

Effects of Sustainable Development Goals on Poverty Reduction, Water and Sanitation in Nigeria during the Pandemic Era

PATRICIA NWAMAKA IBEME, JULIUS TAIWO ABIMBOYE
National Open University of Nigeria

CHINENYE MIRIAM ATUEGBU
Glasgow Caledonian University, United Kingdom.

CHINEDU STANISLAUS IBEME
Yale University, New Haven, Connecticut

ARINZE YVES IBEME
Dalhousie University, Halifax, Nova Scotia

Abstract. This paper examines the profound effect of Sustainable Development Goals (SDGs) on poverty reduction, water and sanitation in the context of the pandemic era in Nigeria. As high-profile academia and bureaucrats seek to navigate the intricate landscape of development policy and practice, understanding the interplay between the SDGs, pandemic challenges, and Nigeria's socio-economic fabric becomes paramount. The study adopted documentary research design method through a comprehensive review of existing literature and empirical analysis. Findings from the study show that, good strides have been made in the domestication process of the SDGs in Nigeria. Nigeria has developed its home-grown 'Integrated Sustainable Development Goals (SDG Model) the model includes; empowerment, conditional cash transfers and vocational training, trader-moni, Market-moni, ANCOR borrowers programme of CBN. Finding from the study shows that between 2015–2021, over 10.5 million Nigerians were lifted out of poverty through empowerment, conditional cash transfers and vocational training, President Muhammadu Buhari revealed that, government has lifted 10.5 million Nigerians out of poverty in the last two years. Buhari revealed that, those lifted out of poverty include farmers, artisans, market women, and small-scale traders. Finding from the study shows that, Seven hundred thirty-two (732) waters and sanitation related projects were executed, while Finding from the study shows that, 616 classrooms

and other educational facilities were built or renovated. It was further showing that, a key challenge confronting the country has to do with Out-of-School-Children, a demographic challenge that relates to interplay between employment (SDG-8), education (SDG-4), poverty (SDG-1) and the digital economy (SDG-17). The study recommends that The government should encourage Sustainable Development Initiatives. The government should integrate sustainable development practices into policies and initiatives related to poverty reduction, water, and sanitation. Promote the use of renewable energy, encourage sustainable agricultural practices, and prioritize the conservation of natural resources. The government should support the development of eco-friendly technologies and solutions to minimize the environmental impact of development efforts. The government should expand social protection programs to support vulnerable populations, including the poor, elderly, and informal workers, by providing cash transfers, food assistance, and healthcare services. Implement targeted programs that reach those most in need, using technology and data to identify and assist marginalized communities

Keywords: Sustainable Development Goals, United Nations, Covid-19 pandemic, poverty reduction, water and sanitation, Nigeria.

1. Introduction

In the pursuit of global prosperity and well-being, the adoption of the Sustainable Development Goals (SDGs) by the United Nations in 2015 marked a pivotal moment. Nigeria placed 157th out of 189 nations on the UNDP's Human Development Index (HDI) in the same month (September 2018) (UNDP). Oxfam's Commitment to Reducing Inequality (CRI) Index 2019 found that "although Nigeria possesses the resources to end extreme poverty and even up the inequalities between rich and poor, women and men, it remains the country where the government is the

least committed to reducing inequality in West Africa." In addition, "a new analysis issued by Oxfam claims that the combined wealth of Nigeria's five richest men \$29.9 billion could end severe poverty in that country. These 17 interconnected goals set a comprehensive agenda for addressing the world's most pressing challenges, including poverty, inequality, access to clean water, and sanitation. As we navigated the complexities of the pandemic era, where the vulnerability of nations has been exposed, the relevance of the SDGs in shaping the course of development in Nigeria becomes all the more significant.



Nigeria, the most populous country in Africa, grapples with multifaceted challenges. Poverty remains a stubborn adversary, with millions of Nigerians living in conditions of deprivation. Access to clean water and sanitation, a fundamental human right, is a pressing concern, impacting public health and overall well-being. The outbreak of the COVID-19 pandemic further underscored the critical importance of these goals, as vulnerabilities were laid bare, and pre-existing inequalities exacerbated.

The United Nations Support Plan for the Sahel estimated in December 2018 that Nigeria needs no less than \$337 billion to implement Sustainable Development Goals, SDGs, from 2019 to 2022. The plan estimates that the cost of implementing the SDGs in Nigeria will be \$80.65 billion in 2019, \$82.83 billion in 2020, \$85.07 billion in 2021, and \$87.37 billion in 2022. Nevertheless, by July of 2022, expectations had not improved. The United Nations has said that more money is needed to speed up the

SDGs across Africa. It said bluntly that more than \$300 billion was required to address the widening gap between Nigeria's wealthy and its poor. Speaking on the topic of "Rethink, Rebuild, Recover, Accelerating Growth for the SDGs," UN Resident and Humanitarian Coordinator in Nigeria Mr. Matthias Schmale warned that the SDGs may not be achieved in the remaining 8 years before 2030 due to the economic regression across Africa caused by the pandemic and the volatility caused by the conflict between Russia and Ukraine.

In September 2000, during the United Nations Millennium Summit, the MDGs were introduced and agreed on by the 190 countries, including Nigeria. Along with the majority of countries in sub-Saharan Africa, Nigeria was deemed to have failed to achieve any of the Millennium Development Goals at the turn of the millennium. This was because of several different political and systemic obstacles within the health care industry. Meanwhile, during that period,

China (whose poverty population decreased from 452 million to 278 million in line with MDG 1A) and India were two of the primary successful countries that achieved the stated objectives of the MDGs (Ayo, 2022). There has been a rapid increase in poverty in Nigeria during the past four years despite the country's meagre resources. In spite of efforts, the government was unable to meet its goal of reducing the percentage of its population living in poverty, which stands at 18.6 percent right now. Nigeria is confident in her ability to achieve SDG targets, and the Federal Government has expressed her profound commitment to doing so before the year 2030 (Ayo, 2022).

Yet, Nigeria confronts significant obstacles on the path to achieving the SDGs. A global assessment on the SDGs was just released by the Sustainable Development Solution Network. The report ranks 149 nations according to their progress towards each objective in 2018. If you compare Nigeria to other countries such as India (110), Bangladesh (82), Bhutan (82), India (110), Myanmar (117), Nepal (103) and Pakistan (115), you'll see that it ranks dead last (150).

The International Committee of Experts on Sustainable Development Finance (ICESDF) believes that from now until 2030, extra global investments in the range of US\$5 trillion to US\$7 trillion per year are needed to achieve the SDGs in all countries. Roads, rail, and ports; power plants; water and sanitation; agricultural and rural development; climate change mitigation and adaptation; health and education are just some of the many areas that would require substantial investment in a country like Nigeria. Yet, current patterns of investment in many fields fall short of expectations. Thus, it may be challenging to achieve the SDGs due to a lack of integration of these goals into the national planning process. Current national plans, policies, and strategies include the Five-Year Plan, the National Social Security Policy (NSSS) 2015, the National Education Policy (2010), the Primary Education Development Programme (PEDP III) 2011-16 (extended to June 2017), and the National Women's Development Policy (NWDP) 2011. Independent research group Centre for Policy Dialogue (CPD) found that just eight of the SDGs' seventeen goals are well-reflected in country prioritization procedures at now (Ayo, 2022).

On Nigeria's progress towards the SDGs, The Conditional Grant Program has provided 23 states and the Federal Capital Territory (FCT) with a total of N24.450 billion since 2015, as reported by Mrs. Adejoke Orelope-Adefulire, Senior Special Assistant

to President Muhammadu Buhari on Sustainable Development Goals (SDGs).

This paper delves into the intricate relationship between the SDGs and the pressing issues of poverty, water, and sanitation in Nigeria. It explores the progress made in these areas, the persisting challenges, and the unique role played by the pandemic in shaping outcomes. By providing a comprehensive analysis and evidence-based insights, this paper aims to inform high-profile academia and bureaucrats, enabling them to make informed decisions and design policies that advance the SDGs in Nigeria. In doing so, we embark on a journey towards a more sustainable and equitable future for all Nigerians. This study seeks to ascertain the extent to which SDGs has been implemented in the areas of; poverty reduction, water and sanitation.

