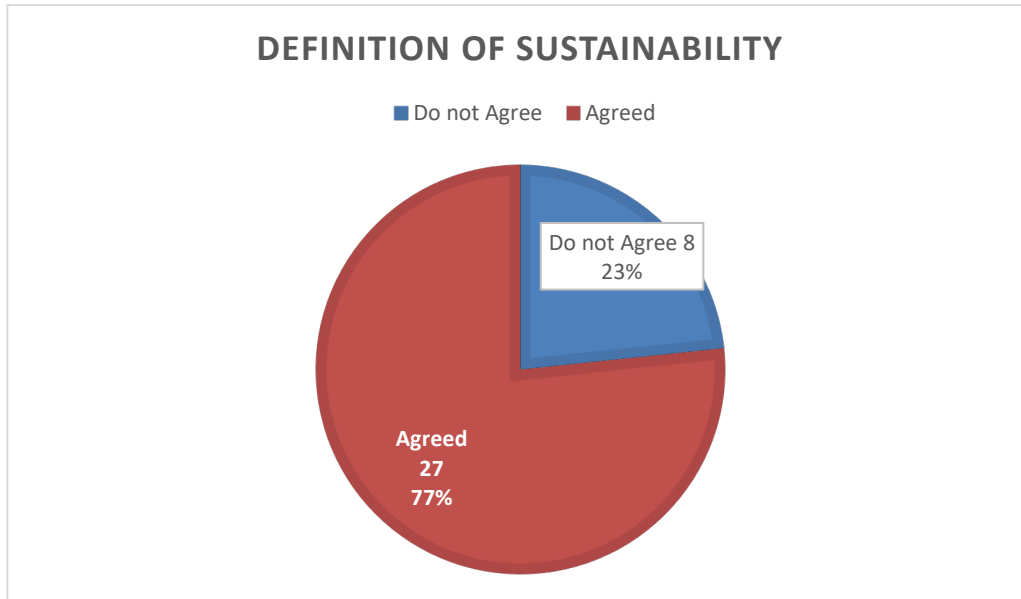
Also, two participants (10 and 12) stated that "*developing countries contribute marginal proportion to factors that trigger global environmental degradation and changes in weather pattern*" (participant 10). That is why sustainability must be taken seriously from inception. According to participant 15, the term 'sustainable urbanism' can be clearly defined as follows:

*"Sustainable Urbanism is seen as the development of cities or takes into consideration the design of cities and communities using resources within the community having in mind that those resources are not being used within detrimental impact to the future generation"....*

Two participants (4 and 32) suggested that "*sustainable urbanism models are imported from Europe and America and translated into other geographies without giving it much thought hence mistakes are made*". This case explains how people try to implement techniques and models from abroad that might not work due to diversity in context and socio/cultural issues. The researcher suggests that this has resulted in problems like the cost of design, construction and maintenance, which is why it is imperative to develop models that respond to the context and needs of specific regions.

One participant (11) suggested that sustainable urbanism is tied to resource exploitation particularly considering the role that urban space plays within the globe. Therefore, if urban spaces are properly managed, then these spaces could become a good resource for environmental conservation as well as tackling the issues of environmental problems. Sustainable urbanism is more around how land use and transportation are organised around factors that are tied to how much energy is consumed, how much waste is generated, and how these affect the global environment. Another participant (25) stated that "*it looks into how land-use ought to be organised in a way that it fosters sustainability using concepts such as smart growth and new urbanism*". Another conversation that sprung up between participants (13 and 27) suggests that sustainability urbanism is composed of economic, social, and environmental aspects. With the current situation, the economic drive in any rural-urban migration is a very powerful factor in urbanisation which invariably leads to economic imbalance. The pressure on urban centres due to rapid urbanisation affects the pace of development which in turn does not accommodate sustainability; and the difference in developed societies – e.g. in Europe – is that when people migrate they bring skills to the urban areas while, in Nigeria, most people from the rural spaces are farmers without skills, which creates an imbalance of skills. One participant (30) said that it is "*the marriage of sustainability or sustainable development and urbanisation*". That is, it is the provision of social amenities, infrastructures, and basic facilities within a sustainable urban environment.

