

## Urban Planning — “It’s All About Sustainability”: Urban Planners’ Conceptualizations of Sustainable Development in Port Harcourt, Nigeria



Adaku Jane Echendu

School of Social Sciences, Western Sydney University, Penrith NSW 2751, Australia

Corresponding Author Email: [Adaku.chyoma@gmail.com](mailto:Adaku.chyoma@gmail.com)

<https://doi.org/10.18280/ijstdp.150501>

### ABSTRACT

**Received:** 22 February 2020

**Accepted:** 16 May 2020

#### **Keywords:**

*urban planning, sustainable development, sustainability, sustainable urban planning, sustainable cities, urban planners, flooding*

Sustainable development forms the core of urban planning in contemporary times. Urban planning has been recognised as being central to sustainability because well planned urban centres can be engines of economic prosperity, social well-being and environmental sustainability. Port Harcourt, a major Nigerian city faces many environmental challenges like flooding that impacts achieving sustainable development and which has been linked to urban planning. Urban planners carry out spatial planning but there is a paucity of research that engages with these professionals to gauge their understanding of sustainability. This paper seeks to fill this gap. It draws on qualitative interview data from five urban planners in Port Harcourt city, Nigeria, to explore their understandings of the concept of sustainable development and how they implement this understanding in their day-to-day work. This research reports the urban planners have a solid understanding of sustainability and the role of planning in its achievement. Their understanding centres around longevity and building long lasting human settlements in consideration of future planning decisions. This aligns with current global thinking whereby planning is key to achieving sustainable development. This finding suggests the environmental problems experienced in Port Harcourt are likely due to weak infrastructural base and a failure to implement/enforce planning regulations that aim to promote sustainable development.

## 1. INTRODUCTION

Urban Planning, based on the widespread acceptance of the concept of sustainability has, over the years, sought to incorporate the tenets of sustainable development in various forms. We define Sustainable Development as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [1]. This is the most widely accepted definition as adopted from the UN *Report of the World Commission on Environment and Development: Our Common Future*, known as the Brundtland Report.

Environmental concerns have raised global awareness that urban planning can promote more sustainable land use practices [2]. Sustainable development centres on three main tenets, environmental, social and economic factors and sustainable development strategies focus on five aspects: ecological sustainability, social sustainability, economic sustainability, cultural continuity and sustainable spatial development [3, 4].

Effective sustainable development is mediated through the physical and built environment which is the domain of urban planning. The role of planning in achieving sustainable development is even more important today because of the rate of urbanisation and its attendant consequences. Urbanisation is itself a development process [1], but the challenge lies in effectively managing the process to circumvent a decline in the standard of life of people and promote sustainable land use practices [5].

Numerous national and city plans incorporate the concept

of sustainability at their core [6] and recognise urban planning as instrumental to achieving and facilitating sustainability [7]. Given the key role urban planning plays in facilitating and promoting sustainable development, it is important to find out how urban planners understand sustainable development, an area that has not been adequately explored in research, particularly in Nigeria. This paper contributes to filling this gap by engaging with urban planners in Port Harcourt, a major Nigerian city, to explore their understandings of what sustainable development is and how they apply it in their work.

This paper is presented across three sections. The first section details the urban planners’ conceptions of sustainability. The second section identifies how they understand the relationship between urban planning and sustainability. The third section explores how the urban planners promote and incorporate sustainable development in their work in Port Harcourt, Nigeria. Sustainable development and sustainability are used interchangeably in this paper.

## 2. STUDY AREA

Port Harcourt is a coastal city in the heart of the Niger Delta area of Nigeria with a population of 2 Million (Figure 1) [8]. It is the capital of Rivers state which holds Nigeria’s biggest oil and gas reserves; it is therefore a city of economic significance [9]. Port Harcourt also experiences perennial flooding which significantly impacts its sustainable development. This flooding has been linked to poor urban planning [10, 11].



Figure 1. Map of Nigeria showing Port Harcourt city

### 3. RESEARCH METHODOLOGY AND METHODS

#### 3.1 Qualitative research approach

A qualitative research approach views knowledge as inherent in individual experiences and enables understanding of a given topic from the ‘standpoint’ of the local population involved in the study. A qualitative approach allows a nuanced exploration of research participants’ experiences, and perspectives, and of how they construct meaning from a particular phenomenon [12, 13]. A qualitative approach thus enabled a deep understanding of how urban planners in Port Harcourt understood sustainable development and its application in their work.

#### 3.2 Social Constructivism and Interpretative phenomenology

A social constructivist epistemological stance shaped this study. Social constructivists believe that reality is both intersubjectively contrived and individually constructed within a specific social setting [14]. This stance satisfies the objectives of this study which set to find out how the concept of sustainability is construed and applied by a group of professionals within a particular setting. A qualitative case study method was adopted. The interpretative phenomenological analysis (IPA) method was utilised. IPA

examines data to analyse nuances and details of the experiences of a small number of participants and emphasises the divergence and convergence of their understandings. It allows researchers to examine in detail how people conceptualise phenomena to interpret and situate participants’ understandings of the phenomena. It is ideal for studies that involve small homogenous samples [15-17], as in this research, which involved five urban planning professionals. This framing facilitated the aims of this exploratory study and enabled the generation of rich narratives from the urban planners in this research.