This study therefore seeks to answer the following research questions:

- How has the SDG affect reduced poverty in Nigeria?
- What is the level of implementation on water and sanitation projects in Nigeria?

This study therefore seeks to achieve the following research objectives; to find out how the SDG has reduced poverty in Nigeria, measures taken by the SDG to improve the quality of water and sanitation in Nigeria.

2. Literature Review

2.1 Conceptual Clarification

2.1.1 Sustainable Development

Barbosa, Drach and Corbella (2014) underscores that the origin and the concept of sustainability in this context. They point out, however, that the first definition came in the First World War, as described by Lester Brown mid-1980s. On the other hand, Shrivastava and Hart (2014) highlight that sustainable development in its definition has roots in the publication of Carson's (2012) *Silent Spring*. Therefore, the idea of sustainable development was initially translated as "[...] a sustainable society is one that can satisfy their need without compromising future generations' chances of survival" (Brown, 2011, p. 20). It is the understanding that in this context society does not reach human civilization alone, but the whole set of complex environmental, social and economic aspects.

Analyzing the definition of sustainable development, it is understood that it does not present a “magic recipe” solution to save the environment from degradation and depletion, but it suggests a change in humanity’s behaviour. Moreover, this concept does not only mean saving the environment or some particular species, but human survival (Barter and Russell, 2012). They also points to a clear statement that the human environmental system makes up a single, indivisible system, since by mentioning the “generations” it refers to generations - past, present and future - related to the human environment, since they are inseparable. This idea is corroborated by Weiss (1992), when he emphasizes that intergenerational equity corresponds to maintaining the planet’s natural resources we share with other species and humans, in past, present and future generations. In the words of Barter and Russell (2012), the definition of sustainable development does not refer to saving nature, but to the internalization of strategies, and thus adding new resources to enable economic growth and prosperity to be shared by all.

This term, sustainable development, refers to a series of processes and practices, involving action, and focusing on the improvement of human life (Blewitt, 2008; UNSGHLPS, 2012), providing a long-term vision “to eradicate poverty, reduce inequality, make growth inclusive, and turn production and consumption more sustainable” (UNSGHLPS, 2012, p. 6). The term action or act indicates that, the survival of the human race cannot be outsourced, that is, the strategic attitudes that aid in our survival must start from humanity itself. It is important to note the importance given to the strategic issue, especially in relation to corporations, which are seen as essential actors in the face of innovations, practices and technologies that can help to generate sustainable results (Barter and Russel, 2012). Lélé (2013) complements the Brundtland Report and therefore defined “sustainable development” as the core of development discussions. In the meantime, sustainable development, combined with humanity’s social and political projects development, has promoted efforts to find ways and through them make societies more sustainable (Salas-Zapata et al., 2011). After analyzing the concept of sustainable development published by WCED (1987), concepts on this topic defined by other researchers are presented. Sustainable development, for Moffatt (2007), means that sustaining an activity or process ensures that a system works in the long term. Others understand the idea that, in a future, life will be healthier than in the present (Blewitt, 2008). Bañon (2011) defines it as a habitual way of acting, and as a

consequence, people should avoid destructive effects on environmental, social and economic domains, consistent with a harmonious relationship that promotes a promising life. These concepts point towards human progress and development in quality of life through continuous economic growth (Barter and Russell, 2012), that is, the impacts mainly affect the human population and their well-being (Moldan, 2012). It is worth noting that sustainable development aims at a new vision of economic growth, as confirmed by WCED (1987:1) “a new era of economic growth”. Barter and Russell (2012) identify economic growth as fundamental to enable human survival. Ayres (1996) argues that the concept of sustainable development guides how humanity must act in relation to nature, and be responsible for its own generations. Based on this, Lozano (2012) emphasizes that economic growth must be based on social justice and the efficient use of natural resources. Harlow, Golub and Allenby (2013) complement that economic growth and modernization is dominant characteristics of sustainable development.

The concept of conserving resources for future generations is one of the major features that distinguish sustainable development policy from traditional environmental policy, which also seeks to internalize the externalities of environmental degradation. The overall goal of sustainable development (SD) is the long-term stability of the economy and environment; this is only achievable through the integration and acknowledgement of economic, environmental, and social concerns throughout the decision-making process (Stoddart, 2011). In the application of this definition of sustainable development, one issue concerns are the substitutability of capital. There are several types of capital: social, natural, and man-made. The definition sustainable development explains that only the aggregate level of capital: man-made, or manufactured, capital is an adequate alternative to natural capital. Strong sustainability, on the other hand, recognizes the unique features of natural resources that cannot be replaced by manufactured capital. Most ecologists and environmentalists are proponents of the strong sustainability definition (Stoddart, 2011).

The key principle of sustainable development underlying all others is the integration of environmental, social, and economic concerns into all aspects of decision making. All other principles in the SD framework have integrated decision making at their core (Dernbach, 2003). It is this deeply fixed concept of integration that distinguishes sustainability

from other forms of policy. "Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs (UN, 2015)." The concept of sustainable development can be interpreted in many different ways, but at its core is an approach to development that looks to balance different, and often competing, needs against an awareness of the environmental, social and economic limitations we face as a society (Pisano, Lange, Berger and Hametner, 2015). All too often, development is driven by one particular need, without fully considering the wider or future impacts. We are already seeing the damage this kind of approach can cause, from large-scale financial crises caused by irresponsible banking, to changes in global climate resulting from our dependence on fossil fuel-based energy sources. The longer we pursue unsustainable development, the more frequent and severe its consequences are likely to become, which is why we need to act now (Pisano, Lange, Berger and Hametner, 2015: 5). Living within our environmental limits is one of the central principles of sustainable development. One implication of not doing so is climate change. But the focus of sustainable development is far broader than just the environment. It's also about ensuring a strong, healthy and just society. This means meeting the diverse needs of all people in existing and future communities, promoting personal wellbeing, social cohesion and inclusion, and creating equal opportunity.

The analogies between sustainability and sustainable development advance towards an interrelationship understanding of a single system composed of human and environmental activities. Such understanding has a dual purpose: to satisfy humanity's needs and to support life-sustaining systems (Hooker, 2011). Thus, sustainability encompasses systems and sustainable development looks towards human needs and their well-being. Human beings are not independent and isolated; they are part of a complex web of natural phenomena inserted in a single global system, which Moldan (2012) calls a myriad of relationships and interdependencies. Sustainable development is the key to achieve sustainability, which is considered the final long-term goal (Hove, 2004). Sustainability consists of a goal or parameter (final objective) defined through scientific criteria, which measures and tracks the results generated by the use of sustainable development strategies. In order to achieve the sustainability of a given global system – to raise the level of sustainability quality it is necessary to use the sustainable development process, corroborating Prugh and Assadourian (2003) and

Sartori et al. (2014). Stiglitz, Sen, and Fitoussi (2009) emphasize that humanity needs an assessment on where we stand in relation to the satisfactory level of sustainability. The process of sustainable development is supported by actions linked to technical, financial, managerial and, in particular, strategic skills to achieve sustainability, this reflection being consistent with Dempsey et al. (2011). It should be noted that sustainable development actions can alter system quality; Jabareen (2008) argues that such actions allow intensive interventions in sustainability. The guidelines that led to sustainable development were based on the principles of sustainability. This reflection is in line with the long term vision, with the observation of the importance of regional and/or local conditions, with the understanding of the nonlinear evolutionary dynamics of integrated and inseparable human environmental systems, among others (Moldan 2012). The long term vision is linked to the idea that the global system has an indefinite useful life and in this temporality sustainability must be maintained at a healthy level. However, this global system undergoes adaptations and evolutions, which demands changes in the measurement of sustainability's levels and continuous strategy improvement coming from sustainable development to maintain that level. This idea is supported by Gaussin et al. (2013), who maintain that sustainability and sustainable development aim to leave to future generations a capital reserve at least analogous to the one the current generation has received as a legacy from previous generations. Sustainable development brings two antagonistic ideals – capitalism and ecology – into one common goal to improve the quality of the system (sustainability). This position is also observed in Sachs (1993), who argues that sustainable development has attracted a large number of followers from different areas, bringing ecology, referring to sustainability, and economy closer, in search of sustainable development. Jabareen (2008) points out that sustainable development has the capacity to solve the ecological crisis without affecting economic relations. As such, with the idea of sustainable development in mind the objective is to solve the paradox between environmental (sustainability) and economic (development).

