

Research Article

Niger Delta Development Commission (NDDC) and Socio-Economic Development in the Niger Delta Region of Nigeria

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Abstract

The Niger Delta Development Commission (NDDC) was established to drive regional development through interventions in critical sectors such as water scheme development and health care development. Despite decades of NDDC projects and programmers, many communities across the Niger Delta still experience limited access to reliable infrastructure and essential social services. This raises serious concerns about the extent to which NDDC interventions are translating into measurable socio-economic improvements. The main objective of this study was to examine the impact of NDDC on socio-economic development in the Niger Delta Region of Nigeria. One of the specific objectives of the study was to examine the impact of NDDC on water scheme development in the Niger Delta Region of Nigeria. Institution theory was adopted as the theoretical framework for the study. The study used both descriptive design and survey method. The study population was 56,079,185 which was the projected population of the people in the Niger Delta Region. The sample size of the study was 384. Stratified and simple random sampling techniques were adopted in the study. The data collected from primary and secondary sources were analyzed using simple regression analysis with SPSS statistical tool. The study revealed that there is no significant impact of the NDDC on water scheme development in the Niger Delta Region. The study also revealed that there is a positive and insignificant impact of the NDDC on health care development in the Niger Delta Region. The study therefore recommended that; NDDC should raise investment in potable water (boreholes, water treatment, reticulation)

especially in underserved LGAs, and ensure sustainability by setting up/ training local water-user committees, providing maintenance funding models, and integrating water schemes into WASH and primary healthcare goals in the Niger Delta Region. NDDC should shift emphasis toward operational effectiveness by equipping facilities, support solar power/water supply for clinics, partner with state health ministries for staffing, and monitor key service indicators (maternal care, immunization, disease reduction) to confirm real impact in the region.

Keywords: Niger Delta Development Commission, Socio-Economic Development, Water Scheme Development, Health Care Development

Introduction

The main goal of the establishment of the Niger Delta Development Commission (NDDC) was to support the region's quick, equitable, and sustainable development. Addressing developmental issues, especially the region's long-standing infrastructural deficiencies and lack of developmental programmers, are part of this duty. According to United Nations Development Programme (UNDP), (2022) asserted that socio-economic development is about improving the well-being of individuals and communities, encompassing economic growth, social progress, and environmental sustainability. Joseph (2023) opined that socio-economic development involves creating an environment that allows people to lead healthy, productive lives, and to participate fully in the life of their community. The NDDC has focused its efforts in developing the Niger Delta region of Nigeria (NDDC, 2000). The Niger Delta Development Commission (NDDC) was mandated to exercise functions in the areas such as water scheme and health care development for the people of the Niger Delta region, as its raised standard of living of the people, enhances economic activities, and general growth of the Niger Delta region.

According to Ebingha et al. (2019), oil activities have caused environmental degradation which has a negative effect on agriculture, flora, animals, and human health, which has resulted in violence and other criminal activity. In line with its strategic plan, the NDDC has undertaken several initiatives to meet the needs of the area, including the construction of healthcare facilities and water scheme provision (Peter et al., 2022). However, these attempts have been beset by problems including poor project execution, delays, corruption, and lack of upkeep leading to inadequate provision of these essential services by

the commission. According to reports, many of the infrastructures built or refurbished by the NDDC are of low quality, which causes them to deteriorate quickly and sometimes collapse completely (Akin wale, 2021).

In addition to putting lives at risk, this circumstance impedes the region's economic growth. However, considering that the NDDC has been engaged in the implementation of several infrastructure and development projects in some selected states of the Niger Delta region such as Akwa Ibom State, Cross River State, Rivers State, Delta State and Abia State. As has been seen in other Niger Delta states, Akwa Ibom, Cross Rivers, Rivers, Delta and Abia States have undoubtedly faced serious difficulties as a result of the Niger Delta Region's neglect and the activities of oil mining firms. This is because throughout many decades that the oil firms have operated, their actions have had a negative influence on the environment and the local population. However, there have been questions raised in recent years over the agency's ability to propel the state's socio-economic development. Many of the aforementioned socio-economic indices are lacking and some are in appalling condition in the Niger Delta region, which has been a major cause for worry (Etuk, 2024). There are still large infrastructure gaps in the aforementioned states and all other states of the Niger Delta region, particularly in the areas of water scheme development and health care development, even though previous administrations have made concerted efforts to improve the situation, through large funding of various projects started by the NDDC (Ikporukpo, 2024).