Overall, the researcher suggests that to define 'Sustainable Urbanism' the difference between urbanisation and urbanism has to be identified. *Urbanisation* looks at the expanse of land with regards to the population migration, managing present facilities, or providing more to make the urban area liveable for habitation, while *urbanism* looks at the character of the place and image of the city. The combination of sustainability alongside urbanism is the result of *sustainable urbanism*. In Figure 2 below, a total of 27 participants (77%) agreed that sustainability is defined as the present generation achieving their needs – e.g., housing, agriculture, and finance amongst others – without impeding the future generations from meeting their needs, while the remainder had various suggestions. The researcher concurs that sustainable urbanism is the development of urban spaces within the confined principles of sustainability considering the three main dimensions – social, economic, and environmental.



**Figure 2:** Definition of Sustainability

#### 4.2 Theme Two: Sustainability Implementation

4.2.1 Question B: *Do we have an opportunity to achieve a brighter future through urban regeneration of the built environment using sustainable measures? If yes, which one(s) have you used?*

Most of the participants answered 'yes' to this based on the present level of development and their experience in sustainability implementation. Looking at statements from researchers like Daramola (2010), Jiboye, (2011) and Olaunjoye (2005), all have asserted that sustainability development/urbanism and its principles is the way forward for planning and managing urban spaces within developing countries. Participant 1 clearly stated that

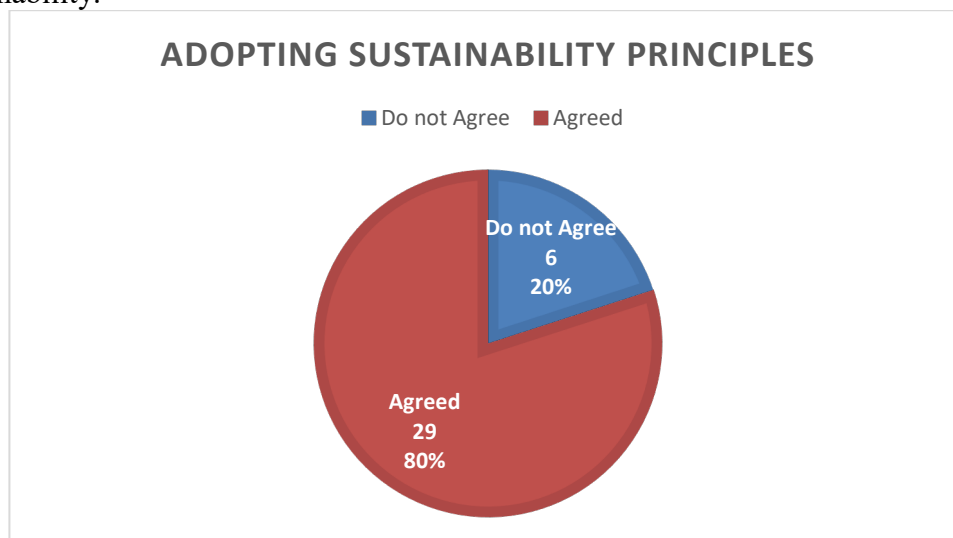
*...we do but how near is the question - it can be tomorrow or it can be 100 years from now or it can take a while. There is a brighter future because you can see that developing countries are in the infancy of exploiting their natural resources....*

Some participants suggest that it is in its infancy stage at the moment and the framework can be developed by considering both short-term and long-term perspectives. This can be incorporated with key performance indicators (KPIs) to measure the performance within 5, 10, or 20 years and this could be at a country-, regional- or state-level approach. Some participants (7 and 13) shared similar views which suggest that *"we have the potential and we need a multi-stakeholder's framework bringing key players together to look at these sustainability measures"* (Participant 7). Awareness is the main problem and, to understand how sustainability can affect the entire population, people need to be aware of its advantages and disadvantages; hence experts need to come in and enlighten people on what the future holds (participants 8, 25, 29, and 31).

Participant 16 suggests that *"we are currently battling with urban planning problems and we need to have a review of the master plan for urban regeneration and sustainable*

*purposes*". Others suggest that it is possible because the principles behind sustainability are to use resources for a long time in a manner that is efficient, reusable, effective, and cost manageable. Participant 30 suggests *"that we need an attitudinal change which will lead to a change in our aspirations and with that change we have great opportunities to change our world"*. Two participants (23 and 34) suggest that developing societies lack basic infrastructure, housing, and job opportunities while in other countries sustainability has resulted in energy-efficient homes, job creation, and innovation, among others. Green economic growth is a huge potential only if the areas like the urban planning sector, research/technological development, and planning laws are revisited to achieve sustainability.

