

INFRASTRUCTURAL DEVELOPMENT AND COMMUNITY INVOLVEMENT IN REALIZATION OF SUSTAINABLE DEVELOPMENT GOALS

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Abstract

Sustainable infrastructural development is aimed at meeting the most basic needs of the emerging population in the cities. However, to foster sustainable infrastructural development, there is a need for community integration in urban development in Nigeria. Individuals should be encouraged to interact in communities where they live and participate in civic life. Although the provision of essential services is the primary function of government in all societies of the world, well-meaning individuals in the society can be inspired to interact and actively participate in the development of their communities by contributing their own resources to the provision of essential social services needed in their immediate environments/communities. This paper discussed the sustainable infrastructural development in cities as it relates to provision of basic amenities such as housing, clean water supply, and sanitation. It also highlights community integration in urban development and sustainable infrastructural development in Nigeria as a way to achieving SDG 6.

Keywords: *Community Development, Involvement, Goals, Infrastructure, Sustainable*

Introduction

Sustainable infrastructural development is designing and maintaining buildings, structures and other facilities to endure for the well-being of the citizens. It refers to equipment and systems that are designed to meet the needs of the essential services in a community. Basic services include but are not limited to housing, road, water

supply, bridges, electricity, market and health care facilities. Achieving these services requires a considerable commitment of economic, financial, social and institutional elements. The clamour for sustainable infrastructure in cities of developing countries like Nigeria is strategic to the achievement of the

sustainable development goals (SDGs) (Olanipekun et al, 2014). Sustainable development goals are focused on economic growth and well-being of citizens, innovation, sustainable infrastructure and a more inclusive and environmentally friendly industry in sustainable cities and communities.

In contemporary Nigeria, millions of people lack access to good drinking water, safely managed sanitation and hygiene services. Despite the number of policies by the Nigerian government, using different agencies to provide access to these basic needs, poor access remains a significant challenge and a causative factor to water-borne diseases, infectious diseases and high rate of morbidity and mortality among children under five years. Attaining the sustainable development goal 6 which ensures availability and sustainable management of clean water and sanitation for all entails extraordinary efforts.

Therefore, the paper aims to reemphasize the importance of sustainable infrastructural development as it relates to the provision of basic necessities of life like housing, equitable access to good water and improved sanitation services and the reinforcement of community integration approaches to sustainable urban development in Nigeria.

Nigerian Government and Sustainable Development Goals (SDGs)

Universally, there is a call to end poverty, protect the planet and ensure that all citizens enjoy peace and prosperity. This led to the proposed 17 Sustainable Development goals (SDGs), to build on the Millennium Development Goals (UNDP, 2019). These goals work in the spirit of partnership and pragmatism to empower citizens of a nation to make the

right choices to improve their lives in a sustainable way for the future generation. The Nigerian government has taken several steps aimed at commencing the implementation of the SDGs since signing the agenda in 2015. The Sustainable Development Goals (SDGs) aim to address economic, social, and environmental challenges. The countries involved in this agenda are expected to use the SDGs to frame their development agencies, and at the same time, recognize the important role the private sector can play.

The oil and gas industry, for example, is central to sustainable development in many national economies. Therefore, they are not only key pillars of the global energy system; but a critical driver of economic and social development (Ite, 2018). Another sector that is a critical driver of economic transformation and social development in a nation is the agricultural sector. “Over the last decade, countries have started to put greater emphasis on investment in agriculture and supporting policies and regulations that will lead to increase in agricultural productivity” (Annan, 2017). These two major sectors among others can be used by the Nigerian government to address economic and social environmental challenges.