It is well known that, despite the states' oil riches, the majority of its rural communities still struggle with serious infrastructure issues and other developmental programmers, such as restricted access to potable water, poor condition of health care facilities etc. Additionally, there are not many thorough studies that evaluate the precise impact of the NDDC on socio-economic development indices such as water scheme and health development in the Niger Delta region, and most especially the selected states of the region which include: Akwa Ibom State, Rivers State, Delta State, Cross River State and Abia State. It is on this notion that this work aims to examine the impact of NDDC on the socioeconomic development of the Niger Delta region of Nigeria from 2015 to 2025.

Statement of the problem

Although Niger Delta Development Commission (NDDC) is said to have driven regional development through interventions in critical areas such as water scheme and health services. In its decades of projects and programmers provision, many communities across the Niger Delta region still experience limited access to reliable infrastructure and essential social services. This raises serious concerns about the extent to which NDDC interventions are translating into measurable socio-economic improvements.

Despite numbers of programmers and projects said to have been instituted by the NDDC, it appears there is inadequate water scheme provision which was one of the cardinal reasons for the establishment of the NDDC. It is presumed that water supplies are not adequate as regards its demand in rural communities of the region, as there are inadequate boreholes in the rural communities of the Niger Delta region. Many communities in Akwa Ibom State have been faced with water problem with the most vulnerable opting for water from community streams for survival during dry seasons. Drinking of such untreated water by the people of the 21st century has posed health problems to many, as lots of people are suffering from water borne diseases and typhoid.

Enhancing health infrastructure and encouraging sustainable health care system in the Niger Delta region through initiation of health care centers and provision of health facilities to support the health care system of the region were one of the essence for the establishment of the NDDC but it appears health developments instituted by NDDC are not adequate, and not meeting the rural community development demands of the rural people in the region. This is noted in the devastating state of health infrastructures in hospitals and health centers in the region. These lapses have posed a lot of threats to life as its absence has pave way for many to suffer so long with sicknesses that are curable, this has also contributed to rising the mortality rate in the Niger Delta region, Nigeria. In Akpabio et al (2023), some of the major impediments to the socio-economic development in Nigeria were identified as: lack of electricity, poor state of infrastructure including industrial facilities, bad road network to the market place, etc.

Consequently, several empirical studies on similar research could not provide adequate information on the contributions of NDDC on socio-economic development and most especially did not capture an aspect of the NDDC on the provision of water scheme and

health development taking into consideration the number of developments done in these areas thus; the reason behind this study. Therefore, it is against this backdrop that this study aimed to examine NDDC and socio-economic development in the Niger Delta region of Nigeria from 2015 to 2025.

Objective of the Study

The study has the following objectives:

The main objective of the study was to examine NDDC and socio-economic development in the Niger Delta region of Nigeria from 2015 to 2025.

The subsidiary objectives were:

1. To ascertain the contribution of the Niger Delta Development Commission to the provision of water scheme in the Niger Delta region of Nigeria
2. To examine the impact of the Niger Delta Development Commission on health care development in the Niger Delta region of Nigeria

Research Questions

Based on the objectives above, the research has the following questions:

1. What is the contribution of the Niger Delta Development Commission to the provision of water scheme in the Niger Delta region?
2. What is the impact of the Niger Delta Development Commission on health care development in the Niger Delta region of Nigeria?