#### 3.3 Data collection

A total of five semi-structured interviews were conducted with qualified urban planners practicing in the city of Port Harcourt Nigeria. The participants were purposively recruited via snowballing. Semi structured interviews were utilised because they reduced geographical and conceptual distance in the researcher-researched relationship and allowed the researcher to connect with participants at a human level [18]. It also allowed the participants to speak their mind and feel more empowered as they can interact and respond better in a face-to-face setting in contrast to other remote interview methods [19]. Interviews were recorded and transcribed verbatim and then coded to elicit common themes which are elucidated on in subsequent sections of this paper.

**Table 1.** The research participants

S/N	Name	Ag	Gender	Sector Employed	Career Level
1	Tamuno	57	Male	Government	Senior level academic and planning consultant
2	Priye	55	Male	Government	Senior level career civil servant
3	Barry	40	Male	Government	Mid level career civil servant
4	Ovunda	45	Male	Government	Mid level career civil servant
5	Paul	38	Male	Private	Mid-level private practice professional(architect)

**3.4 Overview of research participants**

Participants have been given pseudonyms to ensure anonymity (Table 1).

**4. ANALYTICAL FRAMEWORK OF STUDY**

Results of this study were analysed using Wheeler [20]’s work on nine common themes evident across the various definitions of sustainable development, as detailed in Table 2.

Wheeler’s [20] analysis concisely and adequately captures the understandings and beliefs of the different schools of thought on the concept of sustainable development. Sustainability is essentially anchored on three pillars – (1) environmental protection or safekeeping, (2) social inclusion, and (3) economic advancement [21]. Other features of the

concept of sustainability are: intergenerational equity, consciousness (of the consequences of our actions today), openness and public participation (opportunity for the wider community to participate in decision making processes) [22-24]. A common theme in the way the sustainability concept has been defined is the responsibility placed on people to consider the impact of their actions beyond the fulfillment of their immediate needs, and to think in terms of longevity.

In urban planning, most of the definitions of sustainable development place emphasis on planning and thinking beyond the needs of the current generation [25]. Sustainable development emphasises the importance and need to change the predominant ways of doing things to fulfil current needs without depriving the future generation of the resources they need to thrive on earth [26]. Wheeler’s work [20] provides a suitable framework within which to locate the urban planners’ understandings of sustainable development in this paper.

**Table 2.** Wheeler’s thematic groupings of definitions of sustainable development

Theme	Meaning
Meeting needs of future generations	Sustainability construed as meeting needs of the present generation while not compromising the needs of future generation
Carrying capacity of the environment	Enhancing the quality of life of people while not exceeding the holding power of the supporting environment
Maintenance of the natural capital	Sustainable development is seen in this context as having a stock of environmental assets, not allowing natural capital to deplete or become out of stock.
Improvement and maintenance of systems	Sustainability as ensuring that diversity and productivity is maintained or improved upon.
Not worsening things	This definition of sustainable development refers to any positive act or change that does not break down the social, political or ecological system on which the ecosystem is dependent.
Satisfying human and ecological needs	Meeting human needs, achieving social justice and equity, maintaining cultural diversity and providing for social self-determination, integration of development and conservation while maintaining the integrity of the ecosystem.
Sustenance of human livelihood	Sustainability as the capacity of a system to support the living of the people who rely on it indefinitely
Resistance of rapid growth	Sustainability seen as an opposition to continued ascending material growth
Protection and restoration of the ecosystem	Sustainability seen as restoration, conservation and stewardship.

Source: Wheeler (1996: 12)

**5. DATA ANALYSIS/RESULTS**

The interviews were transcribed and coded into three themes to convey the urban planners’ conceptions of Sustainability/ Sustainable development.

**5.1 Improvement, longevity and maintenance for the long term**

Planning with consideration for the future is widely talked about in the literature on sustainability in planning [27, 28]. One of the main tenets of sustainable development is social well-being [29]. This understanding is evident in Paul’s (an architect in private practice) definition of sustainability as a focus on long-term improvement in social wellbeing:

*‘Sustainable development is programs or projects just geared towards improving the lives of the people, empowering*

*the people and improving the standard of living of the people, because everything we do, we don’t do projects just for short-term. We do everything for long- term everything you do, you do for the future, for the long-term, so we develop for the long-term basically’.*

Paul’s view puts the social wellbeing of humans at the centre of sustainable development and reflects one of the three pillars of sustainability — social inclusion and economic advancement.

Priye’s (a senior level career civil servant) understanding of sustainable development is also linked to human well- being. He states that

*‘The concept of sustainable development from the planners’ point of view is as old as man. Live, eat and remain for the future generation to also eat at the same level you have enjoyed it. It’s a continuity, a natural process’.*

Significantly, Priye believes that sustainability is not a new concept. His view links the idea to traditional land management practices. He points out that the concept of sustainable development entered the mainstream after the environmental activism of the 1970s when the term 'sustainable development' was coined to capture the new environmental consciousness of the time:

*'Sustainability is the global jingle everybody is talking about. You know when this term came from the conference of the 1970s, the global conference that made this now to turn to a global word that everybody is looking at. It is natural. Our forefathers practiced it. I could remember my Uncle was a hunter, there are some certain animals that will be trapped in one of his traps. If it is not up to a certain age, he will release it and that is how the environmental law came into existence. He is releasing it not because he cannot eat it, there are norms, values they have tied to deities. While we have some sanctuaries that don't allow people to farm because they want to create an abode where animals can go for refuge, procreate there and the animals will come back. All these things are something that if you look at interpretations, they tie it to deities but it is not. So all the plans as far as greater Port Harcourt master plan is concerned and all that the planners are doing are subject to sustainability because any thing that is not sustainable will not last ...a city is built for the present generation, future generation even the past generation'.*

Priye's view that sustainability was practiced by his forefathers is also encapsulated in the beliefs of social activists and radical ecologists. This view is in line with Wheeler [20], who notes that traditional societies are the tested models of sustainability. He argues that indigenous societies lived with a reverence and respect for nature and land that seem to be lacking in today's industrialised world. Priye's depiction and illustration using animals is captured in Wheeler's [20] theme of 'Maintenance of the natural capital'. The act of releasing animals who are not mature enough, as noted by Priye, and creating sanctuaries where they can procreate is a way of ensuring that the animal stock is maintained for the future generation. Priye's response also shows that planning is not just for the present generation but also for the future generation which also fits with Wheeler's [20] theme of 'planning as consideration for the future in our planning activities of today'. We observe the theme of meeting the needs of future generations in both Paul and Priye's understanding of sustainable development. There is an agreement from the interviews on the importance of factoring in the cost of our actions today on the future generation.

Ovunda who is a surveyor emphasises the interrelationship between sustainability and longevity. He comments:

Sustainable development in my own understanding are those activities relating to development that will stand the test of time.

Ovunda emphasises longevity as a key aspect of sustainability. This is significant because planning has long been concerned with building communities that will stand the test of time and enable people to reach their full potential and aspirations in the community [30]. However, a number of scholars have established that flooded communities, as is common in Nigeria, are antithetical to the tenets of sustainability [31-34].

Another theme that emerged from the research data was the notion that a primary goal of urban planning is to achieve sustainability. This is an important finding as sustainability is the anchor on which contemporary urban planning takes off

globally [24, 35]. Landmark documents on sustainable development like the Brundtland (1987) report and the Rio Declaration (1992) specifically highlight urban planning as central to, and very important in, achieving sustainable development.

The participants viewed planning as a means to achieve sustainable development and understood that achieving sustainability is the central purpose of planning. This view is articulated by Tamuno, a senior level academic and planning consultant who commented:

*'Sustainability is the core of urban planning today because cities are in competition, and if your city does not meet up the 21st century requirements then other cities will overtake you'.*

Tamuno focuses on sustainability as the core of urban planning. His view aligns with the current mainstream understanding of sustainability as the new planning paradigm, reflected in the professional training required to be an urban planner [36], and may be reflective of his background as an academic and government planning consultant who is abreast of contemporary viewpoints on sustainability in planning circles. Other urban planners in this study also shared Tamuno's view, including Ovunda who stated:

*'Sustainable development planning is all about making provision for sustainable development'.*

Paul also shared the view that planning is central to sustainability. He commented:

*'I think they [sustainability and planning] are interwoven. I think urban planning is also about sustainable development. If the urban planning authorities do proper planning and development, there is sustainability, and development in the area'.*

Sustainability forms the core of planning today and the urban planners in this study clearly articulated the interrelationship between the two and the centrality of planning to achieving sustainable development. The planners expressed the view that planning for sustainable development must be forward looking. Significantly, the views on sustainable development by the planners articulate with research and contemporary understandings of sustainable development [28, 37, 38].

## 5.2 Aspirations: A sustainable city

Discussions of sustainability in planning are incomplete without mention of the sustainable city as they are interwoven [39, 40]. It is a city designed with attention to the economic, social and environmental impacts of development [41]. Ideally, a sustainable city is devoid of any environmental issue that could negatively impact its development like the flooding being experienced in Port Harcourt.

The sustainable city concept emerged in response to the challenges faced by urban areas to help cities cope with challenges like rapid urbanization, population growth and poverty. These challenges increased over the years as a result of the population increase in urban areas. The sustainable city is largely the goal of sustainability in planning and is a core aspect of sustainable urban planning.

Given the cognizance of the need for sustainable human settlements in contemporary times, the new Greater Port Harcourt City Development Authority (GPHCDA) was established in 2009 to oversee the development of a new sustainable city and reverse the current decline in the condition of Port Harcourt urban scape [8].



In this study the planners' insights on what makes a sustainable city were explored. Priye spoke in detail about his understanding of a sustainable city:

*'What comes to mind when we talk about 'sustainable city' is simple—it's a city that can feed itself; it's a city that can create employment; it's a city that can withstand natural disasters, because in the design they have keyed in adaptability; it's a city that can grow after a shock; it's a city that allows equity [for] both men and woman; it's a city that gives room for disability; it's a city that reduces over-reliance on automobiles because of their effect in terms of pollution [like] carbon monoxide. It's a city that encourages walking, hiking; it's a city that encourages densification in planning where they try to minimize the land use altogether, so that travelling time will be reduced to save costs...'*

Priye's understanding of the sustainable city is reflected in Wheeler's [20] themes of satisfying human and ecological needs (feeding itself, reducing pollution, minimizing land use), improvement and maintenance of systems (equity, giving room for disability), protection and restoration of the ecosystem (growing after a shock, withstanding natural disasters, adaptability), sustenance of human livelihood (creating employment).

