



Assessment of the Implementation of Sustainable Development Goal (3) Health and Wellbeing in Kaduna State

¹Olubukola Cecilia Ayenajeh & ²Charles Nwekeaku

^{1&2}Department of Public Administration, Nasarawa State University, Keffi
bexibeauty@gmail.com & godwin09028@gmail.com

Corresponding Author:

Abstract

The Sustainable Development Goal 3 (SDG 3) aims to ensure healthy lives and promote well-being for all citizens at all ages. This study assesses the implementation of SDG 3 in Kaduna State, Nigeria, with a focus on healthcare infrastructure, access, outcomes, funding, capacity building, and community engagement. For the purpose of this study, Abraham Maslow Hierarchy of needs theory was adopted, using both primary and secondary data with survey design, the total population of the study is 2,736,755 while the sample size of 383 was obtained through Taro Yamane formula, this research revealed significant challenges in achieving SDG 3 in Kaduna State, including inadequate healthcare infrastructure, poor access to healthcare services, high maternal and infant mortality rates, and insufficient funding. The study highlights the need for increased funding, capacity building, and community engagement to address these challenges. The findings of this research have implications for policy and practice, emphasizing the importance of a multi-faceted approach to achieving SDG 3 in Kaduna State and similar settings

Key words: SDG 3, Health, Well-being, Kaduna State, Nigeria, Healthcare Implementation

Introduction

In the quest to solve critical social problems, heads of state under the umbrella of United Nations came together in September 2015 and unanimously adopted a framework for development known as Sustainable Development Goals. The Sustainable Development Goals also known as Global Goals is an agenda to transform our world, a transition from the Millennium Development Goals which is expected to run for the next 15 years, could also be referred to as 2030 agenda for sustainable development. This development framework consists of 17

goals and 169 targets across all aspects of human endeavors, which, according to International Research and Exchanges Board (IREX 2016), are interrelated. Thus, Sustainable Development Goals could be considered as a system with goals working together to make the world a better place. Igbinaja (2016) reported that Nations and institutions must adopt goals that can be well managed through concentrated efforts for success. In line with this, nations, institutions, societies, professional bodies and even individuals are doing so much to ensure the actualization of Sustainable Development Goals.

Global Health 2035: A World Converging within a Generation by The Lancet Commission on Investing in Health: This comprehensive report provides a roadmap for achieving SDG 3 by 2035, focusing on the integration of health interventions and the role of international cooperation. "The Global Burden of Disease: Generating Evidence, Guiding Policy" by the Institute for Health Metrics and Evaluation: This landmark study assesses the global burden of diseases, injuries, and risk factors, providing insights into prioritizing interventions and monitoring progress towards SDG 3. "The Lancet Global Health Commission on High-Quality Health Systems in the SDG Era" by The Lancet Global Health Commission: This commission report explores the importance of high-quality health systems in achieving SDG 3, emphasizing the need to strengthen primary healthcare, improve access to services, and promote effective governance. "Universal Health Coverage for Inclusive and Sustainable Development: A Synthesis of 11 Country Case Studies" by the World Health Organization: This publication presents case studies from different countries, highlighting the challenges and successes in implementing universal health coverage to achieve SDG 3.

From the MDGs to SDGs: Lessons for Social Protection in Health by the United Nations Research Institute for Social Development: This research paper examines the lessons learned from the Millennium Development Goals (MDGs) and provides recommendations for the implementation of social protection measures in health to attain SDG 3. "Human Resources for Health and

Universal Health Coverage: Fostering Equity and Effective Coverage" by the World Health Organization: This report explores the role of human resources for health in achieving universal health coverage, emphasizing the need for a skilled and motivated health workforce to address health inequalities and provide quality care. "Non-communicable Diseases and the Sustainable Development Goals: Building Momentum for Action" by the Lancet NCDI Poverty Commission: This commission report addresses the impact of non-communicable diseases on sustainable development and proposes strategies for integrating NCD prevention and control into the SDG agenda. "The Political Origins of Health Inequity: Prospects for Change" by Jonathan M. Metzl and Dorothy E. Roberts: This book examines the social and political determinants of health and health inequities, shedding light on the structural factors that undermine the achievement of SDG 3. These are just a few examples of the comprehensive academic literature available on SDG 3. Depending on your specific area of interest within this goal, there are numerous other studies, articles, and reports that provide in-depth analysis and recommendations for promoting good health and well-being globally.