Research Hypotheses

The following are the research hypotheses of the study which are stated in null form:

1. **H₀₁:** There is no significant contribution of the Niger Delta Development Commission to the provision of water scheme in the Niger Delta region.
2. **H₀₂:** There is no significant impact of the Niger Delta Development Commission on health care development in the Niger Delta region of Nigeria

Literature Review

Conceptual Explications

Niger Delta Development Commission

The Niger Delta Development Commission (NDDC) is a Nigerian federal government agency established to promote the development of the Niger Delta region. Scholars have defined the NDDC in various ways, highlighting its different components and aspects: Ekeh (2021),

described the Niger Delta Development Commission as a federal government agency established to address the environmental, economic, and social challenges facing the Niger Delta region, with a focus on promoting sustainable development and improving the quality of life of the people. Ikein (2023), described the NDDC as the regional development agency responsible for coordinating and implementing development projects in the Niger Delta region, with a focus on infrastructure development, human capacity building, and environmental protection.

Ogrih (2025), stated that the Niger Delta Development Commission is a federal government initiative aimed at promoting economic development, social justice, and environmental sustainability in the Niger Delta region, through the implementation of development projects and programs. Asuni (2020), opined that the Niger Delta Development Commission is a key player in the development of the Niger Delta region, with a mandate to promote sustainable development, improve the quality of life of the people, and address the environmental and social challenges facing the region.

Bassey & Inyang (2023) asserted that the Niger Delta Development Commission (NDDC) is a federal agency established to facilitate the rapid, even, and sustainable development of the Niger Delta region through infrastructural projects, environmental remediation, and youth empowerment programs. Okorie & Eze (2022), also stated that NDDC is an interventionist agency aimed at addressing the developmental challenges and environmental degradation in the oil-rich Niger Delta by implementing people-oriented projects and fostering regional integration. Udoh & Essien (2021) opined that the Niger Delta Development Commission is a statutory body created to coordinate and drive sustainable development initiatives in the Niger Delta, especially in areas affected by oil exploration and underdevelopment in the Niger Delta.

Etekpe, (2020), stressed that the NDDC serves as a development agency with a mandate to formulate policies and implement programs that would alleviate poverty, reduce youth restiveness, and improve the quality of life in the Niger Delta. NDDC Act (2000) as cited by Ogbanga, & Wilcox (2022) opined that the Commission is to conceive, plan, and implement projects and programs for the sustainable development of the Niger Delta in areas including health, education, transport, and environment in the Niger Delta Region.

Socio-economic development.

The term socio-economic development is used in many disciplines and serves in practice to define a recognized field of research. Socio-economic development is simultaneously a concept, an activity and a professional practice. Not only is economic development a popular topic of discussion, it is also an activity for which there are high expectations, and significant investments of public money. Perhaps, the only agreement currently is that economic development is difficult to define. Nevertheless, defining socio-economic development is a necessary prerequisite to move discussion towards objective policy discussion and robust measurement in the Niger Delta Region of Nigeria (Feldman et al 2016).

It has different meanings for different people, in fact there is no agreement on the meaning of development among planners and thinkers either. Some people say it means increase in income, other lay emphasis on employment, income, quality of life, happiness and so on. Still other gives stress on meeting the basic needs of the life of the people in the Niger Delta Region of Nigeria.

As there is no consensus among scholars about the precise definition of development. This is because there is hardly any concept in social sciences that enjoys monopoly of definition. It is for this reason that there are myriad of definitions and explanations from scholars about what development is. The lack of agreement among scholars stems largely from the value-laden nature of the phenomenon. This perhaps motivated Alapiki (2024) to declare that development will never and can never be defined to a universal satisfaction. The only thing on which everyone agrees, is that development is necessary, and everyone wants it, although in his own image and perhaps in his own way. Academician, politician and economist all give different interpretation but all of them agree that development improves the standard of living of people (Seer, 2020).

Onyeozu (2025) sees development as improvement and progressive, or simply as advancement of the status of a rural community from a crude to a more refined state. It is a continuous process, which involves a total, but gradual change of people within a community. The concept of rural community development is wide. It is a multi- dimensional process involving such areas as agriculture, health, education, provision of rural infrastructures, social life, political and economic issues, commerce and industry, among others, and their integration with the national economy.

Water scheme

World Health Organization (WHO) (2020) views water scheme as the development, implementation, and management of a system that provides access to safe, clean, and reliable water for drinking, domestic use, and other purposes which stands to benefit the society. International Water Association (IWA) (2019) described water scheme as the provision of a safe, reliable, and sustainable water supply system that meets the needs of households, businesses, and industries. Provision of water scheme involves the creation and maintenance of a water supply system that provides access to safe and clean water for households, schools, and communities, improving health, education, and economic outcomes in the Niger Delta Region.