Tamuno's view emphasises themes of sustenance of human livelihood (doing business), satisfying human and ecological needs (movement, recreation) and protection and restoration of the ecosystem (environmental quality).

*'Sustainable cities are cities with little encumbrance in terms of doing business, in terms of movement, circulation, in terms of environmental quality, in terms of recreation and business'*.

Paul, in contrast to Priye and Tamuno, centred his response on longevity and consideration for the future saying:

*'Sustainable cities are for the long-term, your planning is not just for today. Your programs, your development, your construction work is not just for today, you build with the future in view, to be able to curb challenges that will arise, there is growth, people are developing, there is development as the people are moving from the rural areas to the urban areas you know, that is urbanization, so you build with the view of these for the future, the challenges that this will give birth to'*.

Paul's view of sustainable cities emphasizes planning for the long-term and envisaging challenges that may arise in the future. This view reflects the understanding of urban planning promoted and encouraged in today's planning parlance [28]. Paul highlights rural to urban migration as a challenge that urban planners need to consider when designing sustainable cities. Like Paul, Ovunda also recognized that urban growth is an important consideration when planning sustainable cities:

*'When you talk about a sustainable city you are talking cities that are well planned that will sustain, that the development will meet up with the urban growth'*.

Ovunda and Paul's understandings of the sustainable city as one that can keep up with urban growth is in line with other expert opinions in light of the projected global growth of cities [42]. Urbanization has been identified as the biggest threat to achieving Sustainable Development Goal (SDG) 11 (sustainable cities and communities) [43-45]. Today, more than half of the world's population live in cities and this number is rising as cities are expanding rapidly [46]. It is projected that 70% of the global population (currently 6.5 billion people) will live in urban areas by 2050. Of this 70% projected growth, 37% will occur in only three countries:

Nigeria, China and India [47]. The biggest urban growth is occurring in developing countries like Nigeria, which is experiencing rapid migration from the rural to urban areas. Port Harcourt as one of Nigeria's major cities will no doubt contribute significantly to this trend based on its current growth rate of about 3% per annum [48]. Building sustainable cities and improving urban planning is thus key to cushioning some negative effects of urbanization [49]. This view was also reflected by Barry, a council planner, whose view of a sustainable city emphasises that a master plan ought to be followed. This contrasts with the local situation where the master plan has not been followed. Barry surmised:

*'The sustainable city is a city where the master plan of the city is followed'*.

In Nigeria several factors mitigate against adherence to master plans, for instance, political interference which manifests in actions like rezoning land to enable uses contrary to original purposes in master plan [50, 51]. The non-adherence to master plans has meant that the development of many Nigerian cities like Port Harcourt have occurred without provision of key infrastructure that form the backbone of cities. This has contributed significantly to environmental challenges like the flooding being experienced as standard drainage infrastructure which forms the backbone of cities is non-existent [11, 52, 53].

The above discussion reveals the planners' understandings of 'a sustainable city' centred around phrases like "well planned", "inclusive", and "meeting up with urban growth". The planners talked about the sustainable city longingly, and their understanding was deemed as aspirational. The planners' desire for a sustainable city is significant as Port Harcourt city currently embodies everything that a sustainable city is not.

### 5.3 From rhetoric to practice

This section explores the ways planners incorporate the principles of sustainability in carrying out their work. This is important because putting into practice knowledge about sustainability is central to achieving a sustainable city. The way the urban planners in this study applied sustainability principles was shaped by their different roles, with actions geared towards sustainability differing between those working in offices and those working in the field. For example, office workers look out more for certain features in master plans or building plans and do not approve plans if these features are absent, while those working in the field implement the approved plans.

Priye describes further: *'It [sustainability] is the hallmark of planning. Let's start from the rudimentary aspect of it. You know planning is policy making that is what planning is all about. Planning holistically based on the present school of thought is based on sustainability, from the preparation of site plan to zoning plan from the zoning plan to sub-division from subdivision down to the master plan'*.

Ovunda outlines in detail the planning rules that must be taken into account in the planning approval process to ensure sustainability:

*'We incorporate sustainability by following laid down principles. Every profession has its own laid down procedures, 'the do's and don'ts'. For example, if you want to consider an approval for development you will consider the laid down rules. There are things we call setbacks. For every development we are considering, for example, if you are talking about development along a class B road we have laid*

rules for it, if you are talking about class A road we have the rules just like that, if you want to carry out a development along a canal, a storm water canal, there is laid down rules, this development should be a certain meters away from this existing infrastructure, to ensure that this development is sustainable. You don't, if the rules state you should... you have to follow, offset I mean set back 10 meters, it mustn't be less than 10 meters. It has to be 10 meters at least...because for example a canal from time to time routinely should be cleaned maybe once in a year. If they are being cleaned of those debris, they will have to drop somewhere before they are taken off so all these setbacks will serve as areas that will serve this purpose. If in future, talking about sustainability there is a facility which was not provided for in the master plan and there's need for it, you don't need to go to begin to demolish the existing development ... you consider these setbacks and look, do your studies to know if those facilities will be compatible within the setbacks, those areas reserved for those facilities'.

Successful urban planning is primarily a function of competent urban planning administration which entails control [54]. Control has many aspects including supervision, implementation of regulation, layouts, and infrastructure planning. Weaknesses in development control has led to violations of the rules and regulations in approved plans that ought to guide construction [50].