The Nigerian government like all other nations that are members of the United Nations, adopted 17 Sustainable Development Goals (SDGs) in 2015. The aim was to universally engage in actions that will put an end to poverty, protect the planet and ensure that citizens of every nation reap the benefits of peaceful communities with respect for law and order, steady growth, development and

prosperity by 2030. The 17 SDGs as enumerated by the United Nations Development Programme (2021), are;

1. No Poverty: The aim is put to end to all manifestations, aspects or features of poverty across the population. It is believed that everyone should be able to adequately provide the basic needs for their families.
2. Zero Hunger: The aim of this goal is to put an end to all forms of starvation and malnourishment so that everyone, particularly children will have enough and adequate food, full of nourishment, all year round.
3. Good Health and Well-Being: To a great extent, increase life expectancy and reduce infant and maternal mortality. This is to ensure good health and well-being for all people, tackle all diseases thereby reducing death rates due to diseases.
4. Quality Education: This is to ensure that all people have access to an all-encompassing and equitable quality education in order to promote lifelong learning opportunities. No child will be deprived of this opportunity.
5. Achieve gender equality and empower all women and girls. Equipping the girl child with the necessary education and skills to prepare her for tasks that are presumably dominated by men.
6. Ensure that there is adequate provision of clean water and sanitation for all people, which will not only be well managed but will be sustained for future generation.
7. Ensure that all people have access to modern energy that is affordable, reliable, and sustainable.
8. Promote and sustain, inclusive and sustainable economic growth, with productive employment opportunities for all. There will be opportunity for all people to get decent work that will sustain their families.
9. The aim of this goal is to build strong and irreplaceable infrastructure, promote inclusive and sustainable industrialization and foster innovation. Welcome new ideas that will promote infrastructural development.
10. To reduce inequality within and among countries.
11. To make cities and human settlements inclusive, safe, resilient and sustainable. Build cities that are not only habitable but where all amenities are provided and sustained for the benefit of residents. Residents are also to feel safe and secure in their homes.
12. Ensure sustainable and responsible consumption and production patterns. Encouraging industries, businesses and consumers to recycle of reduce waste.
13. Take urgent action to combat climate change and its impacts. Making adequate preparation for likely periods of floods and droughts, and other problems associated with climate change.
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development. Sustainably manage and protect marine and coastal ecosystems from pollution, as well as address the impacts of ocean acidification.
15. Protect, restore and promote sustainable use of terrestrial ecosystems. Sustainably manage forests, combat desertification, halt or reverse land degradation and halt biodiversity loss. Reduce the loss of natural habitats and biodiversity which

- are part of our common heritage and support global food and water security.
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. Reduce all form of violence and work with the government of communities to end conflict and insecurity.
 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development. Ensure cooperation among nations; promoting international trade and helping developed countries increase their exports is all part of achieving a universal, rules – based and equitable trading system that is fair and open and benefits all. (United Nations Development Programme, 2021).

Goal 11 and Essential Social Services: Housing, Clean Water and Sanitation

Goal 11 of the SDGs aims to make cities and human settlements inclusive, safe, resilient and sustainable. To build cities that are not only habitable but where all amenities are provided and sustained for the benefit of residents. Residents are also to feel safe and secure in their homes. Citizens of every nation expect to be provided the essential social services to improve the quality of life of the disadvantaged section of the society. These services include but are not limited to; quality education, clean water and sanitation, food subsidies, health care, security (police and other security agencies), fire service, job training and subsidized housing. Provision of these services aim to elevate the living conditions of the poor, those living with

disabilities, the elderly, children, women, and other depressed sections of society. These services have a dual purpose; they strive to protect vulnerable populations from harm such as food insecurity, housing instability, abuse, and neglect. They also seek to help people provide for themselves, thrive and contribute to society (Homer, 2017).

Poor urban housing conditions are a global problem, but these conditions are more serious in developing areas. Poor housing is an indicator of poverty, while good housing conditions is an indicator of welfare. Access to clean water and sanitation are fundamental human rights and basic to the health of every person. People who are deprived of access to improved water and sanitation services face diminished opportunities to realize their potential. Unimproved, clean drinking water and sanitation can be traced to high child mortality rates of children in the world. The realization of the scale, magnitude, and complexity of the problem of providing or access to clean water and sanitation has compelled international agencies and national governments to increase their resolve to face the challenge. There is extensive evidence on the independent effects of rural-urban environment and wealth status on access to clean water and sanitation services in sub-Saharan African (Armah, Ekumah, Yawson, Odoi, Afitiri&Nyieku, 2018). Achieving access to safe water and sanitation still poses major challenges in urban areas of sub-Saharan African countries, despite all the progress achieved in the last decade. Socio-economic status and settlement characteristics are the main indicators of poor access to reliable water and sanitation in peri-urban settlements

(Angoua, Dongo, Templeton, Zinsstag & Bonfoh, 2018).