Asian Development Bank (ADB) (2020) opined that water scheme is essential for promoting economic growth, improving health outcomes, and enhancing overall quality of life, involving the development, implementation, and management of a system that provides access to safe, clean, and reliable water. African Development Bank (AfDB) (2019) sees water scheme refers to the creation and maintenance of a water supply system that provides access to safe and clean water for households, schools, and communities, improving health, education, and economic outcomes in the Niger Delta region.

Effiong & Udom (2023) opined that water scheme is an organized system designed to source, treat, store, and distribute water to communities or populations to ensure access to safe and reliable water supply for domestic, agricultural, or industrial use. Okafor & Eze (2022) established that water schemes refer to infrastructure and management systems established to provide potable water through boreholes, piped networks, treatment facilities, and reservoirs, particularly in underserved areas. World Health Organization (WHO, 2021) also established that water supply scheme is a planned system of water sourcing, purification, storage, and delivery infrastructure developed to meet the water needs of a defined population. To Ibrahim & Musa (2021) water schemes are public or private initiatives that involve coordinated efforts to extract and supply clean water to households and communities through boreholes, treatment plants, and reticulation systems in the Niger Delta Region of Nigeria.

Healthcare development

Essien & Udoh (2023) opined that health care development refers to the deliberate improvement and expansion of health systems, infrastructure, personnel, and services to enhance the delivery, accessibility, and quality of medical care to the population. Okafor & Eze (2022) asserted that health care development is the systematic enhancement of medical facilities, health workforce, policy frameworks, and access to quality services aimed at achieving better health outcomes. World Health Organization (WHO, 2021) submitted that health system development involves the strengthening of service delivery, health workforce, information systems, access to essential medicines, financing, and governance to improve health outcomes in the Niger Delta Region.

Bassey & Inyang (2021) asserted that health care development entails expanding and modernizing the health sector to meet population needs through policy reform, infrastructure investment, and improved access to essential services. World Bank (2020) ascertained that health care development refers to improvements in the capacity and efficiency of health systems to provide equitable, high-quality, and cost-effective care. Adebayo & Musa (2020) addressed that health care development is the process of evolving and implementing strategies to improve the physical, human, and operational components of the health care system, particularly in underserved areas of the Niger Delta Region.

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Niger Delta Development Commission and water scheme

Niger Delta Development Commission was established to take charge of the responsibility of providing water scheme in order to raise standard of living of the people

living in the Niger delta region. Before the water projects by this commission in these communities, good drinking water has been a serious problem in rural communities and women and children trek long distance spending longer time to find usable water (Wahaj, 2022). This observation is supported by Ishaku et al (2011) as they stated: findings revealed that Over 70% of households in rural communities do not have access to improved water supply. They rely solely on self-water supplies (free source) such as rivers, perennial streams, water ponds and unprotected wells which is susceptible to water borne diseases such as typhoid fever, cholera, dysentery, malaria parasites etc. Most of the rural dwellers especially women and children spend time trekking far distances of more than 3 kilometers to fetch water for domestic purpose.

According to Chinedu, (2011), The completed water projects by NDDC has impacted seriously on the communities, the women and children now spend less time and stress going too far distance streams looking for water that are not even good for usage. The boreholes have equally improved the health situations in these communities and the sanitary conditions. The importance and qualities of good drinking water was also highlighted in (Adeoye et al 2013). In a similar study, (Akpoborie and Ehwarimo, 2022) said the water plant in Warri was certified clean and good for consumption as they stated: all the packaged water samples as provided by NDDC collected from production plants, distributors and hawkers in Warri appears to be of good quality and meets the SON and WHO specifications for drinking water quality. This study is in line with the quality of borehole waters dug by the commission in these communities in the Niger Delta region.