The disjuncture between planning and practice has led to physical development following an erratic pattern and construction on floodplains and drain channels, as well as a lack of infrastructure, like drainage systems in developing areas. During our interview, Paul illustrated the disjunction between planning and practice using a building construction that was on-going near the interview venue. He explained:

*'You see where we stand here now, you see this building, they have already removed it before, you see the building line, setback, it is already defined but... maybe because the authorities are not checking, this man has added another one again and before you know it, by the time they roof it, the shop owners want to do an overhang, they will come further into the road, and sometimes if it is a drinking spot, a bar or something before you know it, they will come into the road and then sometimes, they will put activities, or fill up or close the drainage'.*

It is not uncommon in Port Harcourt to see where owners go beyond approved designs and continue construction even after being asked to stop by the authorities. In some cases, the government workers who come to the field to carry out inspections only do so because they are seeking bribes from the people who are building as a result of endemic corruption in the system [55]. Paul identified two main reasons for the disjuncture between planning rules and practice: (1) the absence of inspections before approvals to ensure that construction will not be carried out on floodplains, and (2) the lack of monitoring of construction after approval to ensure that the approved plan is followed. He gave another example:

*'The Ministry of Urban Development is supposed to move into... for instance, where I am building here now, there is no presence [of the ministry], even though we have done the approval, and they have given you approval. But they don't come to inspect; they have failed, they don't go into these developing areas, these new [areas] you know, to do layouts and do waterlines or do drainage system. They have these things existing and ensure that you are following the regulations. You know, you pay them, they give you the*

*approval but they don't come out to inspect and ensure or even outline or map out the areas; your drainage system is not supposed to be done by one individual, it is supposed to be by the state, by the Urban Development Authority. So, because they are guided but they don't do any of that; they just stay in the office so they allow people to build as they like, so yea, that is part of the what is causing the problem'.*

Paul's comment below describes the pressure he experiences from clients to disregard planning policies and laws and highlights the implications of the lack of monitoring of constructions for those planners working in the field.

*'When I develop, unfortunately, some clients sometimes, due to funds,....money constraints, some clients want you to lower standards, you know, cut costs, you know, but of course, as a professional you ought to do the right thing ...if you have setbacks for instance, a client that has a plot of land, most times will want you to cover everywhere, sometimes, they want you to go outside their, the plot, they want you to build over the plot...some build over the drainage systems and all of that. Most times you want to, as a professional you want to maintain standard. Like your DPC (DPC means Damp Proof Course and is a barrier constructed below the main housing walls to prevent or control moisture. It can be done with different construction materials but usually with cement concrete in Nigeria) for instance, if you are building you have to take the DPC to a certain level. Some due to costs will say no, you know, I can't afford this but as a professional you want to as much as possible insist on maintaining standards'.*

Paul's dilemma of managing the tension between maintaining standards and satisfying clients is heightened as he depends on clients for jobs. Satisfying clients is necessary for him to get repeat jobs and referrals which is important in his line of work.

The planners working in the offices identify failure stemming from the government's non - provision of funding needed to carry out the work, political interferences (where the Governors themselves sometimes interfere in land allocation processes), and non-alliance with the locals who do not trust the government especially in land matters [51].

Ovunda, who works with the GPHCDA, expressed a desire for the agency to have more resources to manage sustainable urban planning. He stated:

*'Yes, there are some parts of the law that limits the authority [GPHCDA] to just monitoring, supervision monitoring and control. I mean you should go beyond that so that the authority, the Greater Port Harcourt city should also be empowered to be like a revenue generating authority...that will complement [funding] because it [GPHCDA] should not rely solely on government for (running) the day to day activities.'*

The desire expressed by Ovunda for the self-sufficiency of agencies could be linked to the corruption endemic in the Nigerian system which manifests in underfunding of ministries and hence their poor performance [56]. Poor funding of government agencies and ministries impacts the execution of duties including the monitoring of constructions after plan approvals.

Ovunda's call for an extension of powers to the new planning agency (GPHCDA) to generate revenue reflects a desire to be self-sufficient in order to rely less on government funding in carrying out the agency's day to day tasks. The corruption has also ensured the continuation of building constructions that contravene the planning laws and policies, as well as conversion of land already earmarked for a purpose in the master plan to a different use (Bakare, 2012), which

impacts sustainability. The Nigerian government has not created an enabling environment for master plans to be implemented. Corruption is ingrained in the Nigerian system [57], and this has led to massive looting and diversion of funds that should have gone into infrastructural provision, and/or the funding of the planning authorities to carry out their work. It is not uncommon for the people to pay out of pocket for services that should be ordinarily funded by the government, nor for people in power to undermine the law during land allocations or sell off government properties to their friends, who convert them to uses not provided for in the master plan [58]. Corruption in the planning process deserves to be curtailed and proper development control embarked upon to ensure alignments with plan approvals and building constructions.