Across the world, more than half of the population live in urban areas. The United Nations (UN) urbanization projections to 2050 reveal that most countries will have more people living in urban areas. The United Nations International Children Education Fund and the World Health Organization in 2017, estimated that over 785 billion people in the world lack access to improved water supplies, 884 million lack safe water and over 2 billion people lack adequate sanitation (UNICEF & WHO, 2017). There is a staggering global health burden associated with these conditions. An estimated 4000 – 6000 children younger than five will die each day from diseases associated with lack of access to safe drinking water, inadequate sanitation and poor hygiene (WASH, 2018).

Lack of access to improved drinking water is still a serious problem in large part of sub-Saharan Africa where about 25% of the population has access to basic sanitation (UNICEF & WHO, 2017). Projections made to meet the access to water and sanitation and the 2030 agenda for sustainable development, revealed that sanitation must be provided for approximately 2.1 billion people when adjusting for population growth. In order to provide toilets for 2.1 billion people over a period of 13 years required a minimum of 44,300 installations per day (with a projection of 1 toilet for 10 people). If it is assumed that the cost per installation is \$100USD for basic dry sanitation, then the investment required to install the most basic level of sanitation over 13 years is USD 4.4 million per day (UN Millennium Project, 2005). Without

adjusting for population growth and going by the above figures, the current projection was expected to be 64,722,300 installations at the end of 2019 at the cost of USD 6,428,400,000. To meet SDGs 6 targeted at universal and equitable access to safe, affordable drinking water and sanitation in the years ahead (2030) will require substantial economic resources, sustainable technological solutions and courageous political will (United Nations, 2018). The covid-19 pandemic had also confirmed the importance of sanitation, hygiene and adequate access to clean water for averting and controlling diseases.

Housing in Urban Areas of Nigeria

There is an inadequate and great shortage of housing facilities in Nigeria. As far back as 1976, Lagos, for instance, had an average of 3.8 persons per room and extreme density ranged between 5 to over 7 persons per room. The increase in population has been spectacular in recent years. Urban population over the last 30 years has increased to about “5.8 percent per annum. The urban population is about 55% percent and projections revealed that more than 60 percent of Nigerians will live in urban centers by year 2025 (World Bank, 2012; UN, 2018). These are serious challenges for sustainable development in Nigeria. Over 40% of Nigerians in urban cities suffer inadequate housing and accommodation and 60% are homeless (Enisan, 2017). This situation has increased the pressure on the need of social services and infrastructure like transportation, housing, power supply and health care services.

Nigeria is faced with a tremendous shortfall in the provision of housing, especially in its urban areas.

Consequently, there is need for public – private partnership in provision of housing to be adopted as a means of addressing this problem. This is in recognition of the fact that neither the public nor the private sector is able to address this problem individually (Ibem, 2010). Over the decades, the population of most major cities/towns in Nigeria has increased. Lagos, Kano, Port Harcourt, Maiduguri, Kaduna, Ilorin and Jos had increased more than 1000% in population over the past five decades (Aliyu & Amadu, 2017). Empirical studies have shown that about 75% of the urban settlers live in slums and improper housing, which is antithetical to human dignity (Oni-Jimoh, Liyanage, Oyebanji & Gerges, 2018)

Clean Water

The concept of clean water and safe sanitation as essential to health is not a novel idea. It is of utmost importance to improve, strengthen and ensure global access to clean drinking water, safe sanitation and hygiene services in order to prevent diseases (Desye, 2021). Access to safe drinking water and improved sanitation is also a fundamental human right and a basic ingredient of public health (Adil, Nadeem & Malik, 2021). The United Nations (UN) and other countries declared access to safe drinking water as a fundamental human right and an essential step towards improving living standards. Water is connected to every form of life on earth. It is imperative to provide an adequate, reliable, clean, accessible, acceptable and safe drinking water supply for various users (Dinka, 2017).