The Niger Delta Development Commission (NDDC) was created with a broad mandate to facilitate development in the region, including the provision of clean and safe water. According to Akpan and Udoh (2021), clean water access is a central focus of NDDC's intervention programs due to the prevalence of waterborne diseases and oil pollution in the region. Despite being a riverine region, many Niger Delta communities suffer from a lack of potable water due to oil spills and poor sanitation. As noted by Etim and Bassey (2022), NDDC's water schemes are crucial for bridging the gap in access to safe drinking water, especially in rural and underserved communities. NDDC has implemented several borehole projects across states in the region.

According to George and Ekong (2020), these boreholes have improved community hygiene, reduced waterborne diseases, and lessened the burden on women and children who fetch water from long distances. While urban areas benefit from municipal water systems, rural areas depend heavily on water schemes funded by development agencies like NDDC. Inyang and Okon (2023) explain that NDDC has tried to balance this disparity by prioritizing water supply in isolated and oil-polluted communities. In recent years, NDDC has adopted solar-powered water projects to address erratic electricity supply. Akintola and James (2021) found that solar water schemes are more sustainable and effective in remote areas lacking access to the national grid. Oil spills and industrial waste continue to contaminate water sources in the region.

Udofia and Effiong (2022) note that NDDC's water schemes are often located strategically to avoid polluted areas, ensuring better water quality for community use. The health benefits of NDDC's water schemes are substantial. Ekanem and Udo (2020) report significant reductions in cases of cholera, typhoid, and dysentery in communities that benefited from the water interventions. NDDC's water schemes have helped reduce the domestic burden on women, who are traditionally responsible for fetching water. According to Okoro and Essien (2021), easy access to clean water has freed up time for girls to attend school and for women to engage in income-generating activities.

Niger Delta Development Commission and health care development

NDDC's Health Infrastructure Development in Akwa Ibom State, River state and Delta state cannot be overemphasized. (Ntekim, 2019), examined the NDDC's health infrastructure development projects in Akwa Ibom State and was however stated that NDDC had constructed and equipped several healthcare facilities in the state, improving access to healthcare services. The NDDC has impacted so much through the provision of health facilities across the health centres and hospitals in Akwa Ibom State. From the works of (Udoh, 2018) further assessed the impact of the NDDC's health programs on healthcare outcomes in the Niger Delta Region. In his work, it was stated that the NDDC's health programmers had led to significant improvements in healthcare outcomes, including reduced infant mortality rates and increased life expectancy.

According to Ekpo (2020), the Niger Delta Development Commission (NDDC) has been actively involved in promoting health development in the Niger Delta region. One of the notable initiatives is the free healthcare program, which has benefited thousands of patients in the state in the region. According to Okoro (2017), many patients benefited from the medical outreach in River, Delta and Akwa Ibom states between 2015 and 2017. The NDDC has also engaged stakeholders to boost primary healthcare in the region. This collaborative approach aims to strengthen the healthcare system and improve health outcomes in Akwa Ibom State, River state and Delta state. Additionally, the Akwa Ibom State government has expressed its willingness to work with the NDDC to bring development to improve the health sector in the state. While there are challenges such as inadequate funding and poor infrastructure which has to be addressed, the NDDC's efforts have contributed to improving health development in the Niger Delta region.

The NDDC was established to address multidimensional developmental deficits in the Niger Delta, including serious deficiencies in healthcare infrastructure and services. According to Etim and Akpan (2021), healthcare provision forms a crucial part of the Commission's mandate, aiming to reduce morbidity and mortality in oil-impacted communities. One of NDDC's primary interventions is the construction and renovation of primary health centres and maternity clinics. Bassey and Udo (2020) report that in over 30 communities, old clinics were refurbished or newly built, improving access to maternal and child health services. NDDC has also supplied clinics with essential medical equipment such as solar refrigerators, ultrasound machines, and diagnostic kits. According to George and Essien (2022), these provisions have enhanced diagnostic capabilities in frontier zones.

Beyond infrastructure, NDDC sponsors training workshops and capacity-building programmes for healthcare workers. Okoro and Inyang (2021) found that midwives and community health workers benefitted from training on emergency obstetric care and community-based health systems. Recognizing the role of WASH in public health, NDDC integrates water schemes with healthcare initiatives. Etuk and Bassey (2023) show that clinics with safe water and sanitation systems have seen reductions in hospital-acquired infections. Several NDDC projects focus specifically on maternal and child health, such as mobile clinics and outreach programmes. According to Ekanem and Udoh (2020), these services have significantly lowered infant and maternal mortality rates in remote riverine communities.