The researcher suggests that the potential is huge if sustainability is embraced and implemented. The future is bright and developing worlds are supposed to create newer ways in increasing investment opportunities, urban regeneration, employment opportunities, income-earning opportunities, infrastructure, and urban development. The researcher suggests that there is an opportunity to correct the mistakes that developing countries have made by taking the unsustainable path that some developed countries have also chosen. In Figure 3 below, 29 interviewees stated that they had participated in projects that have implemented sustainability and that have an element of sustainability. This shows that a high number of participants have broad knowledge regarding sustainability.



**Figure 3:** Opportunity to achieve a brighter future through urban regeneration of the built environment using sustainable measures

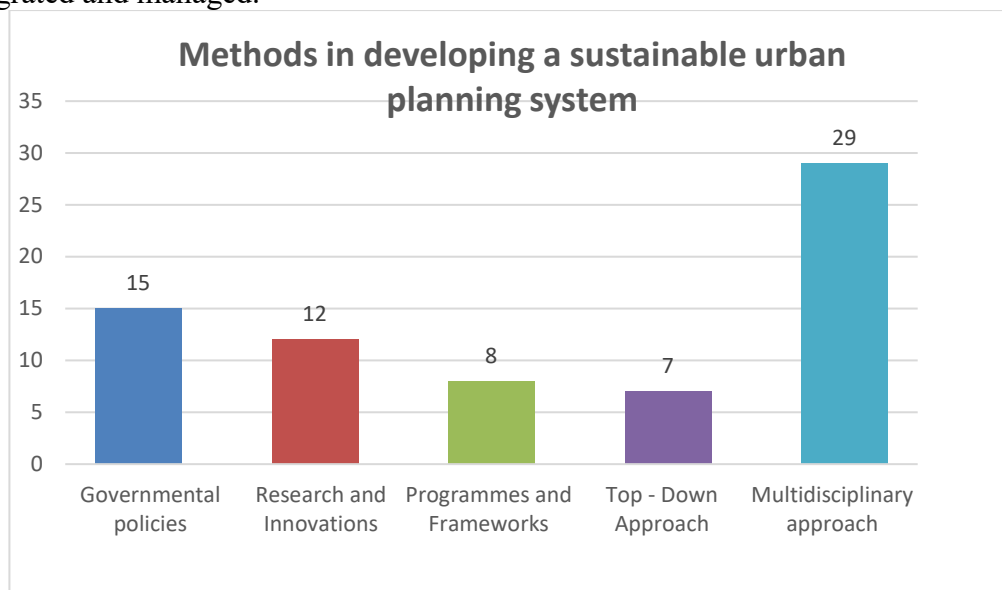
**4.2.2 Question C:** *How can we develop a sustainable urban planning system which integrates buildings and urban spaces designed with sustainability criteria?*

It is agreed there are numerous political and economic issues at present in developing countries which should not hinder the adaptation of sustainable urbanism (Danjuma, 2013). The researcher suggests that the wheel should not be reinvented and there is nothing that cannot be done that has not been accomplished elsewhere, so technically it is not going to be difficult to develop a sustainability assessment tool (Adewumi et al., 2019). Participant 4 suggests that *"the difficulty is that political power is very strong in Nigeria and they have the higher will in influencing decision change hence its highly possible to develop sustainable systems if the governments will it"*. Participant 1 suggests the need *"to review the statutes, laws and statutory requirements. Nigeria is a good environment because a lot of projects are driven by the government"*. Further

responses from other participants (3, 8, 9, and 34) suggest that the government, academics, sustainability built environment experts, and stakeholders have to sit down together to develop very robust planning laws, building regulations/controls, and environmental protection acts geared towards sustainability. The researcher suggests that the problem lies in enforcement schemes and the lack of institutions and institutional building capacity to implement necessary policies. Also, any regulations that are generated should be tailored to Nigeria's needs, culture, context and response to climatic conditions (Daramola, 2010).

One participant (11) suggests that *"cities are engines of gold and development and an opportunity for income-generating activities and better livelihoods,"* and this can be achieved by having leaders with urban planning visions. This can be a top-down approach through policy implementation. Other participants (15 and 28) suggest that one of the key issues to be addressed is how to look into key legislation because every decision made by the public sector plays a vital role. Hence, what is needed to be done includes developing policies and programmes that will help to re-orientate the way people think to become more sustainable. Policies should align with key strategies which are to be adopted and implemented. Also, policies that are well designed become beneficial if the government puts these strategies into action. Participant 7 suggests that *"the government has to initiate some policy-driven measures like incentives and finances"*. Also, participant 18 suggests *"the need to restructure our (Nigeria's) regional planning laws to create provision for development, at local, state and federal levels"*. Each level has its development plans and all have to be integrated to work efficiently. Also, with the plans made available, they will be an addressed development moving from the local to state and then federal levels.