In 2019, the Nigerian's water sanitation and hygiene Sector (WASHS) was declared to be in a state of emergency as about 60 million people in Nigeria live

without access to basic drinking water (World Bank, 2021). Women and girls suffer from this lack and bear the burden of walking long distance looking for clean/potable water. This affects the school attendance of girls, exposes them to gender-based violence and general well-being. The government has developed several initiatives to improve access to water and sanitation. These include the construction of over 2,300 water points and 6,546 sanitation compartments and hygiene facilities all over the country. Secondly, National Action Plan, a 13-year strategy for revitalizing Nigeria's water supply, sanitation and hygiene, was launched in 2018 to ensure universal access to sustainable water supply, sanitation and hygiene by 2030. These strategies are important because of the urgent need to improve the nation's water and sanitation sector, save the nation from the dreadful consequences of the situation, and achieve sustainable development goals. One of the cheapest ways to prevent infectious diseases and sicknesses and control pandemics is investing in essential public health infrastructure, including water and sanitation systems. Consistent application of good water, sanitation and hygiene, and waste management practices prevent human transmission of diseases, viruses in homes, health care facilities, hospitals, schools, communities, schools, and other public spaces (World Bank, 2021).

Sanitation

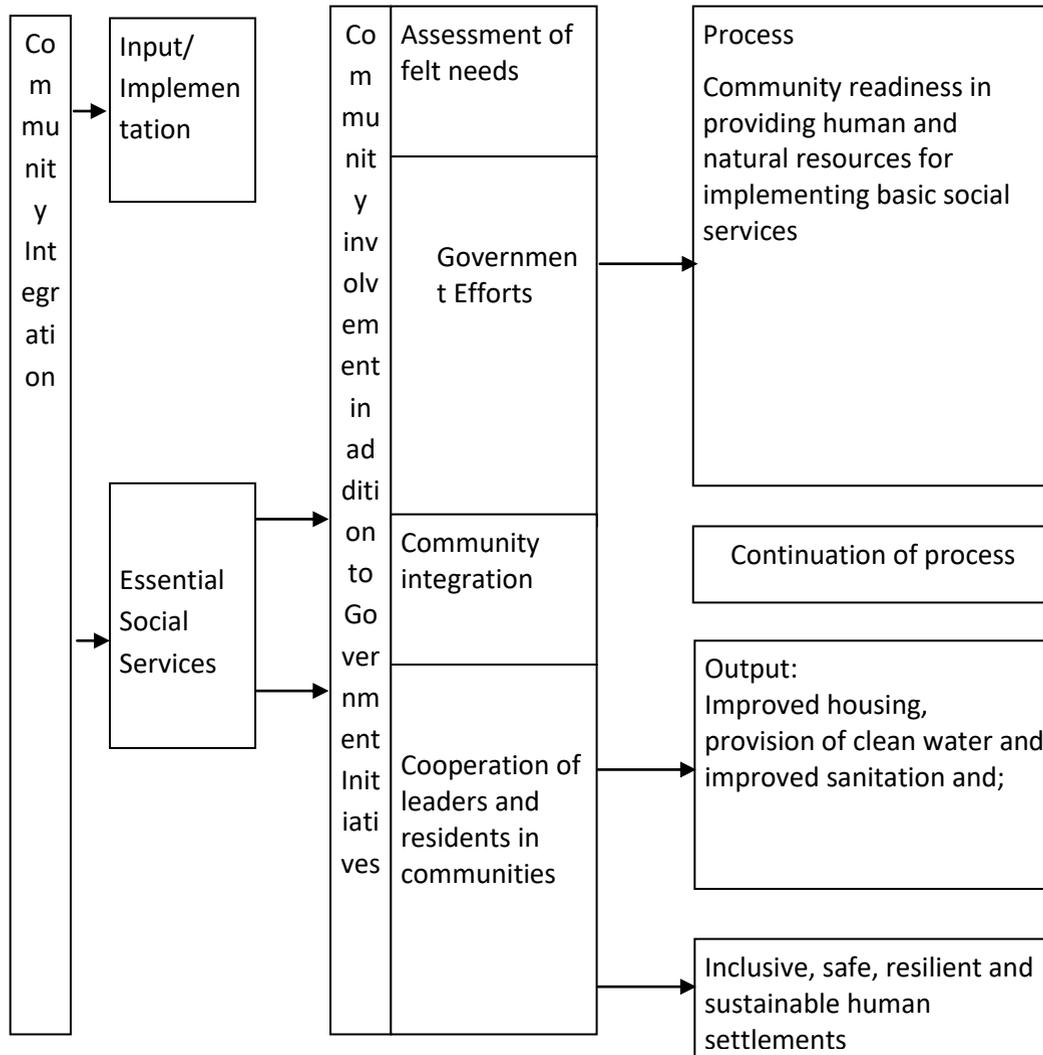
The World Bank defines sanitation as "interventions to reduce people's exposure to diseases by providing a clean environment in which to live and with a measure to break the cycle of diseases". Sanitation is concerned with managing