## 6. CONCLUSIONS

This paper has discussed how the urban planner participants understand sustainability in relation to urban planning and to their role as urban planners. The emergence of sustainability as the new planning paradigm has seen a concern for the future become a core component of planning, a sentiment that rang true for the urban planners in this research who demonstrated a strong understanding of what sustainability means and its place in urban planning. This aligns with current global thinking of sustainability in planning with good planning seen as central to sustainable development. The urban planners understanding of sustainability in this research is summarised as follows

- (i) Planning is primarily embarked on as a means to achieve sustainable development
- (ii) To the participants, sustainable development in relation to urban planning is understood as meeting the needs of the present and future generation whereby urban development stands the test of time and brings about a long-term improvement in social well being
- (iii) Sustainable cities refer to well-planned cities whose development will keep up with urban growth
- (iv) Despite the sound understanding of sustainability and the role of planning in achieving sustainable development, the planning practice in the city is marred by numerous setbacks including non-compliance to master plans, poor development control, political interference in planning work, poor funding of planning departments to enable them execute their job and non-provision of basic infrastructure like drainage facilities.

This paper has contributed to knowledge and provides a synopsis into urban planners understanding of sustainable development in Port Harcourt city. Urban planners have a responsibility to ensure their work lead to long-term enhancement of ecological and social well being and this work has demonstrated that the planners involved in this research are aware of this responsibility. The challenges of development control, weak infrastructure and corruption highlighted in this paper deserve a closer look in further studies. The government and relevant policy makers are encouraged to tackle these challenges to foster sustainable urban development.

## ACKNOWLEDGMENT

I hereby acknowledge Dr Susan Mowbray, academic literacy adviser, Western Sydney University and my supervisor, Dr Nichole Georgeou for her guidance over the course of this work.

## REFERENCES

- [1] Brundtland, G.H. (1987). Report of the World Commission on environment and development: Our common future. United Nations. <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.
- [2] Beatley, T., Manning, K. (1997). *The Ecology of Place: Planning for Environment, Economy and Community*. Washington, D.C.: Island Press, 265p. <https://doi.org/10.5860/choice.35-5793>
- [3] Keivani, R. (2010). A review of the main challenges to urban sustainability. *International Journal of Urban Sustainable Development*, 1(1-2): 5-16. <http://dx.doi.org/10.1080/19463131003704213>
- [4] Ahmadi, F., Toghyani, S. (2011). The role of urban planning in achieving sustainable urban development. *OIDA International Journal of Sustainable Development*, 2(11): 23-26.
- [5] Satterthwaite, D., McGranahan, G., Tacoli, C. (2010). Urbanization and its implications for food and farming. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1554): 2809-2820. <http://dx.doi.org/10.1098/rstb.2010.0136>
- [6] Berke, P.R., Conroy, M.M. (2000). Are we planning for sustainable development? An evaluation of 30 comprehensive plans. *Journal of the American Planning Association*, 66(1): 21-33. <http://dx.doi.org/10.1080/01944360008976081>
- [7] UNCED. (1992). United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992. <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>.
- [8] Dan-Jumbo, N., Metzger, M., Clark, A. (2018). Urban land-use dynamics in the Niger Delta: The case of Greater Port Harcourt watershed. *Urban Science*, 2(4): 108. <http://dx.doi.org/10.3390/urbansci2040108>
- [9] Orazulike, N.C., Alegbeleye, J.O., Obiorah, C.C., Nyengidiki, T.K., Uzoigwe, S.A. (2017). A 3-year retrospective review of mortality in women of reproductive age in a tertiary health facility in Port Harcourt, Nigeria. *International Journal of Women's Health*, 9: 769-775. <http://dx.doi.org/10.2147/IJWH.S138052>
- [10] Cirella, G., Iyalomhe, F. (2018). Flooding conceptual review: Sustainability-focalized best practices in Nigeria. *Applied Sciences*, 8(9): 1558. <http://dx.doi.org/10.3390/app8091558>
- [11] Elenwo, E.I., Efe, S.I. (2014). Flood problems in port Harcourt metropolis, Nigeria. *International Journal of Environmental Engineering and Natural Resources*, 1(2): 97-107.
- [12] Atieno, O.P. (2009). An analysis of the strengths and limitation of qualitative and quantitative research