Overall, adopting sustainability would have to be based on the will to improve information systems. These responses have indicated various approaches in which buildings and urban spaces can be designed with sustainability criteria. The researcher agrees that implementation would be successful through a multidisciplinary approach or using various methods: see Figure 4 below. Therefore, the successful implementation of rules and planning regulations within urban spaces can be beneficial if properly integrated and managed.

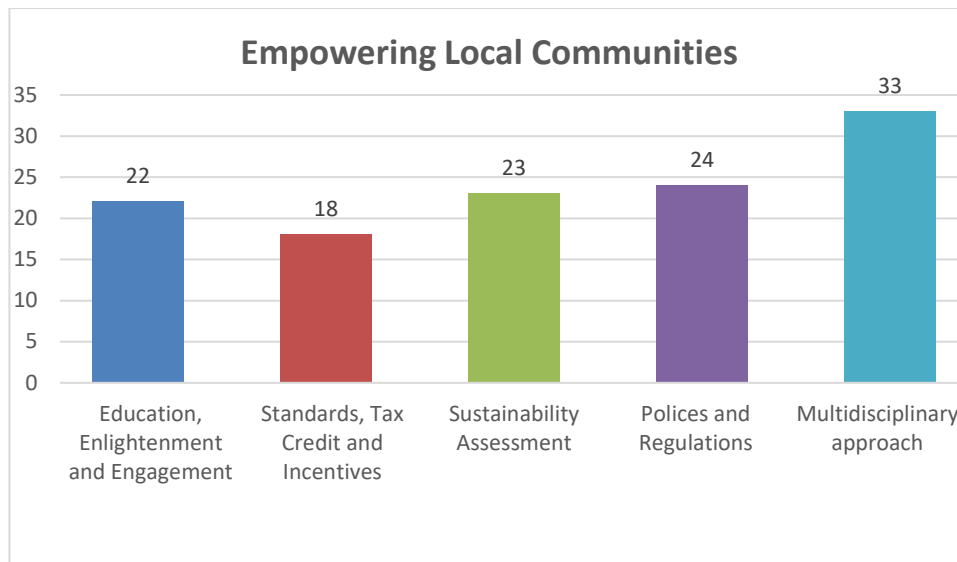


**Figure 4:** How can we develop a sustainable urban planning system which integrates buildings and urban spaces designed with sustainability criteria?

#### 4.2.3 Question D: What can the government do to empower local communities to be more active in delivering sustainable places?

This question intends to determine how the government can make sure that local communities are actively involved in projects that aim to achieve sustainability. Most people came up with various ideas; for instance, participant 1 asserts that "*policies, enquiry based design, rules, regulations, creating standards, incentives, tax credits, sustainability assessment and measurement*", while participant 3 states that "*it can be done through engaging them in the construction process, known as collaborative planning. It deals with what they want. What do you think? How can we do it?*" Participant 4 suggests clearly that this can be achieved "*by new groups, new enterprises and engaging youths. Provide training as well as enhance the drive to keep the ball rolling for the future*". Some participants (5, 6, 8, 30, and 35) believed in education and have a similar mindset that education is the key to sustainable development; participant 6 also said that it is not just about the knowledge of sustainability; rather it needs to be built into the economic solution – for example, when recycling plastic bottles, water bills fall. Hence, direct benefits through economic benefits can instigate this norm. Participant 15 calls for "*better awareness and better education through the use of pilot projects or schemes*". Also, the government can partner with the community sector that can embrace new ways or standards of thinking; such as partnering with committee-based organisations and providing them with an environment that is conducive to striving, and incentives to support their projects. Other participants (21 and 24) suggest the need to have experts to empower the local community experts; for example, Building Research Establishment established in the UK.

The local community can have grounded knowledge in sustainability through educating, empowering, training schemes, and giving the local community a voice to learn about the impact of sustainability. The local communities can go about delivering sustainable communities but the government needs an effective physical system to incentivise or disincentivise consumption. The government can bring in policies that take into consideration the feelings and expectations of the people, related rules and regulations, create jobs, create standards, incentives and tax credits, and assess how sustainability can be measured by looking at the benefits before and after from a range of different scenarios where the proposed tool or tools can be initiated. Also, facilitating public engagement with local communities can be commanded and controlled by using economic incentives, such as creating jobs when mega-projects are going on, and the use of materials with minimum impact on the environment. Overall, the researcher recommends the use of a multidisciplinary approach to empower local communities. Figure 5 below showcases more data.