human excreta, waste water, garbage, and washing facilities for personal and domestic hygiene. It involves practices, actions and amenities that are put together to make an environment hygienic and safe. Urban sanitation is one of the important areas of sustainable development that requires diligent active recognition. The sanitation sector in Nigeria is unstable and unable to meet the sanitation target for sustainable development. The country suffers from poor access to improved sanitation. World Bank in 2019 reported that about 80 million people in Nigeria live without improved sanitation and 169 million without access to basic washing facilities, and 46 million (25%) of the population still practice open defecation in the urban areas. Most urban dwellers rely more on on-site sanitation as a low-cost form of

technology to reduce the level of open defecation.

The vision of the sanitation sector is that every Nigerian will enjoy good access to safely managed sanitation and hygiene facilities in 2030 (World Bank, 2021). It is also expected that open defecation will be eliminated, improve sanitation, and put an effective system for fecal sludge management. Access to water, sanitation and hygiene is an important determinant of human capital outcomes, including early childhood survival, nutrition, health, learning, and women's empowerment (World Bank, 2021). Improved safe water, sanitation and hygiene will help to keep female children in schools, create employment and reduce open defecation. It will also develop better resilience to the effect of climate change and conflict between different land and water users.

Figure 1: An adapted model for Community Involvement in Sustainable Infrastructural Development



Adapted from: Ehren, Altricher, McNamara & O’Hara (2013: 14)

The Expected output of Community Involvement in Sustainable Infrastructural Development

The model presents at a glance, the expected output of community involvement in the realization of Sustainable Development Goals (SDGs). The aim is to draw attention to the fact that community integration and involvement in the scheme of things, will translate to the

provision of social services (housing, provision of clean water and improved sanitation) and other essential services in such communities. The model reveals that adequate input and implementation of all essential social services, in particular, housing, clean water and sanitation require

involving residents of communities in governmental development initiatives. The first step is for the government to assess the felt needs of communities, solicit the support of residents while revealing to them governmental efforts in the provision of social services. Cooperation of community leaders and residents is required in the process, which includes readiness in providing human and natural resources (portions of land and manual labour) for implementation. The expected output is an inclusive, safe, resilient and sustainable human settlement, enjoying not only adequate housing, provision of clean water and improved sanitation, but also other essential social services.

Community Integration in Urban Development

The involvement of community members in the affairs of development and sustainable infrastructural development is crucial in achieving sustainable development goals. Community development in urban initiatives for sustainable development involves cooperation between neighbouring cities in functional urban areas. It is a process whereby the community members are united in the control and management initiatives and decision-making, especially in the provision of social services (Ismail & Said, 2015). This process is geared towards reducing citizens' skepticism about the government and builds stakeholders' consensus (Creighton, 2005 cited in Ismail & Said, 2015). There is a focus on empowering locals and encouraging participation from beneficiaries of the programmes. Economic, environmental, and social problems are addressed at broader urban levels through integrated approaches

(UDN, 2014). Involving the community in the planning and democratic process can make it easy for community members to accept the government and their developmental programmes (Johnston, Lane, Devin, & Beatson, 2018).