- paradigms. *Problems of Education in the 21st Century*, 13(1): 13-38.
- [13] Teherani, A., Martimianakis, T., Stenfors-Hayes, T., Wadhwa, A., Varpio, L. (2015). Choosing a qualitative research approach. *Journal of Graduate Medical Education*, 7(4): 669-670. <http://dx.doi.org/10.4300/JGME-D-15-00414.1>
- [14] Plack, M.M. (2005). Human nature and research paradigms: Theory meets physical therapy practice. *The Qualitative Report*, 10(2): 223-245.
- [15] Larkin, M., Shaw, R., Flowers, P. (2019). Multiperspectival designs and processes in interpretative phenomenological analysis research. *Qualitative Research in Psychology*, 16(2): 182-198. <http://dx.doi.org/10.1080/14780887.2018.1540655>
- [16] Mole, L., Kent, B., Hickson, M., Abbott, R. (2019). 'It's what you do that makes a difference' An interpretative phenomenological analysis of health care professionals and home care workers experiences of nutritional care for people living with dementia at home. *BMC Geriatrics*, 19(1): 250. <http://dx.doi.org/10.1186/s12877-019-1270-4>
- [17] Tuffour, I. (2017). A critical overview of interpretative phenomenological analysis: A contemporary qualitative research approach. *Journal of Healthcare Communications*, 2(4): 52. <http://dx.doi.org/10.4172/2472-1654.100093>
- [18] Råheim, M., Magnussen, L.H., Sekse, R.J.T., Lunde, Å., Jacobsen, T., Blystad, A. (2016). Researcher–researched relationship in qualitative research: Shifts in positions and researcher vulnerability. *International Journal of Qualitative Studies on Health and Well-Being*, 11(1): 30996. <http://dx.doi.org/10.3402/qhw.v11.30996>
- [19] Oltmann, S.M. (2016). Qualitative interviews: A methodological discussion of the interviewer and respondent contexts. In *Forum: Qualitative Social Research*, 17(2). <http://dx.doi.org/10.17169/fqs-17.2.2551>
- [20] Wheeler, S.M. (1996). *Sustainable Urban Development: A Literature Review and Analysis*. <https://escholarship.org/uc/item/6mx0n01x>
- [21] Markulev, A., Long, A. (2013). On sustainability: An economic approach. Staff Research Note, Productivity Commission, Canberra, 1-23. <https://www.pc.gov.au/research/supporting/sustainability/sustainability.pdf>.
- [22] Emas, R. (2015). The concept of sustainable development: definition and defining principles. Brief for GSDR 2015, 1-3. [https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015\\_SD\\_concept\\_definiton\\_rev.pdf](https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definiton_rev.pdf).
- [23] Kajikawa, Y., Tacoa, F., Yamaguchi, K. (2014). Sustainability science: the changing landscape of sustainability research. *Sustainability Science*, 9(4): 431-438. <http://dx.doi.org/10.1007/s11625-014-0244-x>
- [24] Lombardi, P.L. (1999). Understanding sustainability in the built environment: A framework for evaluation in urban planning and design. PhD thesis, University of Salford.
- [25] Wheeler, S., Beatley, T. (2014). *Sustainable Urban Development Reader*. Routledge, London. <http://dx.doi.org/10.4324/9781315770369>
- [26] Koroneos, C.J., Rokos, D. (2012). Sustainable and integrated development—a critical analysis. *Sustainability*, 4(1): 141-153. <http://dx.doi.org/10.3390/su4010141>
- [27] Naess, P. (2001). Urban planning and sustainable development. *European Planning Studies*, 9(4): 503-524. <http://dx.doi.org/10.1080/09654310120049871>
- [28] Yigitcanlar, T., Kamruzzaman, M. (2015). Planning, development and management of sustainable cities: A commentary from the guest editors. *Sustainability*, 7(11): 14677-14688. <http://dx.doi.org/10.3390/su71114677>
- [29] Cuthill, M. (2010). Strengthening the 'social' in sustainable development: Developing a conceptual framework for social sustainability in a rapid urban growth region in Australia. *Sustainable Development*, 18(6): 362-373. <http://dx.doi.org/10.1002/sd.397>
- [30] Gallent, N., Tewdwr-Jones, M. (2006). *Decent Homes for All: Planning's Evolving Role in Housing Provision*. Routledge, London. <https://doi.org/10.4324/9780203642566>
- [31] Dasgupta, A. (2007). Floods and poverty traps: Evidence from Bangladesh. *Economic and Political Weekly*, 42(30): 3166-3171.
- [32] Hammond, M.J., Chen, A.S., Djordjević, S., Butler, D., Mark, O. (2015). Urban flood impact assessment: A state-of-the-art review. *Urban Water Journal*, 12(1): 14-29. <http://dx.doi.org/10.1080/1573062X.2013.857421>
- [33] Minamiguchi, N. (2008). Health risks and hazards caused by floods. <https://hygiejne.ssi.dk/-/media/arkiv/subsites/infektionshygiejne/retningslinjer/vandskade/health-risks-and-hazards-caused-by-floods.pdf?la=da>.
- [34] Dube, E., Mtapuri, O., Matunhu, J. (2018). Flooding and poverty: Two interrelated social problems impacting rural development in Tsholotsho district of Matabeleland North province in Zimbabwe. *Jambá: Journal of Disaster Risk Studies*, 10(1): 1-7. <http://dx.doi.org/10.4102/jamba.v10i1.455>
- [35] Adhya, A., Plowright, P., Stevens, J. (2010). Defining sustainable urbanism: Towards a responsive urban design. In *Proceedings of the Conference on Sustainability and the Built Environment*, King Saud University, Saudi Arabia, pp. 3-6.
- [36] Carmon, N. (2013). The profession of urban planning and its societal mandate. *Policy, Planning and People: Promoting Justice in Urban Development*, pp. 13-31. <https://naomicarmon.net.technion.ac.il/files/2016/12/Ch-1-in-Carmon-and-fainstein-2013-1.pdf>.
- [37] Al-Hadad, B. (2013). Sustainable development in urban planning. *WIT Transactions on State-of-the-art in Science and Engineering*, 77: 227-233. <http://dx.doi.org/10.2495/ISUD130291>
- [38] Säynäjoki, E.S., Heinonen, J., Junnila, S. (2014). The power of urban planning on environmental sustainability: a focus group study in Finland. *Sustainability*, 6(10): 6622-6643. <http://dx.doi.org/10.3390/su6106622>
- [39] Bibri, S.E., Krogstie, J. (2019). A scholarly backcasting approach to a novel model for smart sustainable cities of the future: Strategic problem orientation. *City, Territory and Architecture*, 6(1): 3. <http://dx.doi.org/10.1186/s40410-019-0102-3>
- [40] Tang, H.T., Lee, Y.M. (2016). The making of sustainable urban development: A synthesis framework. *Sustainability*, 8(5): 492. <http://dx.doi.org/10.3390/su8050492>
- [41] The World Bank, *Global Platform for Sustainable Cities*.