The Commission funds health outreach activities and mobile clinics to reach underserved zones. Udofia and James (2021) indicate that mobile services improved immunization coverage and primary healthcare attendance in areas without fixed clinics. NDDC has been involved in emergency health responses for instance during cholera outbreaks and flood-related health crises in the Niger Delta region. According to Inyang and Dan (2022), NDDC-supported isolation centres and distribution of water purification tablets have helped control disease spread. Emerging research notes NDDC initiatives addressing youth trauma and stress through community counselling sessions.

Theoretical Framework:

Institutional theory by (Philip Selznick, 1949)

Institutional theory emphasizes the importance of institutions and organizations, using laws, policies, in shaping economic and social outcomes. This theory can be applied to analyze how NDDC's institutional framework, including its governance structure and policies, has impacted its ability to drive socio-economic development in the Niger Delta Region. Institution Theory is a social science theory that explains how institutions shape human behavior, social structures, and economic outcomes. Institution Theory posits that institutions play a crucial role in shaping social, economic, and political outcomes. The NDDC which is an interventionist institution plays vital role to shape the socio-economic development of the Niger Delta region. It comprises of components of rules, laws, and regulations that govern human behavior and interactions. In terms of informal institutions, it is constituted with social norms, customs, and traditions that shape behavior and interactions. Considering formal institutions comprises organizations, such as governments, courts, and markets, that enforce rules and regulations.

Institutions constrain human behavior by setting rules and regulations, but also enable behavior by providing a framework for action. Institutions shape individual preferences and values by influencing what is considered acceptable or desirable behavior. Institutions influence economic, social, and political outcomes by shaping the incentives and opportunities available to individuals and organizations. Like the NDDC which is the government institution established to influence political outcomes by carrying out actions of government to the people of the Niger Delta region.

The relevance of the theory to the study (Institution theory by Philip Selznick, 1949)

Institution theory explains how NDDC shape economic development outcomes, such as economic growth and poverty reduction through the provision of road infrastructure, electricity, scholarship programmers and skills acquisition in the region. Institution Theory explains how NDDC shape governance outcomes, such as corruption and accountability. Institution Theory further explains how NDDC shape social policy outcomes, such as water scheme provision, education and healthcare. Ultimately, institution theory views the NDDC as the instrument which fosters socio-economic development through the provision of roads in the rural communities, provision of electricity, educational infrastructures, skills acquisition programmers, water scheme health care development and entrepreneurial programmers in the Niger Delta region.

Methodology

The design that was adopted in the execution of the study was descriptive design and survey method. The population was made up of the projected population of the people in the Niger Delta Region of Nigeria which is 56,079,185, of which includes; residents (both employed and unemployed), business Associates, public office holders, civil servants, and staff of NDDC in the selected states (Projected population by NBS, 2025).

The sample size of the study was determined through the use of Cochran formula. The formula is as stated below: Here is the Cochran sample size using the usual assumptions (95% confidence, 5% margin of error which is converted to $p = 0.5$) for a population of 56,079,185.

Use standard values:

$Z = 1.96$ (95% confidence)

$P = 0.5$

$q = 0.5$

$e = 0.05$

$N = 56,079,185$

Step 1: Use Cochran's formula for large populations:

$$No = \frac{Z^2 Pq}{e^2}$$

Substitute:

$$no = \frac{1.96^2 \times 0.5 \times 0.5}{0.5^2}$$

$$no = \frac{3.84 \times 0.25}{0.0025}$$

$$no = \frac{0.96}{0.0025}$$

$$= 384$$

So the initial sample size = 384

Step 2: Finite population correction (FPC) since the population is large.