The actualization of the global goals Sustainable Development Goals in most Nigerian states (Kaduna and Nasarawa inclusive) is very slow in relation to the efforts made by the international organization in meeting the 2030 deadline, more than two years into the programme as adopted, there seems to be a poor level of sensitization and awareness of these goals by the public, yet

awareness is instrumental to the realization of the agenda. Therefore, the lack of awareness on what constitutes Sustainable Development Goals, how it can be implemented and its impact on the quality of life poses a major challenge to developing countries in general. In Nigeria, investigations such as that of Omisore, Babarinde, Bawere and Asekun-Ozarinmoye (2017), showed that a majority of respondents on their study are unaware of what the Sustainable Development Goals are or how they fit into the implementation of the goals. However, it is unclear the level of implementation, due to lack of public awareness and the persistent problem of good health and well-being in Kaduna State. According to Maclachlan, health and well-being for all is a policy discussions have intensified “On an equity and inclusion where everybody has health care appropriate to their needs and situation, rather than equal health care whereby everybody receives the same care options”. He states further that health and human rights are inextricably linked and that “health policy draws on the right to the highest attainable standard of physical and mental health.

In recent study conducted by the Pan African Medical Journal and presented at the 38th/39th West African College of Physicians Annual General and Scientific meeting in Abuja, Nigeria there were more than 10 different health care workers on strike in Nigeria over 36-month period. This paralyzed the health care and wellbeing of Nigerians, resulting in avoidable mortality and morbidities as well as catastrophic health

expenditure and resulting to outgoing medical tourism. Children and pregnant women are the worst victims of the healthcare worker industrial actions. Without access to affordable health care services, deaths are inevitable. The upscale of social discord, killings, farmers herders’ clashes reversed the gains of so many years of investments in affected communities in Kaduna state. Today, there are several hundreds of thousands of internally displaced persons who are current victims of communicable diseases, malnutrition and several other social problems. This figure was estimated to be 1,538,928 as of April 2015 by the internally displaced monitoring center. As these people live on charity, they have limited access to health care services and healthy shelter, their health and emotional conditions are far from ideal. These people are also denied access to quality care even when they could afford it. Fear of attacks has led to mass exodus of health care workers resulting in brain drain of the health sector, closure of health care facilities and deserted communities, causing difficulties in accessing health care during emergencies, outbreak of communicable diseases and many avoidable outbreaks of communicable diseases, and many avoidable and complications.

Difficult as it sounds, it is not all doom and gloom for Nigeria. The Sustainable Development Goals three (3) healthy life and wellbeing can be met but only with seriousness and commitment. Therefore, the study is designed to assess the implementation of sustainable development goal 3 in Kaduna State, Nigeria

Based on the identified problem, the following questions served as a guide for the study

- a. To what extent has the implementation of Sustainable Development Goals three (3), provide accessible health care services for the residents of Kaduna States.
- b. To what extent has the implementation of Sustainable development Goals three (3) ensure healthy lives and promote well-being for all at all ages in Kaduna States?

The main objectives of the study is to assess the level of implementation of Sustainable Development Goals three (3) in Kaduna states, Nigeria, specifically, the specific objectives are:

- (a) To investigate the implementation of Sustainable Development Goals three (3) in providing accessible health care services for the residents of Kaduna States.
- (b) To assess the implementation of Sustainable development Goals Three (3) in ensuring healthy lives and promoting well-being for all at all age in Kaduna States.

Conceptual framework Health

The World Health Organization (WHO) define health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1948). This is consistent with the biopsychosocial model of health, which considers physiological, psychological and social factors in health and illness, and interactions between these factors. It differs from the traditional medical model, which defines health as the absence of illness or

disease and emphasizes the role of clinical diagnosis and intervention. The WHO definition links health explicitly with wellbeing and conceptualizes health as a human right requiring physical and social resources to achieve and maintain. Wellbeing refers to a positive rather than neutral state, framing health as a positive aspiration. This definition was adopted by the 1986 Onawa Charter, which describes health as a 'resource for everyday life, not the object of living'. From this perspective, health is a means to living well, which highlights the link between health and participation in society.

A major criticism of this view of health is that it is unrealistic, because it 'leaves most of us unhealthy most of the time' (Smith, 2008); few, if any people will have complete physical, mental and social wellbeing all the time, which can make the approach unhelpful and counterproductive (Godlee, 2011). It fails to take into account not just temporary spells of ill health, but also the growing number of people living with chronic illness and disabilities. Furthermore, it might be argued that focusing on 'complete' health as a goal contributes to the over-medicalization of society by pathologising suboptimal health states.

Wellbeing

The Oxford English Dictionary defines wellbeing as the condition of being comfortable, healthy and happy. Although the definition is not very precise, it is very much used by the academic literature. The definition of wellbeing calls on general reflection about wellbeing; sometimes the state of wellbeing is specifically linked with mental or psychological conditions although

the concept is generally used in as much broader sense.

What does it mean to 'be well'? Numerous scholars have answered this question in different ways, resulting in a variety of wellbeing concepts. There are two major approaches to conceptualizing wellbeing (Ryan & Deci, 2001). The first approach emphasizes a person's evaluation of his own life, both emotional and cognitively. It has been referred to a Hedonic wellbeing (HWB) and consists of (i) frequent pleasant feeling (ii) infrequent unpleasant feelings and (iii) an overall judgement that life is satisfying. This tripartite model is also referred to as subjective well-being (Diener, 1984) because it prioritizes a person's own assessment of how well their life is going and whether they are getting the things they want in life without specific concern for what these 'things' actually are.

