



Eco-City and Greening the Urban Indigenous Settlements in Nigerian Cities: Issues and Strategies in Community Development

Dr. John M. Patrick¹, Dr. Holly L. Deekor²

¹ Department of Adult and Non-Formal Education, University of Port Harcourt, Nigeria
john.patrick@uniport.edu.ng

² Department of Adult Education & Community Development, Rivers State University, Nkpolu-Oroworukwo, Port Harcourt, Nigeria
Corresponding Author's Email: deekor.holly@ust.edu.ng

ABSTRACT

This paper examines the eco-city and green community strategies and issues in urban indigenous communities in Nigeria. The paper examines the nature based solutions to conservation and natural resources management in urban indigenous communities and green infrastructure that are adopted in these communities. The analytical framework of this paper is based on the ten characteristics of an eco-city and green community which foster sustainable development. The paper pointed out that the indigenous practices of conservation in the indigenous communities have been eroded due to development, that urban indigenous communities in Nigeria do not meet the ten characteristics and so urban indigenous communities in Nigeria are yet to be an eco-city and green communities. To ensure the sustainability of the urban indigenous communities the eco-city and green community project must be scale up; to do this the paper suggest eight measures that must be adopted which includes the adoption of indigenous conservation system, development of sustainable agriculture system, citizens participation in the eco-city and green community development plan and process.

Keywords: Eco-City, Green Community, Conservation, Urban Indigenous Settlements

Introduction

Several studies and investigations have been carried out to show the testament and consequences of implementing green amenities and developing eco-cities to promote more resilient cities and better quality of life. Some of these studies are: Ghorad and Shalaby, (2016), Angueslovski et al. (2020), and de Souza and Torres (2021). Most of these studies examine how Nature-based solution (Nbs) and Green Infrastructure (GI) strategies are implemented. In spite of the identified benefits and consequences, the increasing climate changes, the depletion of the ozone layer and the attendant environmental disasters such as wild fire, flood, and tsunami have warranted the call for serious action to arrest the tide of climate change. The G20 meeting held in Rome, Italy and the COP 26 in Glasgow, Scotland in November 2021 all centers on the issues of environment and the need for the adoption of greening communities and eco-cities in particular. Greening the cities is a veritable strategy for tackling the socio-economic and environmental problems of cities. While most cities in the Global North have been implementing these strategies, the cities in Global South seem not to have any plan mostly in the indigenous settlements in urban communities.

According to Owolabil(2021) in Nigeria as at 1990 there were about 16 cities with a population of over three hundred thousand to five million, but three decade after the number of cities with this range of population increased to 47 which include Lagos which attained the status of a mega city. Owolabilpointed out that the urbanization trend is expected to increase in the next decade. In cities like Lagos, Port Harcourt, Calabar, Ibadan, Jos, Abuja and a few others cities in Nigeria, there are indigenous settlements that have been urbanized and become part of the city centers. In Abuja the indigenous people experience increasing urbanization as a result of relocation of administrative capital of Nigeria to the place; in Port Harcourt the need for the export of coal and cash crops during the colonial era led to the development of Port Harcourt city in 1912. Similar development pattern occur in cities like Kano, Kaduna, Jos which are centers of trade in the North; and in Western Nigeria, Lagos and Ibadan developed as a result of administrative and commercial activities since the colonial and post-colonial era. The urban indigenous people are the aboriginal people, most often the original owners of the land in which cities spring up. Life in these settlements is defined by two cultural systems: the culture of urban life style and the culture of the indigenous people. The governance system is based on the tradition of the indigenous settlers. Most people who migrate to the cities often settle first in these areas because of the low cost of accommodation and living. These settlements as a result of the increasing migration and influx of people have become multicultural and divers in nature.