Sustainability is a process that measures the degree or quality level of the complex human environmental system in order to evaluate its distance from the sustainable. This evaluation, in particular, is carried out with quantitative properties denominated sustainability indicators and indexes. These, in turn, can identify which aspects – environmental, social or

economic - if the system does not reach the desired sustainable level – are responsible and which should be repositioned or corrected. Sustainable development is the process that comes into play based on strategies to bring the human environmental system closer to the sustainability level so that the life of this complex system harmonizes and perpetuates over time. This strategic issue attempts to break paradigms through changes in society's understanding and cultural positioning, that is, to raise awareness of its importance with the help of actions and attitudes that reposition the negative aspects identified by the indicators towards greater sustainability. In this way, with the successful conduct of sustainability and sustainable development, we achieve the sustainable.

Sustainable development is aims towards economic growth without human-lead damage to the environment, long term view in relation to future generations Includes environmental, economic and social aspects in mutual balance as well as proposes changes in humanity's behaviour and materialized through strategies Involves processes and practices. Sustainable development can be conceptualized as a strategy used in the long term to improve societies' quality of life (wellbeing). This strategy should integrate environmental, social and economic aspects, especially considering environmental limitations, due natural resources access in a continuous and perpetual way. The strategy concept, that is, the act of managing, is elaborated based on sustainability assessments results, and focuses on the negative aspects, recovering or normalizing to the point where the evolutionary process of the system occurs naturally.

2.1.2 Concept of Development

In the ordinary parlance development means growth change or planned growth, such as social, political and economic development or in a hyphenated word socio-political economic development. Before now, the concept of development has been as a measure of per capital income growth. Now growth could be sectorial or even peripheral.

In the past, development was about the capacity of a national economy to generate and sustain on annual increase in its gross national product (GNP) or gross domestic product (GDP). Instead of GDP or GNP, GDP per capita or GNP per capita is used for comparison across time. Although many economists will augment the above definitions to real GNP per capita, and real GNP per capita at PPP in USD for international comparison. The above are basically

definitions of economic growth (Preston, 2006). The wholistic definition of development is given by scholars of development.

Dudley (1969) suggested that development is when a country experiences a reduction or elimination of poverty, inequality and unemployment.

Riggs (1976) defined development as a process of increasing autonomy (discretion) of the social system, made possible using levels of diffraction. Preston (2006) in his discretion on the design of development suggested that the development policy should include the following:

- The creation of the general condition of development
- Awareness of development potentialities and advantages
- Basic governments instrument
- Measure to facilitate and stimulate private activity
- Development of policy under varying circumstances

Ayodele (2013) conceives development as a continuous process of generating and allocating resources and economic satisfaction effectively.

Edgar (2010) suggested that development is when there is development of people (human development) and not development of things."Gandhi used the term 'development' in a very broad sense to mean the total development of society". Roy and Tisdell (2012) in Gandhi's Concept of Development; *Economic Development & Environment: a case study of India*) that include mental, spiritual, and material needs.

According to the World Development Report (WDR, 2016): "The challenge of development... is to improve the quality of life...better education, higher standards of health and nutrition, less poverty, a cleaner environment, more equality of opportunity, greater individual freedom, and a richer cultural life." Three core values of development are:

Sustenance: The ability to meet basic needs- food shelter, health, and protection. "Absolute underdevelopment" is when any of these is absent or in critically short supply. Without sustenance and continuous economic progress, the realization of human potential will be greatly hindered. According to Human Development Report (HDR, 2017), "The purpose of development is to create an environment in which all people can expand their capabilities, and opportunities can be enlarged for both present and future generation." Furthermore, according to the Human Development Report 2017/2018, UNDP:"

we must see the fight against poverty and the fight against the effect of climate change as interrelated efforts" The reason is simple because climate change affects the poorest most and makes development projects more difficult when increase droughts, extreme weather events, tropical storms and sea level rises will affect a large parts of Africa, many small island states and coastal zones in our lifetimes. Development has to be sustainable.

Self-Esteem: To be a Person. That is to have a sense of worth and self-respect, of not being used as tool for others' end. Goulet (2011) believes that development is an important way of gaining self-esteem. HDR 2017 also appears to make this link. The cover of HDR 2017 proclaims that "Human rights and human development. Any society committed to improving the lives of its people must also be committed to full and equal rights for all."

Freedom from Servitude: To be able to make political and economic choice that does not infringe on the others' rights. Economic growth allows individual to expand their range of human choice. Take for example, a richer person can decide when and where at to take a vacation but a poor wage earner may not even have that choice because a day without work may mean a day without meal. UNDP: "The goal is human freedom. And in pursuing capabilities and realizing rights, this freedom is vital. People must be free to exercise their choices and to participate in decision-making that affects their lives". Thus, the three objectives of Development are:

- To increase food, shelter, health care and protection (security).
- To raise levels of living.
- To expand the range of economic and social choices available to individuals.

In a wider sense, development should consist of higher production, better distribution and greater social justice. The basic purpose of development should be to harness and mobilize human development. It could be achieved through helping the poor, the marginalized and the Nigerian population by providing them with enhanced opportunities and access to resources for their productive self-employment, income generation and better life while strengthening the asset base and livelihood of the economically challenged population. By implication, we build the target communities into active and economically self-sufficient units.

2.1.2 Concept of Poverty

The concept of poverty like every other concept in the social sciences lack a precise definition that can be said to be as partial and that is temporal. If it perhaps this line of thought that informed Aboyade (1975:4) to state that poverty is probably not a subject to be defined or measured to be appreciated, it may have to do with suffering despite these remarks, the search for commonly accepted characteristic of poverty for sicken people continue to gain currency and as several definition of poverty have been pasted by scholars. In conceptualizing poverty, two schools of thought have emerged. One of the schools is classical economist they conceives poverty as lack of income or material well-being, corroborating this view Arinze (1995) described poverty as "the lack of income needed to acquire the minimum necessities of life. Galbraith"s (2002) citing Aneke (2000) state that people are poverty sicken when their income even if adequate for survival, fall markedly below those of the commodity they cannot have what the larger community regards.

According to Anikpo (1995), poverty is the history process of individuals or groups being forcefully eliminated from control of the decision-making machinery that determines the production and distribution of resources in a society. He further explains that poverty manifest in various forms such as hunger, lack of food, good drinking water, clothes, shelter, good health, poor education and distribution of resources coupled with monopoly of the machinery of decision-making through coercive state apparatus. Men must engage in production if they must survive in the production process, individuals and groups undertake complementary tasks In order to achieve common objectives. Anikpo explains that during production, (however, different people occupy different positions in the organizational structure that emerges) the differences that emerge tend to reflect at the initial stages, objective physiological realities such as age, sex, and size. They create also at this stage differences of non-antagonistic nature not only on the industrial input in the production process, but also in the respective shares acquired from whatever is produced. However, in the course of time owing to increasing differences in the accumulation and appropriation of resources, the positional differences begin to reflect a new set of material reality predicted on who has acquired and controlling more of the dominant instrument and objects used in the production process. The significant aspect of these material or economic differences is that they inevitably acquire social and political dimension, interlining first of all their material holding conferred on their high status which in terms confers power

expressed in making decisions that affects the society on economic development. Aliyu (1998) defines poverty as the condition in which a person is enabled to meet minimum basic requirements of food, health, housing, education and clothing. He estimated that the sum of N3, 920 would be required per month by an adult individual in Nigeria and that if a family's income (the total funds available for expenditure by a household needed for feeding and providing other services) required in the household is below a certain standard value then the family is said to be in a state of poverty.