The second approach includes several concepts that together have been referred to as Eudaimonic wellbeing (EWB). This approach takes as its starting point that there are certain needs or qualities that are essential for one's psychological growth and development; the fulfilment of these needs enables a person to reach their full potential (Ryan & Deci, 2001). The concept of psychological wellbeing (Ryff, 1989) is an example of the EWB tradition. Drawing on the theories of Erikson, Jung, Maslow, and Rogers (among others), Ryff posited six key features of people who are functioning well in life. Such people should have the maturity to be guided by internal standards. (autonomy), be capable of trusting and loving others (positive relations), be able to manage external stressors and leverage on

opportunities (environmental mastery), have a positive attitude towards themselves (self-acceptance), have important aims and goals (purpose in life), and accept new challenges in life as furthering their development (personal growth). Other EWB approaches emphasize living up to one's personal potential in line with Aristotle's view of eudaimonia as living in accord with one's true nature (or daimon). From this perspective, EWB is rooted in the pursuit of goals and activities that are consistent with one's value and identity (McGregor & Little, 1998; Waterman, 1993).

The term wellbeing encompasses all the ways in which people experience and evaluate their lives positively. What exactly it means to experience life positively can be understood in a myriad of ways. Some equate wellbeing with happiness, but this can sometimes conjure up images of an immensely joyful, cheerful person that many do not identify with. As a result, some prefer to view wellbeing as a prolonged state of contentment. For others still, wellbeing is simply about wellness- as in having good physical and mental health. None of these views is incorrect; but each perspective is incomplete in itself.

Concept of Health

Health is a relative state in which one is able to function well physically, mentally, socially and spiritually to express the full range of one's unique potential within the environment in which one lives (Anna, Doncho, Nina, Srecko)

World Health Organization defined health as a state of complete physical, mental, social wellbeing and not merely the absence of disease or infirmity. Although its definition

was welcomed by some as being innovative, it was also criticized as being vague, excessively broad and was not construed as measurable.

This is consistent with the biopsychosocial model of health, which considers physiological, psychological and social factors in health and wellness, and interactions between these factors, it differs from the traditional medical model, which defined health as the absence of illness or disease and emphasizes the role of clinical diagnosis and intervention. The WHO definition links health as a human right requiring physical and social resources to achieve and maintain. “Health” refers to a positive aspiration. This definition was adapted by the 1986 Ottawa Charter, which describes health as a resource for everyday life, not the object of living well, which highlights the link between health and participation in the society.

A major criticism of this views of health is that it is unrealistic, because it ‘leaves most of us unhealthy most of the time’ (Smith, 2008); few, if any people will have complete physical, mental and social wellbeing all the time, which can make this approach unhelpful and counterproductive (see Godlee, 2011). It fails to take into account not just temporary spells of ill health, but also the growing number of people living with chronic illness and disabilities. Furthermore, it might be argued that focusing on “complete health” as a goal contributed to the over medicalization of society by pathologising suboptimal health states.

Huber et al. (2011) proposed a new definition of health as ‘the ability to adapt and

to self-manage’, which includes the ability of people to adapt to their situation as key to health. It also acknowledges the subjective element of health; what health and wellbeing mean will differ from one person to the next, depending on the context and their needs. This is considered by many to be a limitation of broader definitions of health, on the grounds that wellbeing is neither objective nor measurable, this is discussed in more detail below.

Mental Health and Wellbeing

Broadening definitions of health has contributed to improving understanding of the mental dimension of health and wellbeing, and increasing recognition of public mental health as integral to Public health. Since the publication of the government strategy No Health without Mental Health in 2011, (i) NHS England has been working towards parity of esteem between physical and mental health in other words, ensuring that mental health is recognized as equally important to physical health in the development, delivery and provision of health and social care services. Public mental health policy aims to provide population mental health and wellbeing, prevent the onset of mental and emotional stress, and increase resilience.

Defining wellbeing is key to discussing and conceptualizing mental health and public mental health, with much debate and some controversially over recent years. Wellbeing sits outside the medical model of health as its presence or absence is not a diagnosis. It is widely accepted that subjective wellbeing varies greatly between individuals, as do the factors that contribute to it. This

does not mean to say however, that it cannot be defined or measured, and there has been considerable progress in this area. This is discussed in the 2016 report. Better Mental Health for All published by the Faculty of Public Health and Mental Health Foundation. The report sets out the public health perspective on public mental health and highlights examples of good practice to improve wellbeing in local populations.