The urban indigenous communities have vast arable land which the indigenous people use for agricultural purposes, but which has now been turned to industrial base and real estate as a result of urbanization and the attendant industrialization. Urbanizing the indigenous communities creates complex problems that are intractable to the people and the environment. These problems varied but the major one is climatic change. The environment is heavily impacted negatively. Many urban indigenous settlements suffers from neighbourhood deterioration, increasing slum and development of informal areas, land use conflicts, lack of basic services and infrastructure, poor road networks and traffic jams, population densities, urban sprawl on the agricultural land, environmental and visual pollution, weak and informal economic activities. There are other problems like waste water management, flood, poor sanitation facilities, poor housing, lack of recreational centres, and poor health care delivery. In resolving these problems, communities and government at all levels have adopted diverse measures and implemented green amenities to promote more resilient society and better quality of life. Nature-Based Solutions (NbS) and green infrastructure (GI) are among the most common strategies. The question is: What Nbs and GI strategies are plausible in the urban indigenous communities in Nigeria, and what are the issues in the implementation of these strategies? Addressing these issues is the main thrust of this paper. The paper is divided into three parts. Shortly, after the introduction is conceptualizing eco-city and green community. This is followed by examination of the Nbs and green infrastructure that can be adopted in urban indigenous communities in Nigeria. The third section of the paper focuses on the issues and problems in implementing the Nbs and green infrastructure in urban indigenous communities in Nigeria.

Eco-city and Green Community

The term eco-city and green community is relatively new but has been conceptualized in diverse ways based on the peculiarity of the urban community in which it is applied. Roseland (1992), Engwicht (1992), and Nozick (1992) all in their respective scholarly publications conceptualized eco-city and green community in different ways. The term eco-city and green community is used interchangeably with such concepts like sustainable community, sustainable cities and ecological friendly cities. An eco-city or green community can be defined as a community that is environmentally friendly, fosters social equality and self-sufficient in energy consumption, water and food production. Eco-city and greening community encompasses urban planning, transportation planning, public health, housing policy, energy policy and technologies, natural resources management, and social justice. Eco-city or green community is an innovative strategy that incorporates the natural and social environments to improve the well being of the people and environment. It emphasizes significant changes in a city's urban planning to create a healthy and livable community. It also fosters changes in economic development to ensure that the strategy is successfully merchandized for the benefit of the present and future generation.

Some authors also point to the necessary ingredients for the composition of eco-city and green community, such as: smart economy, smart mobility, smart environment, smart people, smart business, smart living and smart governance (Lazaroiu and Roscia 2012; Lee et al. 2014; Jong et al. 2015). A smart community is fully digital, business, governance system and human social and economic interaction is fully digital consequently there is easy of doing business, governance and communication without negatively impacting on the environment. Additionally, the concept of eco-city and green community goes beyond the use of Nbs, GI and adopting smart systems, it is about sustainability. All of these measures must ensure and engender sustainable development. The term sustainable development can be seen as a process of change in which resource exploitation, investment direction, technological development and institutional change are consistent with present and future needs (WCED 1987). The term sustainable city as a concept became popular in the 1990s (Roy 2009) denoting the relationship between economic, social and environmental sustainability aspects from a combination of indicators of each of these components (Ahvenniemi et al. 2017). Thus in addressing sustainable development three elements are important: the environment, social, and economy. Some scholars tend to emphasize only one element which is the environment. This is the case of Meadows (1999), who propose the inclusion of indicators such as pollution, waste generation and consumption of water and energy, which promotes eco-city. However, Jong et al. (2015) brought to the fore interpretation of more socioeconomic, such as social equity and a greener environment in defining sustainability. Considering all these aspects, Hiremath et al. (2013) define sustainable urban development as achieving a balance between the development of the urban areas and protection of the environment with an eye to equity in income, employment, shelter, basic services, social infrastructure and transportation in the urban areas. In this sense sustainable city is a city that is based on green, eco-city principles and promotes development that provides for the immediate needs of the resident and the future resident ensuring clean environment and healthy living.

There are three major essences of the eco-city and green communities. These essences can be classified into environmental essence, economic essence and social essence. In the environmental aspect, a green community enforces major environmental regulations and focus on waste reduction, pollution prevention, and natural resources conservation and land conservation so as to ensure a clean environment. In the economic aspect, a green community promotes diverse, locally-owned or operated sustainable enterprises, adequate and affordable housing, mixed-use residential areas, and economic equality. In the social aspect, a green community ensures active citizens participation and mutual communication, incorporate local values and identity, create safe and friendly neighborhoods, provide efficient infrastructure, and promote equitable and effective educational and health systems. These three aspects as stated by EPA cited in Tang and Wei (2013) provide the fundamental and underpinning principles to build eco-cities and green communities. Cities that engage in ecologic or green planning should integrate their environmental, economic, and social goals into broader sustainable development to provide a balanced urban development pattern.