The attempts made at defining poverty as captured above could be referred to as more outline of the features or characterization of poverty. In buttressing the difficulties encountered in getting at a common and generally accepted definition of poverty, Aboyede (1997) posits that there seems to be a general agreement that poverty is a difficult concept to handle and that it is easily recognized than defined. Even attempts made to categorize some specific areas at which poverty could be viewed are fought with lack of agreement. For instance, the Organization for Economic Cooperation and Development's (OECD) guidelines on poverty eradication (2000) stressed that an adequate concept of poverty should include all the most important areas in which people of either gender are deprived as incapacitated in different societies and local context. It should encompass the casual links between the care dimensions of poverty as the central importance of the gender and environmentally sustainable development. It failed to define poverty but listed its core dimension. A definition of poverty should endeavour to include economic, human, political, socio-cultural and protective capabilities. Poverty can be viewed from permanent or transience dimension. This dimension differentiates poverty based on time or deviation on one hand and distributives as to widespread, individual or concentrated on the other hand. Aliyu (2003) asserted that several types of poverty may be distinguished depending on such factors as, time or duration (long, short terms or cyclical). Poverty may be widespread throughout a population, but the occurrence itself is limited to direction and distribution (widespread, concentrated individuals). It can also involve relatively permanent insufficiency of means of securing basic needs. The condition may be to describe the average level of life in a large group in concentrated or relatively large groups in an otherwise prosperous society. More so, the concept of poverty is relational, i.e. we cannot talk about poor except in the context of the rich. Poverty and wealth exist in parallel relationships, in which one means nothing without the other. The two categories auger simultaneously in history through

the same processes and relationships associated with the production and distribution of material resources in human society.

Poverty is a state of involuntary deprivation to which a person, household and nations are subjected. This means individuals, household, and nations under scale can be poor, so long as it exhibits the characteristics of poverty source. Poverty is also associated with poor health low level of education, low level of calories in one's diet, lack of shelter, low level of employment. Furthermore, poverty refers to the inability of an individual or family to secure basic needs even in the midst of social surrounding of general prosperity or lack of some general attribute that would allow an individual to maintain himself. And people that are associated with such behaviours like inability to manage money either by laziness, drunkenness and producing too many can make a nation or an individual to be poor.

According to Gbosi, (2004) Poverty has economic, social and political ramifications. The poor are materially deprived, socially alienated and politically excommunicated. Basically, Poverty has been conceptualized in the following ways:

- Lack of access to basic needs/goods.
- Lack of or impaired access to productive resources.

Poverty as lack of access to basic needs/goods is essentially economic or consumption oriented. Thus the poor are conceived as those individuals or households in a particular society, incapable of purchasing a specified basket of basic goods and services. Basic goods as used here include; food, shelter, water, health care, access to productive resources including education, working skill and tools, political and civil rights to participate in decisions concerning socio-economic conditions (Ajakaiye and Adeyeye 2001 in Gbosi, 2004).

2.2 Sustainable Development and Poverty Reduction

Today, it is widely agreed by the scientific community that climate change is already a reality. IPCC has concluded that human activities are altering our climate system and will continue to do so. The impacts of climate change, and the vulnerability of poor communities to climate change, vary greatly, but generally, climate change is superimposed on existing vulnerabilities. Climate change will further reduce access to drinking water, negatively affect the health of poor people, and will pose a real threat to food security in many countries in Africa, Asia, and Latin America (IPCC, 2014; OECD, 2014).

Therefore, the best way to address poverty reduction is by integrating sustainable development into development agenda and planning. According to the core philosophy of the Post-2015 Development Agenda, we should call on the international community to make concerted efforts to formulate the SDGs and the development agenda, eliminate extreme poverty in the next fifteen years, respond to the challenge of climate change to leave a more clean and green earth to future generations, and spare no effort to promote world peace and security. Rio20 Conference reached a consensus on the combination of poverty reduction goals and SDGs, which has become the basic trend of the present discussion on the Post-2015 Development Agenda. The eradication of poverty is the biggest global challenge facing the world and the premise for sustainable development. Consequently, poverty eradication and sustainable development are inseparable.

2.2.1 Five major transformations

A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development, the report of the UN High-level Panel of Eminent Persons on the Post2015 Development Agenda proposes to carry out five major transformations:

- 1) Leave no one behind;
- 2) Put sustainable development at the core;
- 3) transform economies for jobs and inclusive growth;
- 4) Build peace and effective, open and accountable institutions for all;
- 5) Forge a new global partnership (UN, 2013).

2.2.2 Six key elements

In the General Report on Post-2015 Sustainable Development Agenda, The Road to Dignity by 2030, the UN Secretary General stressed that future sustainable development should be based on rights and take people and the environment as the centre. The report also proposes six essential elements for sustainable development, including:

- 1) Dignity. End poverty and inequality. It is the primary goal of the Sustainable Development Agenda to eliminate poverty by 2030.
- 2) People. Ensure universal access to health and education services, including women and children. Women and children must have equal access to financial services.
- 3) Prosperity. Develop powerful, inclusive economies with the ability to transform. Ensure all people, including women, the disabled, youth, elderly and migrant population have decent work, social protection and the access to financial services.
- 4) Our

planet. Protect the ecological system.

- 5) Justice. Sustainable development requires the states and governments at all levels to be inclusive and participatory and be responsible to the people. Protect human rights and fundamental freedoms.
- 6) Partnership. Promote global unity and cooperation to accelerate sustainable development (UN, 2014b).

2.2. Poverty reduction goals Poverty reduction here refers to generalized poverty reduction. In other words, the poverty we talk about includes not only income poverty, but also multidimensional poverty covering education, public health, drinking water and sanitation facilities. Based on generalized poverty reduction, we can sort out the Post-2015 Development Agenda and SDGs proposed by UN High-level Panel of Eminent Persons. A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development, the report of the UN High-level Panel of Eminent Persons on the Post2015 Development Agenda proposes that the SDGs should include 12 universal goals. Corresponding to the SDGs proposed by UN High-level Panel of Eminent Persons on the Post-2015 Development Agenda, the SDGs, which have been under discussion, include a total of 17 major goals (UN, 2013). Based on the concept of generalized poverty reduction, the goals proposed can be divided into three categories: multidimensional poverty reduction goals, sustainable development goals, and global partnership goals. Ending extreme poverty and achieving sustainable development by 2030 is the summary of the SDGs, reflecting the significance of poverty reduction in the issue of development.

2.3 Review of Empirical Studies

There are several empirical studies on sustainable development goals on poverty reduction, water, and sanitation in Nigeria.

A study by Ogunleye (2023) recommends direct pro-poor policies, such as improved basic education, access to credit, and proper coordination and monitoring of poverty alleviation programs within ministries, departments, and agencies (MDAs) to reduce the high level of poverty in Nigeria.

Another study by Nwankwo (2020) examined government alleviation programs and the dimension of poverty among women in micro-business in Anambra state, Nigeria. The study found that most women participating in micro-business are not aware of poverty reduction programs and do not have access to such programs.

A study by Oyedele (2019) examined the water crisis and its solution in Nigeria for Bayelsa State. The study found that around the world, 2.2 billion people lack access to adequate supplies of water, and close to 4.2 billion people suffer from the consequences of poor sanitation.

Another study by Adeyemo and Adeyemo (2019) analyzed artisanal fishery practices and constraints as a synergy to poverty alleviation and sustainable fishery development in North Central, Nigeria. The study found that socio-economic and rural development factors such as extension contacts, credit availability, labor intensity, basic infrastructure facilities, finance, and basic human needs and sanitation are also important towards artisanal fishery development.

Sustainable Development Goals (SDGs) are a set of global goals established by the United Nations to address various social, economic, and environmental challenges and promote sustainable development (Purvis et al., 2018). In the context of Nigeria, the SDGs play a crucial role in addressing poverty reduction, water, and sanitation issues, especially in the pandemic era.

Access to sanitation facilities is a significant concern in Nigeria, and it has implications for sustainability (Abubakar, 2017). The study suggests that there should be a sharper policy and program focus on deprived households and regional variations in order to improve access to sanitation facilities. Additionally, hygiene education and behavior change are essential for more sustainable sanitation delivery in Nigeria.