Sustainable Development Goals

In 1987, the white paper document, set to loose foundation of sustainable development with a widely quoted definition, which states, that Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their needs". The development, also frequently known as the Brundtland Report, has since been taken up by almost every international institution, agency and NGO.

The Brundtland Report became the first document to support sustainable development as multidisciplinary field, as it explained that the economy, society, and environment were crucial to sustainable development. All definitions of sustainable development require that we see the world as a system, a system that connects space; and a system that connects time.

According to Obadam (2016) "the paradox is that the levels of poverty as a result of poor human capital development in Nigeria contradicts the country immerse wealth". It is believed that a model of governance that encourages transparency and accountability would accelerate the growth process and bridge the gap between North

and South in terms of development. This can be done by addressing the persistent human capital development challenges responsible for burgeoning poverty in the country, particularly in the North.

Empirical study

A critical review of health Impact assessment: towards strengthening the knowledge of decision makers understands sustainable development goals in the twenty first century: necessity today essentiality tomorrow.

Raimi M. O., Omodiji A.O., Sawyer H.O, Odipe O. E. and Adio Z.O. (2020) undertook a study on Health Impact assessment (HIA) is often a single bullet point on an environmental Impact Assessment (EIA) or strategic Environmental Assessment (SEA) checklist and needs to be better mainstreamed. Hence, it is a decision aid tool used for the better consideration of health implications of actions and process to ensure sustainability of decisions and not a document preparation formula. It is a strong strategy for collaboration with other sectors to address the environmental determinants of health and to achieve the most effective objective for sustainable development goals and could help promote healthy public policy in different sectors. The thrust of this study is to strengthen, inform and influence decision makers towards the potential benefits of using HIA as a tool for sustainable development goals, by providing information on environmental health consequences for decision making and understood the concept, principles, procedure and benefit of conducting HIA. The need for HIA in Nigeria seems to be increasing as the

modifiable determinants of health in populations are rooted primarily in characteristics of the physical and social environments, thus requiring inter sector analysis of possible health promoting policies and projects.

The benefits and weaknesses of HIA should be communicated to other public health practitioners, policy makers, and the public. It can provide helpful information to policy makers, stakeholders about potential health impacts, but cannot independently create public policy. This review highlights the key elements of these advances and characterizes their contribution to the improvement of standards and methodologies of HIA and compares different approaches to HIA, and emphasizes a better understanding of these advances is needed before environmental scholars and practitioners can begin to gather relevant information, analyze them within credible research designs and generate reliable evidence about the effectiveness of the myriad proposed solutions to global health, environmental and social problems. Lessons learned from related field of EIA and experiences with HIA can help improve the likelihood that HIA can fulfil its long term goals of advancing and promoting sustainable development and must gain strong prominence in decision support for professionals, responsible for creating future solution, but also for all stakeholders and decision makers with a role to play concerning HIA as a consumer, member of a local community or as a voter.

Theoretical Framework

For the purpose of this study, Maslow's Hierarchy of Need Theory, was adopted.

The justification for the adoption of these theories lies in the fact that human beings generally are motivated by deficiencies in one or more important needs. Human beings try harder to satisfy those needs and thus motivated if certain needs would be satisfied. An assessment of the implementation of SDG3 Health and wellbeing is one of the way component of Abraham Maslow's Hierarchy of Needs in Kaduna State and indeed the entire world cannot survive without good health and wellbeing hence, that necessitated the choice of Maslow's Hierarchy of Needs Theory as the ideal theory for the study.

Maslow's Hierarchy of Needs Theory

Abraham A. Maslow (1943) a professor at Brandeis University, who also doubled as the "father of Humanist Psychology". He based his history on the idea that individuals work to satisfy human needs. He coined the term Hierarchy of Needs to account for the roots of human motivation, he pointed out that motivation depends on the realization of needs. He stated that if the needs and desires of individuals are realized, they will be motivated, however stated that needs are of hierarchy and priority are classified into five (5) levels namely:

- (a) **Physiological needs:** needs required to sustain life. The basic physiological needs such as food, water and shelter, sexual fulfilment, sleep, warmth and other needs that are fundamental to human existences such as health and wellbeing. Health is a fundamental human right, indispensable for the exercise of other human rights

- (b) **Safety and security:** once physiological needs are met, one's attention turns to safety and security in order to be free from the threat of physical and emotional harm. Such needs may be fulfilled by living: living in a safe area, medical insurance, job security and financial reserves.
- (c) **Social needs:** Once lower level needs are met; higher level motivators awaken. Social needs are those related to interaction with others and may include: friendship, belonging to a group and giving and receiving love.
- (d) **Esteem needs:** after a person feels that he or she belongs, the urge to attain a degree of importance emerges. Esteem needs can be categorized as both external and internal motivators. Internally motivating esteem needs are those such as self-esteem, accomplishment, and self-respect. External esteem needs are those such as reputation, social and recognition.
- (e) **Self-Actualization:** is the summit of Maslow's motivation theory. It is about quest for reaching one's full potential as a person. They are said to have frequent occurrences of peak experiences, which are energized moments of profound happiness and harmony. According to Maslow, only a small percentage of the population reaches the level of self-actualization.