- Urban Sustainability Framework., 1st ed. Washington, DC: World Bank, 2018. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/339851517836894370/urban-sustainability-framework-usf>.
- [42] Riffat, S., Powell, R., Aydin, D. (2016). Future cities and environmental sustainability. *Future cities and Environment*, 2(1): 1. <http://dx.doi.org/10.1186/s40984-016-0014-2>
- [43] Bettencourt, L.M., Lobo, J., Helbing, D., Kühnert, C., West, G.B. (2007). Growth, innovation, scaling, and the pace of life in cities. *Proceedings of the National Academy of Sciences*, 104(17): 7301-7306. <http://dx.doi.org/10.1073/pnas.0610172104>
- [44] Hove, M., Ngwerume, E.T., Muchemwa, C. (2013). The urban crisis in Sub-Saharan Africa: A threat to human security and sustainable development. *International Journal of Security & Development*, 2(1). <http://dx.doi.org/10.5334/sta.ap>
- [45] Koch, F., Krellenberg, K. (2018). How to contextualize SDG 11? Looking at indicators for sustainable urban development in Germany. *ISPRS International Journal of Geo-Information*, 7(12): 464. <http://dx.doi.org/10.3390/ijgi7120464>
- [46] Dobbs, R., Smit, S., Remes, J., Manyika, J., Roxburgh, C., Restrepo, A. (2011). *Urban world: Mapping the economic power of cities*. McKinsey Global Institute.
- [47] UNDESA. (2015). *World urbanization prospects: The 2014 revision*. United Nations Department of Economics and Social Affairs, Population Division: New York, NY, USA, 2015. <https://population.un.org/wup/Publications/Files/WUP2014-Report.pdf>.
- [48] Aliyu, A.A., Amadu, L. (2017). Urbanization, cities, and health: the challenges to Nigeria—a review. *Annals of African Medicine*, 16(4): 149-158. [http://dx.doi.org/10.4103/aam.aam\\_1\\_17](http://dx.doi.org/10.4103/aam.aam_1_17)
- [49] UN. (2014.). *World urbanization prospects, the 2011 revision*. Population Division, Department of Economic and Social Affairs, United Nations Secretariat, 2014. [https://www.un.org/en/development/desa/population/publications/pdf/urbanization/WUP2011\\_Report.pdf](https://www.un.org/en/development/desa/population/publications/pdf/urbanization/WUP2011_Report.pdf).
- [50] Awuah, K.G.B. (2018). Urban development and governance in Nigeria: challenges, opportunities and policy direction. *International Development Planning Review*, 40(1): 27-49. <http://dx.doi.org/10.3828/idpr.2018.1>
- [51] Bakare, G.O. (2012). Rule of law, physical planning and urban governance in Nigeria: A panacea to sustainable urban development. [https://www.researchgate.net/publication/256016702\\_Rule\\_of\\_Law\\_Physical\\_Planning\\_and\\_Urban\\_Governance\\_in\\_Nigeria\\_A\\_Panacea\\_to\\_Sustainable\\_Urban\\_Development](https://www.researchgate.net/publication/256016702_Rule_of_Law_Physical_Planning_and_Urban_Governance_in_Nigeria_A_Panacea_to_Sustainable_Urban_Development).
- [52] Adeloye, A.J., Rustum, R. (2011). Lagos (Nigeria) flooding and influence of urban planning. *Proceedings of the Institution of Civil Engineers-Urban Design and Planning*, 164(3): 175-187. <http://dx.doi.org/10.1680/udap.1000014>
- [53] Akukwe Thecla, I. (2014). Determinants of Flooding in Port Harcourt Metropolis, Nigeria. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 19(11): 64-72.
- [54] Daramola, O., Olojede, O., Ojo, A., Olowoporoku, O. (2017). Duplication of urban planning functions in a Nigerian state: Uncovering the causality. *Planning Malaysia Journal*, 15(3). <http://dx.doi.org/10.21837/pmjournal.v15.i3.300>
- [55] Ijewereme, O.B. (2015). Anatomy of corruption in the Nigerian public sector: Theoretical perspectives and some empirical explanations. *Sage Open*, 5(2). <http://dx.doi.org/10.1177/2158244015581188>
- [56] Awofeso, O., Odeyemi, T.I. (2014). The impact of political leadership and corruption on Nigeria's development since independence. *Journal of Sustainable Development*, 7(5): 240. <http://dx.doi.org/10.5539/jsd.v7n5p240>
- [57] Roy, P. (2017). Anti-corruption in Nigeria: A political settlements analysis. Working Paper 002. <https://ace.soas.ac.uk/wp-content/uploads/2017/08/ACE-WorkingPaper002-Nigeria-AntiCorruption-170822.pdf>.
- [58] Ayotamuno, A., Gobo, A., Owei, O. (2010). The impact of land use conversion on a residential district in Port Harcourt, Nigeria. *Environment and Urbanization*, 22(1): 259-265. <http://dx.doi.org/10.1177/0956247810363529>