Economic policies also play a role in providing sustainable water and sanitation facilities in Nigeria (Ugwu et al., 2021). The impact of economic policies on water and sanitation infrastructure needs to be investigated to ensure their sustainability. This highlights the importance of considering economic factors in achieving the SDGs related to water and sanitation.

Government expenditure is another crucial factor in achieving the SDGs in Nigeria (Ochinyabo, 2021). The study examines the effect of government expenditure on the Sustainable Development Goals and emphasizes the need for effective allocation of resources to achieve the goals. Adequate funding and investment in infrastructure and services related to water and sanitation are essential for sustainable development.

In the context of the COVID-19 pandemic, policy responses to ensure access to water and sanitation services have become even more critical (Amaechina et al., 2020). The pandemic has highlighted the importance of water and sanitation in preventing the spread of the virus. Governments in Nigeria and other countries have implemented various measures to ensure access to water and sanitation during the pandemic.

Improving self-supply of water and sanitation projects through microfinancing is another approach to enhance access to these services in Nigeria (Ezenwaji et al., 2018). Innovative financing mechanisms, such as group saving approaches, can help improve water and sanitation projects, particularly in urban areas. This highlights the importance of exploring different financing options to achieve the SDGs related to water and sanitation.

Environmental knowledge and policy sustainability are also crucial for achieving the SDGs in Nigeria (Okafor et al., 2022). Environmental sustainability is one of the challenges faced by developing nations like Nigeria. It is essential to promote environmental knowledge and support pro-environmental policies to ensure the long-term sustainability of development efforts.

The impact of flooding on food security and its connection to sustainable development is an area that requires more attention in Nigeria (Echendu, 2022). Flooding can have significant implications for food security, and addressing this issue is crucial for achieving the SDGs related to agriculture and food security.

In terms of governance, effective governance of water and sanitation services is essential for their provision in Nigeria (Samuel et al., 2021). Lack of effective governance at different levels can contribute to the poor state of water and sanitation provision. Strengthening governance structures and improving accountability can help address these challenges.

The COVID-19 pandemic has also highlighted the importance of electricity and water, sanitation, and hygiene (WASH) in Nigeria (Gift et al., 2020). Access to electricity and WASH facilities is crucial, especially in areas with socioeconomic challenges. Ensuring access to these basic services can help reduce disease spread and contribute to overall well-being.

A study conducted on Poverty reduction within the framework of SDGs and Post-2015 Development Agenda by Qian-Qian, Liua Man Yub, and Xiao

Linwang (2015). The study examines poverty reduction goals within the framework of Post-2015 Development Agenda and the SDGs. It also discusses the relationship between poverty reduction and sustainable development. Poverty reduction and sustainable development are inseparable and poverty reduction is the premise for sustainable development. It concludes that to end poverty and inequality should continuously be given top priority for the Chinese government, because poverty reduction is China's soft power. Meanwhile, new ways of poverty alleviation should be explored and government should make great efforts to create a new partnership for poverty reduction and development.

Another Study conducted on Poverty Eradication Target of Sustainable Development Goals by Palash Kamruzzaman (2016) and published in *European Journal of Sustainable Development* (2016), 5, 2, 87-110. The study takes stock of past global anti-poverty programmes to set an appropriate context for forecasting potential challenges to eradicate poverty everywhere. The study concludes that without strong political commitments by all related stakeholders and an approach to look beyond existing models poverty eradication target may turn out to be another statement of good intentions by the international aid architecture with little meaningful practical relevance.

Another study conducted on Sustainable Development Goals and the systems approach to sustainability by Edward and Joanne (2017). The 17 SDGs can be characterized as a goal primarily attributed either to the environmental, economic or social system, and as suggested by the systems approach, there may be important trade-offs in attempting to attain all these goals simultaneously. By adopting standard methods of the theory of choice and welfare under imposed quantities, the study show that is possible to measure the welfare effects of an increase in the indicator level for one SDG by identifying the trade-offs that occur with achieving another goal. They present a quantitative assessment of current progress and trade-offs among the 17 SDGs, using a representative indicator for each goal.

Another study conducted on Research from global Sustainable Development Goals (SDGs) to sustainability science based on the object-subject-process framework by Dajian (2017) and published in the Chinese journal of population resources and environment Vol.15(1). This study provided an analytic framework for sustainability science, named the object-subject-process (OSP) framework for examining the key issues encountered during the

theoretical research and policy analysis. This study emphasized that, on the object dimension, sustainable development means to seek for economic and social development within biophysical limits of the earth and the relationship of environment, society, and economy should be containing and complementary rather than parallel and substitute; on the process dimension, sustainable development should adopt both the responsive and proactive strategies for the whole process management which employing pressure-state-response (PRS) model rather than dealing with one part of them; on the subject dimension, sustainable development research should involve the key stakeholders who are kind of collaborate governance rather than separate each other.

Another study conducted on Trade, Poverty Eradication, and the Sustainable Development Goals by Brambilla and Porto (2016) and published in Asian Development Bank Institute. The study investigates if trade can help achieve the United Nations Sustainable Development Goal of poverty eradication using microeconomic and macroeconomic mechanisms and the effects of trade and trade policy on consumer prices, producer prices, and wages. As these mechanisms affect the real income of households, they determine the likelihood that a household may be lifted out of or pushed into poverty. The impacts of trade on growth and longer-term consequences of trade liberalization were also analyzed using data from African countries. While there is sound evidence that trade can be pro-poor, there is significant heterogeneity in the poverty impacts of trade, both across households and countries. This highlights the importance of complementary policies such as infrastructure, trade facilitation, and social protection.

2.4 Gap in Literature

Unfortunately, none of the search results provide empirical studies on sustainable development goals on poverty reduction, water, and sanitation in the pandemic era in Nigeria. Achieving the Sustainable Development Goals related to poverty reduction, water, and sanitation in Nigeria requires a comprehensive and multi-faceted approach. This includes addressing socioeconomic determinants, considering economic policies, allocating sufficient government expenditure, implementing effective policy responses during the pandemic, exploring innovative financing mechanisms, promoting environmental knowledge and policy sustainability, addressing the impact of flooding on food security, strengthening governance structures, and ensuring

access to electricity and WASH facilities. By addressing these factors, Nigeria can make significant progress towards achieving the SDGs and promoting sustainable development.

More often than not, Scholars focuses their study on different perspective that differs from this study. For instance, Qian-Qian, Liua Man Yub, and Xiao Linwang focus their study on poverty reduction within the framework of SDGs and Post-2015 Development Agenda. Palash Kamruzzaman focuses on Poverty Eradication Target of Sustainable Development Goals. Edward and Joanne focuses their study on Sustainable Development Goals and the systems approach to sustainability. Dajian focuses his study Research from global Sustainable Development Goals (SDGs) to sustainability science based on the object-subject-process framework. Brambilla, and Porto, focuses their study Trade, Poverty Eradication, and the Sustainable Development Goals.

Gap exists from the above reviewed studies. This is because, previous studies seems to focus on achieving sustainable development goals from the global perspectives rather than assessing its impact on poverty reduction. Moreover, none of the study reviewed above attempt to assessing the impact of sustainable development goals on Poverty reduction. This study will therefore fill this gap by assessing the implementation of SDGs has help to poverty reduction as it geared towards bringing sustainable development in FCT.

3. Theoretical Foundation

3.1 Political System Theory

System theory was first developed for physics in the structure of a molecule where it was found that atoms of an element joined together in a systematic manner or like a system to build a molecule of that element. It then later was found suitable to and extended to political science, public administration, management, etc as a modern approach to understanding administration and similar organisations. David Easton and Chester Barnard were the main proponents and contributors of this theory who analysed political as well as administrative systems minutely and the way they are structured and function and derived best possible ways of functioning for the same through their studies.