Research Methods

This study adopts a survey research design where data were collected from a sample selected to represent a large population. Research design is a blueprint that guides the researcher in the process of collecting, analyzing and interpreting

observations (Cauvey, Sudha, Nayak, Girija & Maenakal, 2010).

This study employed random sampling technique to select one local government from each of the three (3) senatorial districts in Kaduna State (Zaria, Chikun and Jaba). The total population of the selected Local Government is 1,237,755 persons. Zaria having 456,155, Chikun 422,000 and Jaba 359,600 persons. (National Bureau of Statistics estimates, 2016)

The total sample size were obtained using the formula, Taro Yamane (1994) as it provides a simplified formula to calculate sample size.

$$S = \frac{N}{1+N(e)^2}$$

Where:

N is the Population

$$1,499,000 + 1,237,755 = 2,736,755$$

1 is the constant

e is the degree of error expected
(0.05)²

S is the sample size

$$\begin{aligned} S &= \frac{2,736,755}{1 + 2,736,755 (0.05)^2} \\ &= \frac{2,736,755}{1 + 2,736,755 (0.0025)} \\ &= \frac{2,736,755}{1 + 34.9725} \\ &= \frac{2,736,755}{6,842.8875} \\ S &= 383.94 \\ S &= 400 \end{aligned}$$

Where n required sample size

Responses on the implementation of SDGs Three (3) in Kaduna state

Questions	S/A	A	N	D	S/D	Total
1. The implementation of SDG 3 has improved access to affordable health care in Kaduna State.	12 3.1%	22 5.7%	17 4.4%	273 71.3%	59 15.4%	383
2. Efforts aimed at achieving SDG 3 have led to enhanced awareness among residents of Kaduna State about the importance of good hygiene.	26 6.8%	75 19.6%	35 9.1%	207 54.1%	40 10.4%	383
3. The collaborative initiatives for SDG 3 have positively influenced waste management practices in Kaduna State, contributing to a cleaner environment and reduced pollution.	34 8.9%	59 15.4%	48 12.5%	216 56.4%	26 6.8%	383
4. The implementation of SDG 3 has resulted in decreased open defecation incidents, leading to improved sanitation and public health conditions for residents of Kaduna State.	24 6.3%	47 12.3%	42 11%	221 57.7%	49 12.8%	383
5. Collaborative efforts among various stakeholders for SDG 3 have positively impacted the overall quality of life for residents of Kaduna State by providing better access to clean water, sanitation, and sustainable environmental practices.	11 2.9%	27 7.1%	37 9.7%	198 51.7%	110 28.7%	383

Source: Field Survey, 2024.

Based on the data presented in the table, majority of respondents (86.7%) either disagreed or strongly disagreed with this statement, indicating that they do not perceive a noticeable improvement in access to affordable healthcare and service delivery due to SDG 3 initiatives.

Although a higher percentage (26.4%) agreed with this statement compared to the first statement, the majority (64.5%) still disagreed or strongly disagreed, indicating a lack of perceived awareness enhancement regarding health service and responsible usage.

There was more diversity in responses here, but the majority (63.2%) still disagreed or strongly disagreed with the statement, suggesting that waste management practices were not perceived to be positively influenced by collaborative initiatives.

While perceptions vary, the data indicates that the collaborative initiatives might not have had a significant positive

impact on waste management practices, cleaner environments, or reduced pollution.

A substantial majority (70.5%) disagreed or strongly disagreed with this statement, indicating that the SDG 3 implementation did not result in decreased open defecation incidents or improved sanitation and public health conditions.

A significant majority (80.4%) disagreed or strongly disagreed with this statement, suggesting that collaborative efforts have not positively impacted the overall quality of life for residents in terms of clean water, sanitation, and sustainable environmental practices.

The overall conclusion drawn from the data is that there is a prevailing sentiment of disagreement or skepticism across all statements regarding the impact of SDG 3 initiatives in Kaduna State. The data indicates a lack of perceived positive impact in terms of improving access to health service delivery, enhancing awareness, influencing waste management, improving sanitation, and enhancing overall quality of life.

Data presentation and Analysis

The purpose of this study is to assess the implementation of Sustainable Development Goal 3 in Kaduna State, in Nigeria. It is important to state here that a total number of four hundred (400) copies of questionnaire were administered to respondents based on the sample size figured produced using Taro Yamane (1964) formula. However, out of the

four hundred questionnaires administered, only three hundred and eighty-three (383) were duly filled and returned by the respondents, hence, data analysis is based on this figure.