Kenworthy (2013) identified ten discernable characteristics of eco-city and green community from the various ways in which scholars have

conceptualized the term.: 1) An eco-city and green community the environment is protected and preserved in its natural form. Sensitive resources are undisturbed and protected. 2) An eco-city and green community supports and sustains local agriculture and local production of goods to reduce the ecological footprint in the community. 3) An eco-city and green community encourages a mixed-use and effective use of urban land and proper urban development. 4) An eco-city and green community fosters an efficient transit system which are pedestrian-friendly with a walk way able to accommodate physically challenged people, bicycling, and public transit system. 5) An eco-city and green community develops efficient transport and communication systems to change traditional human behaviors by using new technologies to reduce costs, improve efficiency, and save energy (smart city). 6) An eco-city and green community maximizes renewable energy and adopts energy conservation strategies. 7) An eco-city and green community adopts zero-waste programmes to recycle materials. 8) An eco-city and green community has a well articulated policy framework of ecosystem and sustainable development. 9) An eco-city and green community promotes stakeholder involvement and community-based efforts to improve community quality. 10) An eco-city and green community encourages public participation to support development campaigns. When community or a city has all of these or most of these features such community can be said to be an eco-city and a green community and such a community will be able to achieve Goal 11 of the UN Sustainable Development Goal and COP 26 which aimed to reduce emission to 1.5C. The UN Sustainable Development Goal (SDG) 11 is about sustainable cities and communities. The goal 11 aims at making cities and human settlements safe, inclusive, resilient and sustainable. The making the urban indigenous settlement eco-city and green community will accentuate the attainment of SDG 11, and the realization of SDG 11 can be measured through the lens of eco-city and green community. Making cities eco-friendly and greening the community will make the community safe for human settlement, resilient and sustainable.

The Nature of Eco-city and Greening in Urban Indigenous Communities in Nigeria

Given the ten point characteristics of eco-city and green community, the question is how have the urban indigenous settlements in Nigeria tend to ensure eco friendly and greening community. As stated earlier, urban indigenous communities are aboriginal communities and the original owners of the urban communities or cities. The first point is: The environment is protected and preserved in its natural form. In the past in urban indigenous communities there are forests reserves in the form of burial grounds for both different categories of dead people such of the traditional rulers, the evil people and people considered to be pious in their life time. In such places the eco system is fully protected including the land and living things like the birds, animals and micro organs. These forests are sacred. On the other hand, in urban indigenous communities, land development through private estate developers, the increasing developmental activities of the government and urban growth, the increasing exploration and exploitation of the natural resources of the indigenous communities has further degraded the natural form of the environment and lead to the usurpations of the community land and their environmental capital. In respects of creeks and lake there are reserved areas for traditional rituals in most indigenous communities. In such reserved creeks and lakes all forms of aquatic properties are preserved and fully protected. But development process has impacted negatively in these areas. The indigenous peoples' lakes, water ways, canals and forests have been tampered with and in most cases blocked and the aquatic and wild life destructed. This has not only affected their economic activities but their livelihood and their economic well being. For instance in Port Harcourt, the Intawoba creek use to their a place where the Ikwerre people usually fish fresh water cat fish and along the fringe of this creek, raffia and palm trees grow which the indigenous people of Ikwerre in Port Harcourt use for building, brewing native gin and to create ornamental products. Similarly, the Choba community also has stream running through the community that is sacred that no human being is allowed to fish and cut tree. Fishing is done biannually after the chief priest of the community has done the required rituals. But in all of these communities development have encroached on these creeks and destroyed the community values system of conservation and has not only narrowed the wideness of the creeks and consequently the flow of the natural water way is grossly natively slowed down. Furthermore aquatic life in the creeks is also destroyed and the ecological balance distorted. The corollary of the non-preservation of the water ways is the increasing flood being experienced anytime it rained in Port Harcourt. This problem is not only peculiar to Port Harcourt, major cities in Nigeria suffers from perennial flooding due to the narrowing or closure of the natural water ways. In Ilorin Kware State the Sobi Rivers is grossly affected and the Arogongo River is also affected just to mention a few. In every raining season the National Emergency Management Agency decrees the occurrence of flood in major cities and the worst affected are the indigenous settlements because of the chaotic and unplanned nature of most of the settlements with people building on the water ways, the blockage of the water ways as well as the disposal of domestic and industrial waste on the water ways.