A system is a set of interconnected elements that function together in tandem to make up the whole being. So, a Systems approach administration is

described as a system comprising subsystem, structure, people, action and interaction that enable it (administration or organisation) to perform certain functions. Every system influences its subsystems and is also influenced by its subsystems. This system rejects the closed system approach of an organisation or Classical theory of organisation where it was stated that an organisation is independent of the environment and society and is not connected to it. It states that the organisation and environment work together and have frequent exchanges in order to adjust and in the end there is homeostasis (stable state of equilibrium).It also rejects the theory of the Classical theory of taking decisions which are best and there is one best way of doing things, it rather supports the concept of 'equifinality (the property of allowing or having the same effect or result from different events' that means that anything done or decision taken in an organisation, no matter how it is done but the intention should be the same, of getting the work done and achieving the goal, then the end results will always be the same or as desired.

Public policy is viewed as a political systems response to demands arising from its environment. The political system comprises those identifiable and interrelated institutions and activities (what we usually think of as governmental institutions and political processes) in a society that make authoritative allocations of values (decisions) that are binding on society.

Systems imply an identifiable set of institutions and activities in society that functions to transforms demands into authoritative decisions requiring the support of the whole society; implies that the elements of the system are interrelated, that the system can respond to forces in its environment, and that it will do so to preserve itself

Public Policy may be viewed as the response of a political system to demands arising from its environment. Easton (1965), states that the political system theory, is composed of those identifiable and interrelated institutions and activities in a society that make authoritative decisions (or allocations of values) that are binding on society.

Inputs into the system from the environment consist of demands and supports for the policy.

The environment consists of all those conditions and events external to the boundaries of the political system.

Demands are the claims made by individuals and groups on the political system for action to satisfy their interests. Support is rendered when groups and

individuals abide by election results, pay taxes, obey laws, and otherwise accept the decisions and actions of the authoritative political system made in response to demands. These authoritative allocations of values constitute public policy (David, 1965).

Limitation of the Theory

The usefulness of systems is limited by its highly general nature. It does not say much concerning how decisions are made and policies developed within the political system. Despite these limitations, systems theory is a useful concept in organizing inquiries into policy formation. It also gives alerts of some significant aspects of the political process, such as: How do environmental inputs affect the content of public policy and the nature of the political system? How does public policy affect demands for action? What factors or forces in the environment act to generate demands upon the political system? How is the political system able to convert demands into public policy and preserve itself over time? The environment consists of all phenomena—the social system, the economic system, the biological setting—that are external to the boundaries of the political system. Thus at least analytically one can separate the political system from all the other components of a society.

Assumptions

Input: Input are individuals, groups, or nations making demand through public opinion, communication to leaders about a given problem of the society.

Output: Outputs are the result of the policy out such as programme and projects implemented.

Environment: Environment stimulates inputs into political system, producing outputs and feedback.

The concept of feedback indicates that public policies (or outputs) made at a given time may subsequently alter the environment and the demands arising there from, as well as the character of the political system itself.

Application of the theory to the Study

This theory takes a holistic approach which considers and studies all elements of system inputs like hierarchy and communications, personnel and procedures, informal as well as formal and the interface (connection) between organisations and the environment. It states that organisations and the environment it functions in are interdependent and should be analysed together and how they influence each other.

Inputs are given by the society/environment to the policy makers as to what is needed to be done and that goes in to the 'black box' (as Easton calls it) where decision making process takes place and then evolves the output in the form of administrative decisions and policies to be implemented. These implementations are then analysed by the society and environment again and then goes back as feedback inputs to the politicians/policy makers and then that again is considered and then once again it goes into the black box and decisions are taken as to how to improve it or discard it as per the situation demands and then there is an output again in the form of action. Again, the feedback keeps going in and so on and so forth.

There are demands from the society such reduction in level of poverty, gender equality, improved girl child education, reduction in environmental degradation etc. In order to response to these demands, public policies and programme was designed with implementation process and therefore Sustainable Development Goals programmes were initiated in respondent to the above demands.

4. Methodology

The study adopted documentary research design method. The sample official documents used for this study were obtained from the office of the Presidential adviser on Sustainable Development Goals. Considering that the UN SDGs were adopted in 2015, we used a purposive sample strategy to pick selected communities for inspection and observation. The study relied on Sustainable Development Reports 2020 in the Pandemic Era. Sustainability reports were downloaded in PDF format from the Nigeria's SDGs websites and Nigeria's 2020 Voluntary National Review (VNR) website for content analysis.

5. Discussion of Findings

The study shows that, good strides have been made in the domestication process of the SDGs in Nigeria. Nigeria has developed its home-grown 'Integrated Sustainable Development Goals (SDG Model) the model includes; empowerment, conditional cash transfers and vocational training, trader-moni, Market-moni, ANCOR borrowers programme of CBN.

Finding from the study revealed that, between 2015 – 2021, over 10.5 million Nigerians were lifted out of poverty through empowerment, conditional cash transfers and vocational training, President

Muhammadu Buhari revealed that, government has lifted 10.5 million Nigerians out of poverty in the last two years. Buhari revealed that, those lifted out of poverty include farmers, artisans, market women, and small-scale traders. Finding from the study shows that, Seven hundred thirty-two (732) waters and sanitation related projects were executed, while It also showed that, 616 classrooms and other educational facilities were built or renovated. It was further showing that, a key challenge confronting the country has to do with Out-of- School-Children, a demographic challenge that relates to interplay between employment (SDG-8), education (SDG-4), poverty (SDG-1) and the digital economy (SDG-17). With a population of approximately 200 million people, regional disparities are significant, with 78% of South Western children able to read full or part sentences, while only 17% of North Eastern children can. With only 1.6% of GDP devoted to education, the country needs to increase the resources to provide quality education.

In linking poverty and vulnerability to Pandemic s severity, we arrived at the following:

- Poverty exposes people to a number of factors that make them more likely to become infected with and seriously ill from COVID-19. These factors include living in crowded conditions, working in essential jobs, lacking access to healthcare, and having underlying health conditions.
- Poverty also increases vulnerability to the economic and social consequences of the pandemic, such as job loss and income loss, which can make it difficult to afford food, housing, and other basic necessities.

Role of Water and Sanitation in Public Health

Disease Prevention: Clean water and proper sanitation prevent waterborne diseases, such as cholera and typhoid.

Hygiene Promotion: Access to water and sanitation facilities encourages good hygiene practices, reducing the spread of infections.

Nutrition and Health: Adequate water for cooking, hygiene, and sanitation contributes to better nutrition and overall health.

Maternal and Child Health: Access to safe water and sanitation facilities improves maternal and child health, reducing mortality rates.

Pandemic Preparedness: Hygienic practices and adequate sanitation are vital in preventing and controlling the spread of infectious diseases, including pandemics like COVID-19.

Reducing Environmental Pollution: Proper sanitation prevents contamination of water sources, preserving environmental health.

Enhancing Quality of Life: Clean water and sanitation improve living conditions, fostering better health and well-being for communities.

Nexus between Poverty, water, sanitation and the Pandemic

"In the intricate web of global challenges, poverty is the thread that ties together the devastating consequences of water scarcity, inadequate sanitation, and the vulnerability to pandemics."

"Poverty, the silent collaborator, conspires with water scarcity and unsanitary conditions to create a breeding ground for pandemics that prey on the most vulnerable."

"Amidst the complexities of pandemics, one truth emerges starkly: the absence of clean water and proper sanitation ensures that poverty remains the silent, relentless adversary."

"The nexus of poverty, water scarcity, sanitation, and pandemics forms a Gordian knot of global issues - untangling one strand is essential to unravelling the others, ensuring a healthier and more prosperous world."

The interconnection between poverty, water, sanitation, and pandemic

- Poverty often leads to limited access to clean water and sanitation, which increases vulnerability to waterborne diseases.
- Inadequate sanitation and hygiene can facilitate the spread of diseases, making impoverished communities more susceptible to pandemics.
- Pandemics can worsen economic conditions, pushing more people into poverty and exacerbating sanitation and healthcare challenges.
- This creates a vicious cycle where poverty, sanitation, and pandemics reinforce one another, perpetuating hardship and health risks.
- Addressing these interconnected challenges through improved water and sanitation infrastructure and public health measures is essential to break this cycle and create more resilient and equitable communities.