**Figure 5:** What can the government do to empower local communities to be more active in delivering sustainable places?

## 5. Conclusion and recommendations

The research aimed to understand the implications of adopting sustainable urbanism in developing resilient urban spaces in Abuja, Nigeria. Based on the research conducted it was realised from the interviews that sustainable urbanism in broad terms encompasses economic, social, and environmental sustainability and that these dimensions vary across various contexts even in the developing world. Sustainability can be actualised in developing countries if the right set of measures, policies, assessment tools, sustainability assessment, tax credits, engagement, governance, training/education, and incentives are set in place to achieve urban planning guided by these principles based on good governance. According to the interviews, it was realised that good governance should start from both the bottom-up and top-down approaches. Both methods should complement each other in ensuring that sustainability is being achieved in developing countries. Hence, good governance promotes the development of cities which is central to achieving socio-political, economic, and environmental sustainability of the country. Also, cities operate the national human settlements system and there is the need to re-examine the linkages between the development of rural areas, rural peoples, and the growth of urban areas. Good governance entails that, in promoting sustainable urban development in the country, greater emphasis should be placed on community participation in decision making or enquiry-based design (EBD). It was also understood that the roles of civil societies which include neighbourhood and community leaders, professional bodies, and non-governmental organisations in the governance and management of our cities need to be more clearly articulated. The growing awareness within the partnership of communities and private sectors in the delivery of services in urban centres should be encouraged to deliver more sustainable communities. Also, sustainability assessment techniques and tools are not entirely prominent in developing countries, mainly those in Africa, based on the interviews carried out. However, it is known that assessment tools are starting to be noticed in developed societies ranging from BREEAM, LEED, and codes for sustainable homes (Adewumi et al., 2019). Developing a sustainability assessment tool would be required as one of the approaches to achieving resilient spaces based on a set of indicators linked to that context.

It is also imperative to note that some aspects of sustainability indicators that have been prioritised in developing societies are not pressing issues in developed societies based on the context, environment, climatic factors, level of development, and governance and GDP of a country, among other factors. This led to different views and definitions of sustainable urbanism. Sustainable urbanism in the context of developing countries is defined by the researcher as a movement or a theory that encompasses the four main pillars of sustainability (which are environmental, social/cultural, economic and planning sustainability) but places more emphasis on economic and social sustainability while minimising the negative environmental impacts on planning, design and operation of urban space. Sustainable urbanism is also imagined as a grand unification of architecture, city planning, and environmental design for a better way of life. The movement also supports the role of a global network and agenda which values factors and responds by using the tools of sustainable urban design. Sustainable urbanism addresses critical issues not only in urban design but includes social, economic and environmental sustainable development.

Sustainable urban development in the context of developing countries can be defined as meeting the needs and aspirations of both present and future generations along with both intra-generational and inter-generational timelines through policy implementation, urban design intervention, and application of sustainability assessment tools within the urban environment. This can be achieved by incorporating sustainability into a project from the very basic level until full maturity. Sustainability education should be mandatory at all levels of education within the country (primary, secondary, university, local, state, federal, and organisational strata) taking into consideration a holistic approach. The limitation identified states where the current state and knowledge in the practical application of sustainability is still far from being realised because most developing countries like Nigeria are still on the verges of understanding the theoretical implications and applicability of sustainable development.

In conclusion, the future of adopting sustainable urbanism and its principles in Abuja, Nigeria will be based on the following factors:

- Develop a sustainability assessment tool with a focus on the urban regeneration of neighbourhoods in developing countries.
- Critical selection of sustainability indicators that are aligned with the Abuja urban environs.
- Embed good governance which should be aligned with enquiry-based design.
- Ensure that government agencies, organisations, and professional bodies like GBCON (Green Building Council of Nigeria) are in charge of approving urban spaces and ensuring it adheres to sustainability principles.
- Develop a capacity and promote a shared understanding by all actors of their roles and responsibilities in urban development and management.
- The government should encourage the development of skills in both rural and urban settlements to reduce the level of urbanisation and to help increase people's development.
- The government can intervene in controlling the master plan and proposing a sustainable strategic growth pattern, alongside strengthening the capacities of state planning boards and local planning authorities to implement sustainability principles using a top-down approach.



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