The second issue in the characterization of eco-city and green community is: Supporting and sustaining local agriculture and local production of goods to reduce the ecological footprint at the community level. Agriculture and local production of goods are keys to human sustenance and as raw material for the industrial sector. It also reduces ecological footprint and add to accentuating one above. What the issues are as regard this. First, the government of Nigeria has acquired the most fertile land without compensation through the land use decree, and in the south-south Nigeria oil exploration has polluted and degraded their agricultural land, while in South-East gully erosion has washed off the soil. The indigenous people are not free from this issue. There is so much of land speculation and sale of the farm land to private estate developers; first, because of the low return on agriculture leading to the abandonment of farming for white or blue color jobs; and secondly because of pricing mechanism and increasing appreciation of landed property in urban centres. In most urban indigenous communities there are no more farm lands where the people can do serious farming

activities. What they do rather is small backyard garden to plant vegetables which are not sustainable and cannot meet the food needs of the indigenous communities and provide raw materials for industries. In the urban indigenous communities in Nigeria, they eat what they do not produce and there is no food security.

The third issue is on: A mixed-use and effective use of urban land and proper urban development. What are the issues here; first, there is poor central planning and urban land development. Individuals and families sale their ancestral land to private developers without regard to public space, growth, road, and public infrastructural development. This has resulted in chaotic urban plan, poor city infrastructural development like road, the springing up of several neighborhood estates based on class and social status. The rich and powerful government officials stay in government reserved areas and private choice estates acquired from the indigenous people without compensation while the poor and the indigenous people leaves in slums. Related to the third factor is the need to foster an efficient transit system which are pedestrian-friendly with a walk way able to accommodate physically challenged people, bicycling, and public transit system. In the urban indigenous settlements is there efficient public transport system, are the roads built with good pedestrian walk way which accommodate the physically challenged, and are the roads built with provision for bicycles? The answer to these questions is not positive. In most urban indigenous settlements, the communities are situated along a major road without an adequate internal network of road. So there is neither any alternative road out of the community or a few outlets. For instance in Lagos the indigenous settlements of Makoko and Epe all have only one road into and out of the community. Similarly, in Port Harcourt the indigenous people of Abuloma and Ogbogoro has only one road into and out of the communities. The roads are not built with regard to the physically challenged and bicycle users. In some indigenous settlements the roads are narrow because of poor physical planning. The fifth is related to fourth and third. Here the issues is the development of an efficient transport and communication systems to change traditional human behaviors by using new technologies to reduce costs, improve efficiency, and save energy (smart city). The indigenous communities still hold onto their traditional and cultural values alongside the western value system. This combination make the urban indigenous communities not to be fully a refracted or fully diffused society but they can be likened to what Riggs called prismatic society. For instance in such societies the western advance means of communication and the traditional means of communication exist side by side. Most of the indigenous settlements still use the traditional gong and town crier to disseminate information and also use the Information and Communication Technology (ICT) particularly the social media. In all the indigenous settlements of Ikwerre the town crier goes around the community to pass important messages and information to community members using the gong. Such information dissemination is not efficient and can be easily distorted. But the use of ICT is precise, prompt and has wide coverage. The effective and massive deployment of ICT makes a community a smart city. The urban indigenous communities in Nigeria have not reached the stage of a smart city because of the excessive level of traditionality.

The sixth defining characteristics are essentially attainable because of the availability of enormous renewable energy and rich traditional conservation practice in the urban indigenous settlements. The urban indigenous communities in Nigeria without an effective police direction but driven by tradition and custom adopt renewable energy and conservation. Some of the infrastructure in the urban indigenous settlements uses renewable energy such as solar energy traffic light and street lights, solar light driven neighborhood water supply system. Some of the Nature based solutions (Nbs) are the restriction of fishing activities in certain creeks for a period of time after the ban on fishing is lifted, a fishing festival is organized. This tends to conserve the aquatic life in these creeks. This is the practice in the indigenous community of Bonny, Abuloma and Amadi-Ama in Rivers State and the Arogogon festival.