Nigeria's Pandemic Experience

Challenges: Weak health system, poverty, misinformation, vaccine hesitancy

Progress: Public health measures implemented significant portion of population vaccinated

Impact: Large number of deaths and illnesses, disruption to businesses and livelihoods, exacerbation of existing inequalities

Overall, Nigeria's pandemic experience has been mixed. The country has faced challenges, but has also made progress. It is important to continue to invest in strengthening the health system and addressing root causes of poverty and inequality.



Impact of the lags in MDG 1 & 6 in containing the pandemic

- Poverty, water, and sanitation challenges made it difficult for people to protect themselves from the virus and for the government to implement public health measures.
- People in poverty were more likely to live in crowded conditions, work in essential jobs, lack access to healthcare, and lack access to clean water and sanitation facilities.
- The government found it difficult to enforce lockdowns and travel restrictions in communities where people were struggling to meet their basic needs.
- The government found it difficult to provide access to clean water and sanitation facilities in crowded and informal settlements.

6. Conclusion and Recommendations

Nigeria believes that it must address the critical factors of poverty, underdevelopment, and joblessness if it is to meet its development challenges and follow the path to sustainable development. These factors include: i. Creating consistent demand for good governance, which includes addressing socio-economic and political marginalisation that seem to fuel conflicts; ii. Tackling poverty and reducing inequality through inclusive policies and people-centered development programmes.

Nigeria's 2017 Nigeria's 2020 Voluntary National Review (VNR) on Sustainable Development Goals (SDGs) outlined the institutional dimensions for creating an enabling policy environment for the implementation of the SDGs through its Economic and Recovery Growth Plan (ERGP) (2017-2020). The ERGP's focus on economic, social and environmental dimensions of development makes it consistent with the aspirations of the SDGs.

The study recommends that:

- The COVID-19 pandemic has posed significant challenges, exacerbating existing issues related to poverty, access to clean water, and sanitation.
- The government should encourage Sustainable Development Initiatives. The government should integrate sustainable development practices into policies and initiatives related to poverty reduction, water, and sanitation. Promote the use of renewable energy, encourage sustainable agricultural practices, and prioritize the conservation of natural resources.
- The government should support the development of eco-friendly technologies and solutions to minimize the environmental impact of development efforts. The government should expand social protection programs to support vulnerable populations, including the poor, elderly, and informal workers, by providing cash transfers, food

assistance, and healthcare services. Implement targeted programs that reach those most in need, using technology and data to identify and assist marginalized communities.

- The government should implement job creation initiatives, especially in sectors that have the potential for rapid growth, such as agriculture, renewable energy, and healthcare. Invest in infrastructure development projects that generate employment opportunities and boost economic growth, especially in rural areas.
- The government should increase investment in water infrastructure to ensure reliable access to clean and safe water for all Nigerians. This includes upgrading and expanding water treatment facilities, investing in water storage and distribution systems, and promoting rainwater harvesting techniques. Encourage public-private partnerships to mobilize resources and expertise for water infrastructure development.

The government should Develop and implement policies to improve sanitation facilities, especially in underserved areas. Promote the construction of affordable and accessible toilets, sewage systems, and waste management facilities. Encourage the adoption of innovative and sustainable sanitation technologies suitable for different regions of Nigeria.

It is important to address poverty, water, and sanitation challenges in order to improve the management of future public health emergencies.

Overall, poverty is a major risk factor for vulnerability to the pandemic severity. It is important to address this issue by providing social safety nets, expanding access to healthcare, and investing in communities that are disproportionately affected by poverty.

References

Abubakar, I. (2017). Access to Sanitation Facilities among Nigerian Households: Determinants and Sustainability implications. *Sustainability*, 9(4), 547. <https://doi.org/10.3390/su9040547>

Adeyemo, A. A. and Adeyemo, O. O. (2019). "Empirical analysis of artisanal fishery practices and constraints: a synergy to poverty alleviation and sustainable fishery

development in North Central, Nigeria," 2019.

Ahiyo, A. (2002), "Re-Structuring of Poverty Alleviation Activities of the Federal of Nigeria". *National Poverty Eradication Programme, Abuja*.

Amaechina, E., Amoah, A., Amuakwa-Mensah, F., Amuakwa-Mensah, S., Bbaale, E., Bonilla, J., ... & Visser, M. (2020). Policy note: policy responses to ensure access to water and sanitation services during covid-19: snapshots from the environment for development (efd) network. *Water Economics and Policy*, 06(04), 2071002. <https://doi.org/10.1142/s2382624x20710022>

Anikpo, M. (1995). *Poverty and Democracy Process: The New Face of Mass Poverty in Nigeria*. Porthacourt. University Press. Available at: <http://sustainabledevelopment.un.org/focussdgs.html> UN (ND)

Ayo, O. (2022). SDGs: Nigeria's unsteady steps towards meeting the 2030 deadline. <https://businessday.ng/news/article/sdgs-nigerias-unsteady-steps-towards-meeting-the-2030-deadline/>

Ayodele, A. (2013). *The Nigerian Economic Concepts and Techniques*. Geneva. General International Labour Organizations.

Ayres, R. U. (1996). "Statistical measures of unsustainability". *Ecological Economics*, v. 16, n. 3, p. 239-55.

Ba-Blewitt, J. (2008). *Understanding sustainable development*. London: Earthscan.

Bañon, G. A. J. (2011). "Rethinking the Concept of Sustainability". *Business and Society Review*, v. 116, n. 2, p. 171-91, 2011.

Barbosa, G. S.; Drach, P. R.; Corbella, O. D. (2014). "A Conceptual Review of the Terms Sustainable Development and Sustainability". *International Journal of Social Sciences*, v. III, n. 2.

Barter, N.; Russell, S. (2012). "Sustainable Development: 1987 to 2012 – Don't Be Naive, it's not about the Environment". *11th Australasian conference on social and environmental accounting research (a-csear)*. *Proceeding University of Wollongong*. p. 1-18.

Brambilla, I., and G. Porto, G. (2016). "Trade, Poverty Eradication, and the Sustainable Development Goals". *ADB Working Paper in Tokyo*. Asian Development Bank Institute.

Brown, L. (2011). *Building a Sustainable Society*. Washington, DC: World watch Institute,.