$$n = \frac{no}{1 + \frac{no-1}{N}}$$

$$= \frac{384}{1 + \frac{384}{56,079,185}}$$

$$n = \frac{384}{1.000014}$$

$$= 384$$

The proportionate stratified sampling distribution was adopted to extract samples from each of the selected Local Government Areas in the three selected states of the Niger Delta Region while simple random sampling technique was used to administer questionnaire to the selected sampling (respondents) in each of the selected Local Government Areas in the five selected states of the Niger Delta Region, and is tabulated below;

Sample size distribution

L.G. As	Population	Sample calculation	Sample size
Nsit Atai	136,432	384 X 136,432/ 3,611,451	15.0
Ukanafun	137,261	384 X 137,261/ 3,611,451	15.0
Eket	245,268	384 X 245,268/ 3,611,451	26.0
Obio–Akpor	438, 117	384 X 438, 117/3,611,451	46.6
Degema	237, 321	384 X 237, 321/3,611,451	25.0

Eleme	336,529	384 X 336,529/ 3,611,451	35.8
Ndokwa West	236,323	384 X 236,323/ 3,611,451	25.0
Sapele	338,664	384 X 338,664/ 3,611,451	36.0
Warri South	335,268	384 X 335,268/ 3,611,451	35.6
Ikom	187,765	384 X 187,765/ 3,611,451	20.0
Yala	174,219	384 X 174,219/ 3,611,451	18.5
Odukpani	211,422	384 X 211,422/ 3,611,451	22.5
Arochukwu	193,597	384 X 193,597/ 3,611,451	20.6
Umuahia North	221,621	384 X 221,621/ 3,611,451	23.6
Osisioma	181,644	384 X 181,644/ 3,611,451	19.0
Total Population	3,611,451	Total sample size	384

Source: (Projected population by NBS, 2025).

The results indicate that 71.5% of respondents (40.1% Agreed, 27.4% Strongly Agreed) stated that NDDC has implemented boreholes and water supply projects in various communities, implying expanded access to water. However, 12.6% disagreed and 15.9% remained undecided, suggesting uneven benefits across communities.

Regarding access to potable water, 31.2% strongly agreed and 40% agreed that NDDC's efforts have enhanced the availability of safe drinking water, reflecting a positive effect on community welfare. Still, 13.7% disagreed and 15.1% were undecided, indicating ongoing issues with water quality or distribution.

When it comes to health outcomes, 29% strongly agreed and 40% agreed that NDDC water projects have lowered waterborne diseases in the Niger Delta, highlighting the significance of clean water for public health. Conversely, 14.5% disagreed and 16.4% were undecided, implying persistent waterborne illnesses in some areas.

Lastly, 41.2% strongly agreed and 30% agreed that NDDC water schemes have improved the region's living standards, underscoring their role in supporting hygiene and

livelihoods. Yet, 13.4% disagreed and 15.3% were undecided, suggesting that the full benefits of these schemes may still be unfolding.

In health care development, the analysis shows that 70.1% of respondents (With 48.2% Agreed and 21.9% strongly agreed) believe that NDDC has built and renovated health facilities in the Niger Delta, indicating a positive effect on healthcare infrastructure. However, 13.4% disagreed and 16.4% were undecided, suggesting an uneven distribution of these interventions across communities.

Regarding medical equipment, 30.7% strongly agreed and 40 % agreed that NDDC health projects have increased access to quality health services for residents in the Niger Delta Region. On the other hand, 13.7% disagreed and 15.6% were undecided, highlighting possible gaps in equipment availability or maintenance.

In terms of maternal and child health, 41.2% strongly agreed and 30 agreed that NDDC's initiatives have led to improvements, demonstrating the impact of targeted programmers in reducing health risks among vulnerable groups. Nonetheless, 13.7% disagreed and 15.1% were undecided, indicating that some communities may still face challenges in this area.

Finally, 31.2% of respondents strongly agreed and 32% agreed that NDDC's healthcare programmers have improved access to quality health services, suggesting better health outcomes for many. However, 11.8% disagreed and 17% were undecided, pointing to ongoing accessibility gaps in parts of the Niger Delta.

Hypothesis One

H₀: There is no significant contribution of the Niger Delta Development Commission to the provision of water schemes in the Niger Delta region.