The seventh characteristics of eco-city and green community is the adoption of zero-waste programmes to recycle materials. Here the issue is how the indigenous communities manage their waste. In these settlements, because of the dual status of these communities a traditional and modern city status three types of waste are generated. These are industrial waste from industries sited in this area due to availability of land, agricultural waste from the natives whose primary occupation is farming, and domestic waste from the residents. Most often these wastes are poorly disposed along the road, on the median, in the water ways and drainage. Dangerous items such as broken glass, razor blades, and hypodermic needles and other healthcare wastes, aerosol cans, potentially explosive containers and chemicals from factories, and abandoned vehicles pose risks of injury or poisoning, particularly to children and people who sort through the waste for livelihood and those who lives near it. The people also engage in burning of wastes rather than recycling and reuse, agricultural waste which are degradable are not separated from paper waste and metallic waste. These practices are environmentally unfriendly way of disposing waste. Such actions either causes flooding, increase non-biodegradable materials in the seas, damage the soil and reduce soil fertility for agriculture, reduce air quality and in overall affect the quality of life in the area.

The eight characteristics is a well articulated policy framework of ecosystem and sustainable development. This has been the fore burner of all policy discuss at both local and international. The policy issues are: Are there existing well articulated policy framework, are there institutional framework for the implementation of the policy and are the policy goals attainable. In Nigeria there has been increasing policy change due to regime change and poor policy implementation because of unclear policy framework and policy conflict among the three tiers of government. Local government which is closest to the people has failed in its constitutional mandate of regulation and enforcement of urban planning, waste disposal, pollution control, provision of recreational facilities and open spaces. Nigeria has developed policies and established strategic directions for more sustainable urban development and planning which could help improve the live of urban indigenous people. A few of these policies are: the National

Urban Development Policy (2012), National Housing Policy (2012), National Integrated Infrastructure Master Plan (2015), National Social Protection Policy (2016), and recently, Economic Sustainability Plan (2020). These policies seek to achieve social inclusion and equitable access to resources. The National Urban Development Policy was developed in 2012, with the goal to improve the standard of healthy living and wellbeing for all Nigerians by promoting a system of well-managed urban settlements. Although Nigeria has expounded these various policies, strategies, and plans that could contribute to improving access to crucial resources, services and eco-friendly system, the country is yet to be found to have potential policy contributions to eco-city and green community, social inclusion, and equitable access to urban resources.

The tenth characteristic of eco-city and green community is fostering public participation to support development campaigns. The question is how participatory is the community development (CD) process of ensuring eco-city and greening urban indigenous settlements in Nigeria? There are two categories of people in such communities; the natives and the non-natives residents. The question is: are the non-natives integrated in the CD process? There can be no accountability, no development, and no programme without effective participation of people. Promoting eco-city and green community requires people's participation, private sector collaboration and participation and government involvement. At the level of the people both the non-native residents and natives will have to enthusiastically participate. Such participation is necessary at the level of policy initiation, implementation and evaluation. It also helps in the development of community social capital to drive the eco-city and green community development process. However, integrating the non-native in the CD process is an issue in the urban indigenous communities because the cultural and language difference and discriminatory residential system in communities like in the Kano and Kaduna where they operate the Sabogari system. Secondly, attaining full participation of people in CD process is difficult because of the difference in age, sex, social status, and level of education as well as the nature of the programme.

Conclusion and Suggestion for Further Actions

To become an eco-city and green community, urban indigenous communities must adopt Nature based solutions and green infrastructures. This requires adopting resources conservation and building infrastructure that does not undermine the eco system and negatively affect the developmental needs of future generation. There are lot of issue in enforcing and implementing eco-city and greening community development process in urban indigenous settlements. There is the issues of exploration and exploitation of the natural resources which has remain unabated because the people's livelihood is dependent on natural resources which constitute the community environmental capital for their development. There is also the issue of people's participation and lack of endogenous policy framework and the issue of usurpation of the community land.

What should be done to improve the eco-city status and green the communities in urban indigenous Settlements in Nigeria. This should among others:

1. The adoption of indigenous conservation system, forest protection and forest reservation and wildlife protection.
2. Supporting and sustaining local agricultural system
3. Centralized urban planning and integration of the indigenous communities into the central urban plan.
4. Adoption of an efficient transit system which are pedestrian-friendly.
5. Adoption of Information and Communication Technology (ICT) and social media for mass mobilization and making the community a smart community.
6. Adoption of integrated waste management system.
7. A robust policy framework at federal, state and local government on development of eco-city and green community in line with COP 26 declaration.
8. Citizens participation in the eco-city plan and community greening programme

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