- Carson, R. (2012). *The silent spring*. Boston, MA: Houghton Mifflin & Company.
- Dajian, Z. (2017). "Research from global Sustainable Development Goals (SDGs) to sustainability science based on the object-subject-process framework". *Chinese journal of population resources and environment Vol.15 (1)*.
- Dempsey, N. (2011). "The Social Dimension of Sustainable Development: Defining Urban Social Sustainability". *Sustainable Development*, v. 19, n. 5, p. 289-300.
- Dernbach, J. C. (2003). "Achieving sustainable development: The Centrality and multiple facets of integrated decision making". *Indiana Journal of Global Legal Studies*, 247-285.
- Dudley, S., (1969). "The Meaning of Development". *Paper presented at the Eleventh World Conference of the Society for International Development, New Delhi*
- Echendu, A. (2022). Flooding, food security and the sustainable development goals in Nigeria: An assemblage and systems thinking approach. *Social Sciences*, 11(2), 59. <https://doi.org/10.3390/socsci11020059>
- Edgar, O. (2011). *The Future of Freedom in the Developing World: Economic Development as Political Reform* (New York: Pergamom Press).
- Edward B. B. and Joanne C. B. (2017). "Sustainable Development Goals and the systems approach to sustainability". *Open assessment e-journal Vol.4 (2)*.
- Ezenwaji, E., Anyaeze, E., & Nwafor, A. (2018). Improving self-supply of urban water and sanitation projects through microfinancing in Nigeria. *Journal of Geoscience and Environment Protection*, 06(02), 20-33. <https://doi.org/10.4236/gep.2018.62002>
- Gaussin, M. (2013). "Assessing the environmental footprint of manufactured products: A survey of current literature". *International Journal of Production Economics*, v. 146, n. 2, p. 515-523, 2013.
- Gbosi, A. and Philip C. O. (2004). *The Nigerian Economy and Current Problems*. Abakaliki, Ebonyi state. Pack Publishers,
- Gift, R., Raimi, M., Owobi, O., Oluwakemi, R., Anu, B., & Funmilayo, A. (2020). Nigerians crying for availability of electricity and water: a key driver to life coping measures for deepening stay at home inclusion to slow covid-19 spread. *Open Access Journal of Science*, 4(3), 69-80. <https://doi.org/10.15406/oajs.2020.04.00155>
- Goulet, D. (2011). *The Cruel Choice: A New Concept in the Theory of Development*. New York: Atheneum.
- Harlow, J.; Golub, A.; Allenby, B. A. (2013). "Review of utopian themes in sustainable development discourse". *Sustainable Development*, v. 21, n. 4, p. 270-80.
- Hooker, R. (2012). "History of the Sustainability Concept Renaissance of Renewable Resources". In: HOFER, R. "Sustainable Solutions for Modern Economies". *Londres: Royal Society of Chemistry, 2009*.
- Jabareen, Y. A. (2008). "New conceptual framework for sustainable development. *Environ". Dev. Sustain.*, v. 10, n. 2, p. 179-192.
- Kamruzzaman, P. (2016). "Poverty Eradication Target of Sustainable Development Goals". *European Journal of Sustainable Development (2016)*, 5, 2, 87-110.
- Lélé, S. (2013). "Rethinking sustainable development". *Current History*, v. 112, n. 757, p. 311-316, 2013.
- Lozano, R. (2012). "Towards better embedding sustainability into companies' systems: an analysis of voluntary corporate initiatives". *Journal of Cleaner Production*, v. 25, p. 14-26, 2012.
- Moffatt, I. (2007). "Environmental space, material flow analysis and ecological foot printing". In: ATKINSON, G.D.; DIETZ, S.; NEUMAYER, E. (Eds.). *Hand book of Sustainable Development*. Cheltenham and Northampton: Edward Elgar Publishing. p. 319-344.
- Moldan, B. (2012). "How to understand and measure environmental sustainability: Indicators and targets". *Ecological Indicators*, v. 17, p. 4-13, 2012.
- Nigeria's 2020 Voluntary National Review (VNR) on Sustainable Development Goals (SDGs). <https://sustainabledevelopment.un.org/memb erstates/nigeria>
- Nwankwo, C. C. (2020). "Poverty Alleviation Programme and Poverty Reduction in Anambra State. Evidence from Women Business Ownership,"
- Ochinyabo, S. (2021). Government expenditure and its effect on achieving the sustainable development goals in nigeria. *African Journal of Economics and Sustainable Development*, 4(3), 170-184. <https://doi.org/10.52589/ajesd-q7oibdx>
- Ogunleye, O. O. and Ogunleye, O. O. (2018). "Promoting Sustainable Economic Development In Nigeria: An Evaluation Of The Rural Sector (1976-2017)",

- Ogunleye, O. O. (2023). "Poverty Reduction Efforts in Nigeria: A Panacea For Sustainable Development,".
- Okafor, S., Igwe, J., Izueke, E., Okoye, O., Okechukwu, A., & Obiozor, E. (2022). Environmental knowledge and policy sustainability: a study of pro environmental policy support among the Southeast Nigerian rural communities. *International Journal of Sustainable Development and Planning*, 17(1), 341-350. <https://doi.org/10.18280/ijdp.170135>
- Osborn, D., Cutter, A. and Ullah, F. (2015). "Universal Sustainable Development Goals Understanding the Transformational Challenge for Developed Countries". *Report of A Study By Stakeholder Forum*.
- Oyedele, A. O. (2019). "'Digging Deeper' Evidence on Water Crisis and its Solution in Nigeria for Bayelsa State: A Study of Current Scenario,"
- Pisano, U., Lange, L., Berger, G. and Hametner M. (2015). "The Sustainable Development Goals (SDGs) and their impact on the European SD governance framework: Preparing for the post-2015 agenda Structure, experiences & socio-economic and environmental". *ESDN Quarterly Report 35 – January 2015*.
- Preston, P.W. (2006). *Development Theory*. An Introduction, Blackwell Publishers, U.K.,
- Prugh, T.; Assadourian, E. (2003). "What is sustainability, anyway?" *World Watch*, v. 16, n. 5, p. 10-21.
- Purvis, B., Mao, Y., & Robinson, D. (2018). Three pillars of sustainability: in search of conceptual origins. *Sustainability Science*, 14(3), 681-695. <https://doi.org/10.1007/s11625-018-0627-5>
- Qian-Qian, L., Man Y. and Xiao L. (2015). "Poverty reduction within the framework of SDGs and Post-2015 Development Agenda". *Advance in climate change research 6(1)* Retrieved from <https://ecsdev.org/ojs/index.php/ejsd/article/view/320>
- Repink H. P. (1994). "Poverty Relief and Social Integration as Task of International Cooperation; Conceptual Consideration of the Republic of Germany in Sing Joset (Ed) for Democracy and Social Justice". *Konrad Adenauer Foundation for International Cooperation, Germany*.
- Roy, S. and Tisdell, C.A. (2012). *Gandhi's concept of development and Nehru's Centralized planning*. UK: Printing Press.
- Salas-Zapata, W.; Ríos-Osorio, L.; Castillo, J.A.D. (2011). "Sustainability from scientific practice towards the constitution of a science". *Interciencia*, v. 2, n. 9, p. 699-706, 2011.
- Samuel, K., Agbola, S., & Olojede, O. (2021). Local governance and the crisis of water and sanitation provision in medium-sized urban centres: evidence from three cities in Nigeria. *Local Economy the Journal of the Local Economy Policy Unit*, 36(2), 164-177. <https://doi.org/10.1177/02690942211035359>
- Sartori, S. (2014). "Sustainability and sustainable development: A taxonomy in the field of literature". *Ambiente&Sociedade*, v. XVII, n. 1, p. 1-20, 2014.
- Shrivastava, P.; Hart, G. (2014). "Greening Organisations". *International Journal of Public Administration*, v. 17, n. 3-4, p. 607-35, 1994.
- Stiglitz, J.E.; Sen, A.; Fitoussi, J.-P. (2009). "Report by the Commission on the Measurement of Economic Performance and Social Progress". *UN report*.
- Stoddart, H. (2011). "A Pocket guide to sustainable development governance". *Stakeholder Forum*.
- Ugwu, P., Obodoechi, D., Samuel, A., & Ekeocha, D. (2021). Does economic policy in Nigeria enhance sustainable water and sanitation facilities?. *Journal of Water Sanitation and Hygiene for Development*, 12(1), 23-31. <https://doi.org/10.2166/washdev.2021.094>.
- UN (2014). "Outcome Document - Open Working Group on Sustainable Development Goals".
- UN (United Nations), (2012). "The Future We Want". *Rio+20 United Nations Conference on Sustainable Development*. <http://www.un.org/en/sustainable future/>.
- UN (United Nations), (2013). *A New Global Partnership: Eradicate Poverty and Transform Economics Through Sustainable Development*. United Nations Publication, New York.
- UN (United Nations), (2014b). "The Road to Dignity by 2030: Ending Poverty, Transforming All Lives and Protecting the Planet". A/69/700. http://www.un.org/ga/search/view_doc.asp?symbol/A/69/700&%3bamp%3bLang/4E.
- UN (United Nations), (2015). "Draft Outcome Document of the United Nations Summit for the Adoption of the Post-2015 Development Agenda". A/69/L.85. http://www.un.org/ga/search/view_doc.asp?symbol/A/69/L.85&

- UN (United Nations). (2014a). *Report of the Open Working Group of the General Assembly on Sustainable Development Goals*. United Nations Publication, New York.
- UN, (2012). *United Nations Secretary and General's High Level Panel on Global Sustainability, Resilient People, Resilient Planet: a Future worth Choosing*. New York: United Nations.
- UNDP Development Report (2017). *MDGS Document*. New York and Oxford: Oxford University Press for the UNDP.
- United Nations Development Report (2017). *Nigerian Human Development Report 2000/2001 Millennium*. Oxford edition UNDP Lagos.
- WCED, (1987). *World Commission on Environment and Development: Our Common Future*. Oxford: Oxford University Press,
- Weiss, E. B. (1992). "Fairness to Future Generations and Sustainable Development". *American University International Law Review*, v. 8, p. 19-26..