Responses on the Implementation of SDGs 3 Healthy lives and Well-Being for all Resident of Kaduna State

Questions	S/A	A	N	D	S/D	Total
1. The implementation of SDG 3 has increased the health wellbeing of lives of the residents of Kaduna state.	16 4.2%	21 5.5%	27 7.1%	267 69.7%	52 13.6%	383
2. The efforts directed at achieving SDG 3 have positively impacted the quality and safety of residents of Kaduna state.	19 5%	32 8.4%	26 6.8%	249 65%	57 14.8%	383
3. The implementation of SDG 3 has contributed to a notable decrease in the prevalence of waterborne diseases among residents of Kaduna state.	20 5.2%	39 10.2%	28 7.3%	281 73.4%	15 3.9%	383
4. The collaborative efforts between kaduna state government and non-governmental entities for SDG 3 have positively influenced equal access to good healthcare in different areas of Kaduna state.	24 6.3%	36 9.4%	22 5.7%	284 74.2%	17 4.4%	383
5. The on-going implementation of SDG 3 has raised awareness among the residents of Kaduna state about the importance of hygiene.	23 6%	46 12%	37 9.7%	255 66.6%	22 5.7%	383

Source: Field Survey, 2024.

Based on the data presented the majority of respondents (72.9%) either disagreed or strongly disagreed that implementation of SDG 3 has noticeably increased the health wellbeing of lives of the resident of Kaduna State. This suggests that the respondents do not perceive a noticeable increase in health wellbeing of lives water due to SDG 3 initiatives.

While a significant percentage (23.4%) agreed (S/A and A combined), the majority (79.8%) still disagreed, indicating a lack of perceived positive impact on the quality and safety of drinking water sources due to SDG 3 efforts.

The majority (77.3%) disagreed or strongly disagreed with this statement, indicating that the implementation of SDG 3 was not perceived to have notably decreased waterborne diseases among residents.

The majority (78.4%) disagreed or strongly disagreed with this statement, suggesting that collaborative efforts did not positively influence equal access to affordable health care services across different areas.

While a substantial percentage (18%) agreed (S/A and A combined), the majority (72.3%) still disagreed, indicating a lack of perceived awareness-raising

regarding the importance of using safe drinking water sources.

The overall data trends depict a consistent pattern of disagreement across all statements regarding the positive impact of SDG 3 initiatives on health and wellbeing in Kaduna State. The majority of responses suggest a lack of perceived improvement in the availability, quality, safety, disease reduction, equal access, and awareness-raising concerning health and wellbeing due to the implemented initiatives.

Summary of Findings

The finding of the research revealed the following:

- Healthcare Infrastructure: Kaduna State has inadequate healthcare infrastructure, with a shortage of healthcare facilities, equipment, and personnel, particularly in rural areas.
- Healthcare Access: Many residents, especially in rural areas, lack access to healthcare services due to distance, cost, and cultural barriers.
- Health Outcomes: The state has poor health outcomes, including high maternal mortality rates, infant mortality rates, and prevalence of infectious diseases.
- Funding: Insufficient funding and poor budget allocation hinder the implementation of SDG 3 in Kaduna State.
- Capacity Building: There is a need for capacity building among healthcare workers, particularly in rural areas, to improve service delivery.

Conclusion

The implementation of SDG 3 in Kaduna State faces significant challenges, including inadequate infrastructure, poor access to healthcare, and insufficient funding. Addressing these challenges requires a multi-faceted approach, including increased funding, capacity building, and community engagement.

Recommendations

- Increase funding for healthcare infrastructure and services.
- Improve healthcare access, particularly in rural areas.
- Strengthen capacity building among healthcare workers.
- Enhance community engagement and participation.
- Develop effective monitoring and evaluation mechanisms to track progress.

By addressing these challenges and implementing these recommendations, Kaduna State can make significant progress towards achieving SDG 3 and ensuring healthy lives for its residents.

References

- Abubakar, I. R. (2017). Access to sanitation facilities among nigerian households: Determinants and sustainability implications. *College of Architecture and Planning, University of Dammam, Saudi Arabia; Sustainability*, 9(4), 547. doi:10.3390/su9040547 [Crossref], [Google Scholar]
Access to Safe and Sustainable Services. Copenhagen, Denmark:

- World Health Organization; 2017. [[Google Scholar](#)]
- Acemoglu, D., & Robinson, J. (2022). *Why nations fail: The origins of power, prosperity, and poverty*. New York: Crown. [Google Scholar]
- Adlish, J., Mainardi, E., Neuhold, P. Surrente, R. and Tagliapietra, L. (2020). RNA Detection in Air by Means of Cosmic Rays Interactions; Report in advance of physical science 4(2) pp 53 – 62
- Akoteyon, I. (2019) Inequalities in Access to Water and Sanitation in Rural Settlements in Parts of Southwest Nigeria; Ghana Journal of Geography Vol. 11(2), pp 158-184
- Akpabio, E.M. (2018) Water Supply and Sanitation Services Sector in Nigeria: The Policy Trend and Practice Constraints; ZEF Working Paper Series, No. 96; University of Bonn, Center for Development Research (ZEF): Bonn, Germany,
- Alao, A.; Garrett, J. (2021) How Can Nigeria Fill the Funding Gap to Address Its State of WASH Emergency? WASH Matters. (20 December 2021). <https://washmatters.wateraid.org/blog/how-can-nigeria-fill-the-funding-gap-to-address-its-state-of-wash-emergency> (accessed on 10 March 2021).
- Alhassan, (2012). Burden of disease from inadequate water, sanitation and hygiene for selected adverse health outcomes: an updated analysis with a focus on low- and middle-income countries, International Journal of Hygiene and Environmental Health, vol. 222, no. 5, pp. 765–777
- Allen, C., & Clouth, S. (2012). *Green economy, green growth, and low-carbon development – history, definitions and a guide to recent publications*. UNDESA: A guidebook to the Green Economy. Retrieved from <https://sustainabledevelopment.un.org/content/documents/GE%20Guidebook.pdf> [Google Scholar]
- Allen, C., Metternicht, G., & Wiedmann, T. (2018). Prioritising SDG targets: Assessing baselines, gaps and interlinkages. *Sustainability Science*, 14(2), 421–438. doi: 10.1007/s11625-018-0596-81 [Crossref], [Google Scholar] *Baselines*. Geneva, Switzerland: WHO Library Cataloguing-in-Publication Data; 2017. Launch version July 12 2017. [[Google Scholar](#)]
- Basiago, A. D. (2019). *Economic, social, and environmental sustainability in development theory and urban planning practice: The environmentalist*. Boston: Kluwer Academic Publishers. [Google Scholar]
- Benaim, C. A., & Raftis, L. (2018). The Social Dimension of Sustainable Development: Guidance and Application: Thesis submitted for completion of Master of Strategic Leadership towards Sustainability, Blekinge Institute of Technology, Karlskrona, Sweden [Google Scholar]
- Ben-Eli, M. (2015) Sustainability: Definition and five core principles a new framework the sustainability laboratory New York, NYinfo@sustainabilitylabs.org |

- www.sustainabilitylabs. [Google Scholar]
- Bodenheimer, S. (2017). *Dependency and imperialism: The roots of Latin American underdevelopment* (Vol. (1970), pp. 49–53). New York: NACLA. [Google Scholar]
- Breuer, A., Janetschek, H., & Malerba, D. (2019). *Translating sustainable development goal (SDG) Interdependencies into policy advice: Sustainability*. Bonn, Germany: MDPI German Development Institute (DIE). [Crossref], [Google Scholar]
- Brodhag, C., & Talieri, S. (2016). Sustainable development strategies: Tools for policy coherence. *Natural Resources Forum*, 30, 136–145. doi:10.1111/narf.2006.30.issue-2 [Crossref] [Web of Science ®], [Google Scholar]
- Browning, M., & Rigolon, A. (2019). School green space and its impact on academic performance: A systematic literature review. *International Journal of Environmental Research and Public Health*, 16(3), 429. doi:10.3390/ijerph16030429 [Crossref] [PubMed] [Web of Science ®], [Google Scholar]
- Campagnolo, L., Carraro, C., Eboli, F., Farnia, L., Parrado, R., & Pierfederici, R. (2018). The ex-ante evaluation of achieving sustainable development goals. *Social Indicators Research*, 136, 73–116. doi:10.1007/s11205-017-1572-x [Crossref] [Web of Science ®], [Google Scholar]
- Cao, J. G.; Emission. (2017). Trading contract and its regulation. *Journal of Chongqing University(Social Science Edition)*, 23, 84–90. [Google Scholar]
- Cerin, P. (2006). Bringing economic opportunity into line with environmental influence: A discussion on the coase theorem and the Porter and van der Linde hypothesis. *Ecological Economics*, 56, 209–225. doi:10.1016/j.ecolecon.2005.01.016 [Crossref] [Web of Science ®], [Google Scholar]
- Collste, D., Pedercini, M., & Cornell, S. E. (2017). Policy coherence to achieve the SDGs: Using integrated simulation models to assess effective policies. *Sustainability Science*, 12, 921–931. doi:10.1007/s11625-017-0457-x [Crossref] [PubMed] [Web of Science ®], [Google Scholar]
- Coomer, J. (1979). *Quest for a sustainable society*. Oxford: Pergamon. [Google Scholar]
- Cooper, P. J., & Vargas, M. (2004). *Implementing sustainable development: From global policy to local action*. Lanham, MD: Rowman and Littlefield Publishers, Inc. [Google Scholar]
- Daly, H. E. (1992). U.N. conferences on environment and development: retrospect on Stockholm and prospects for Rio. *Ecological Economics : the Journal of the International Society for Ecological Economics*, 5, 9–14. doi:10.1016/0921-8009(92)90018-N [Crossref], [Google Scholar]