Integrated community development can also be called community-led development which is based on collaboration and meeting the actual needs of people living in a particular community. It advocates for active participation of citizens in the planning and implementation of different developmental goals and visions in a community (Olaiya, 2018). It is also an innovative structure for the implementation of sustainable community development programmes and activities. It concentrates on the delivery of sustainable development in a city and focuses on community ownership, involvement and respect of the entire community in development programmes. Integrated community development is a system of bringing different groups and leveraging their abilities, interest and resources to create collective values and benefits in their communities.

Arikawei and Etigbamo (2015) proposed that integrated community development requires principles essential in effecting changes in the community development process. These can be done through seminars/workshops, in-service/on-the-job training, sensitization, communication and research. There are numerous elements that are crucial for communities to become functional. These elements are education, health, food, agriculture, housing, security, politics, culture, religion and recreation. The adequate provision of these elements is significant to community development and they are essential components of the

integrated community development programmes in urban cities.

Nelson et al (2021) conducted 73 studies in 29 countries on how community participation in water and sanitation intervention impacts human health. The study concluded that “community dynamics such as location, resources, committee activity and practices and nature of community participation should be considered by policymakers, programme implementers and institutions before introducing community water and sanitation interventions”. Those in charge of providing any intervention programmes in any community are supposed to routinely consider and evaluate the social impact of these intervention programmes on the people in such communities (Malolo et al, 2021). It is important to address any complaint about these programmes by residents of communities in order to encourage their full participation in intervention programmes.

It is estimated that more than half of the people in the world currently, live in cities and by 2050, the number is expected to increase especially in the developing world. It is important to change the way housing and urban spaces are being managed in order to achieve sustainable development. Cities can only be made sustainable when employment and business opportunities are created for the benefit of residents. This is in addition to building safe and affordable housing, and building resilient societies and economies. These will be possible when residents of communities are included in planning and management of community resources.

Conclusion

Ensuring access to housing, water, sanitation and hygiene as the focus of

dedicated targets within the Sustainable Development Goal (SDG 6) is evidence to its ultimate role in public health and therefore in the future of sustainable development. Indeed, access to safe water and sanitation are human rights, as recognized by the United Nations and World Health Organization. For universal fulfillment of these rights to become reality, there is need for community integration and involvement in the realization of sustainable development. Housing is a necessary component of human livelihood. As Began (2017) rightly stated, without appropriate shelter, people cannot meet their basic needs and participate adequately in society. The urgent need to improve the nation’s water and sanitation sector, will save the nation from the dreadful consequences of lack of these basic social services and lead to the achievement of sustainable development goal 6. The state of poverty in the country has posed a major hindrance in the realization of the Sustainable Development Goals (SDGs). Provision of housing, availability of clean water, sanitation and hygiene with adequate essential social services will go a long way to reduce social vices, insecurity, corruption, and particularly, killer diseases among citizens of Nigeria.

Suggestions

The following suggestions are made to help address the situation in the country and realize to a great extent, the objectives of the SDGs 6.

- (1) All stakeholders need to cooperate in providing essential services for the citizens. These include the private sector (oil and gas, agricultural sector, real-estate developers) and government

parastatals in charge of providing essential social services.

- (2) Water is one of the most fundamental conditions and necessities for survival and therefore should be treated as a social and cultural good not mainly as an economic good by the government.
- (3) One of the ways to address the problem of poverty in Nigeria is for other stake holders (oil and gas sector, non-governmental organizations, well-meaning individuals and philanthropists) to support the efforts of government. They can invest in, not only provision of clean drinking water and sanitation, but other natural resources and provide opportunities for employment for citizens.
- (4) Community Integration and participation should be encouraged by the government and other stakeholders in providing and sustaining infrastructural development.
- (5) There is an urgent need for proper supervision by all government agencies in charge of provision of clean water, sanitation/waste disposal and all other infrastructural development, to address the problem of effectiveness and consistency.

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