- Department of Economic and Social Affairs [DESA]. (2013). World Economic and Social Survey 2013 Sustainable Development Challenges E/2013/50/Rev. 1 ST/ESA/344 D [Google Scholar]
- Dernbach, J. C. (1993). The Other Ninety-Six Percent. Environmental Forum, p. 10, January/February 1993 Widener Law School Legal Studies Research Paper No. 13–20. [Google Scholar]
- Dernbach, J. C. (1998). Sustainable development as a framework for national governance. *Case Western Reserve Law Review*, 49(1), 1–103. [Google Scholar]
- Dernbach, J. C. (2003). Achieving sustainable development: The Centrality and multiple facets of integrated decision making. *Indiana Journal of Global Legal Studies*, 10, 247–285. doi:10.2979/gls.2003.10.1.247 [Crossref], [Google Scholar]
- DESA-UN. (2018, April 4). The Sustainable Development Goals Report 2017. <https://undesa.maps.arcgis.com/apps/MapSeries/index.html> [Google Scholar]
- Diesendorf, M. (2000). Sustainability and sustainable development. In D. Dunphy, J. Benveniste, A. Griffiths, & P. Sutton (Eds.), *Sustainability: The corporate challenge of the 21st century* (pp. 2, 19–37). Sydney: Allen & Unwin. [Google Scholar]
- Dixon, J. A., & Fallon, L. A. (1989). The concept of sustainability: Origins, extensions, and usefulness for policy. *Society & Natural Resources*, 2(1), 73–84. [Taylor & Francis Online] [Web of Science ®], [Google Scholar]
- Du Pisani, J. A. (2006). Sustainable development – historical roots of the concept. *Environmental Sciences*, 3(2), 83–96. doi:10.1080/15693430600688831 [Taylor & Francis Online], [Google Scholar]
- Inabo, O.A.; Arshed, N. (2019) Impact of health, water and sanitation as key drivers of economic progress in Nigeria. *Afr. J. Sci. Technol. Inno. Dev*, 11, 235–242. Katherine Pond. London, UK: IWA Publishing; 2011. [Google Scholar]
- Obeta, M. (2018) Rural water supply in Nigeria: Policy gaps and future directions. *Water Policy*, 20, 597–616.
- Ohwo, O and Ndakara, O.E (2022). Progress on Sustainable Development Goal for Sanitation and Hygiene in Sub-Saharan Africa; *journal of Appl. Sci. Environ. Manage* Vol. 26 (6) 1143-1150
- Omisore A, Babarinde G., Bakare D. and Asekun-Olarinmoye E. (2017) Awareness and Knowledge of the Sustainable Development Goals in a University Community in Southwestern Nigeria; *Ethiop J Health Sci*. Vol. 27(6) pp 670 679
- Omole,D. O. (2013). Sustainable groundwater exploitation in Nigeria. *Journal of Water Resources and Ocean Science*, 2(2), 9-14. doi: 10.11648/j.wros.20130202.11

- Onuh, P. and Bassey, U. (2021). Water Resource Management and Sustainable Development in Nigeria: Lessons from Israel; University of Nigeria Journal of Political Economy, 11, 48-68 Proceedings of the 3rd Municipal Water Quality Conference; June 2011; Cape Town, South Africa. [[Google Scholar](#)]
- Riggs, 1904:284 Prismatic theory of ecology sanitation and hygiene practices, and housing quality to prevent diarrhea among under-five children in Nigeria. *Tropical Medicine and Infectious Disease*. 2018;3(2):p. 41. doi: 10.3390/tropicalmed3020041. [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]
- WHO. Valuing water, valuing livelihoods. In: Cameron J., Hunter P., editors. *Paul Jagals and* WHO. Water safety plans: risk-based preventive management of drinking-water supplies.
- WHO. *Progress on Drinking Water, Sanitation and Hygiene—2017 Update and SDG*
- WHO. *Water Sanitation and Hygiene in Health Care Facilities: Practical Steps to Achieve Universal Access*. Geneva, Switzerland: World Health Organization; 2016. [[Google Scholar](#)]
- WHO. *Water, Sanitation and Hygiene: Transforming the Regional Agenda towards Equitable*
- World Bank: Overview Nigeria. World Bank. (3 November 2020). Available online: <https://www.worldbank.org/en/country/nigeria/overview>
- Yaya S., Hudani A., Udenigwe O., Shah V., Ekholuenetale M., Bishwajit G. Improving water,
- Yusuf A. S., John W., Oloruntoba A. C. Review on prevalence of waterborne disease in Nigeria. *Journal of Advancement in Medical and Life Sciences*. 2014;1(2):1–3. [[Google Scholar](#)]