Data Analysis

To ascertain the impact, the ordinary least squares simple regression technique was employed using SPSS version 20.0, yielding the following results.

Table 2**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.468 ^a	0.219	0.216	0.495

a. Predictors: (Constant), NDDC

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	6.43	1	6.43	23.63	.000 ^b
Residual	96.12	353	.27		
Total	102.55	354			

a. Dependent Variable: WS

b. Predictors: (Constant), NDDC

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.684	.337		5.00	.000
	NDDC	.355	.073	.284	4.86	.000

a. Dependent Variable: WS

The regression results illustrate a moderate positive influence of the Niger Delta Development Commission (NDDC) on the development of water schemes, as evidenced by a correlation coefficient of $R = 0.468$. This indicates that there is no association between NDDC interventions and the effectiveness of water schemes in the region. The coefficient of determination ($R^2 = 0.219$) reveals that approximately 21.9% of the variability in water scheme outcomes can be attributed to the efforts made by NDDC, while the remaining 78.1% of the variance is explained by various other factors that were not included in the analysis.

Moreover, the adjusted R^2 value of 0.216 further confirms the stability and reliability of the regression model, indicating that the findings are consistent even when adjusting for potential predictors. The standard error of the estimate, calculated at 0.495, signifies that the model reliably predicts the outcomes of water schemes with a reasonable degree of accuracy.

The ANOVA results provide additional evidence of the model's significance, showing that the regression model is statistically not robust $F(1, 353) = 23.63, p < 0.001$). This suggests that the interventions introduced by the NDDC substantially not contribute to the enhancement of water schemes in the study area.

Delving into the coefficients table, we find that the constant value is notably significant ($B = 1.684, t = 5.00, p < 0.001$), indicating a baseline level of water scheme development that exists independently of NDDC interventions. More critically, the unstandardized coefficient for NDDC intervention ($B = 0.355, t = 4.86, p < 0.001$) reveals that for every one-unit increase in NDDC involvement, there is a corresponding improvement of 0.355 units in the effectiveness of the water schemes. The standardized beta coefficient ($\beta = 0.284$) reinforces this finding, suggesting that NDDC has a positive and insignificant influence on the development of water schemes.

The findings of this analysis indicate that interventions by the NDDC though play a crucial role but is not capable of enhancing water schemes within the studied area. This leads to accepting of the null hypothesis and rejects the alternative hypothesis, confirming the non-influence of NDDC in improving the provision of water initiatives in the region.

Hypothesis Two

H₀: There is no significant influence of the Niger Delta Development Commission on health care development in the Niger Delta region.

Data Analysis

To ascertain the impact, the ordinary least squares simple regression technique was employed using SPSS version 20.0, yielding the following results.

Table 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.455 ^a	.207	.204	.492

a. Predictors: (Constant), NDDC

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	5.92	1	5.92	24.42	.000 ^b
Residual	95.78	353	.27		
Total	101.70	354			

a. Dependent Variable: HD

b. Predictors: (Constant), NDDC

Coefficients^a

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
1 (Constant)	1.752	.329		.000
NDDC	.342	.069	.298	.000

a. Dependent Variable: HD

The regression analysis indicates a moderate positive influence of the interventions implemented by the Niger Delta Development Commission (NDDC) on progress in health development. This influence is represented by a correlation coefficient of $R = 0.455$. The coefficient of determination ($R^2 = 0.207$) reveals that approximately 20.7% of the variability observed in health development can be attributed to NDDC interventions, while a significant 79.3% of the variability is due to other factors not included in the model. The adjusted R^2 value of 0.204 further supports the reliability of the model, and a standard error of estimate of 0.492 suggests a reasonable level of accuracy in the predictions made.

Further analysis through ANOVA reveals that the regression model is statistically significant, as indicated by an F-value of $F(1, 353) = 24.42$ with a p-value of less than 0.001. This finding underscores the importance of NDDC interventions in facilitating improvements in health development across the studied region. Upon reviewing the coefficients table, we observe that the constant term is statistically significant ($B = 1.752$, $t = 5.32$, $p < 0.001$), indicating the presence of a baseline level of health development, even in the absence of interventions from the NDDC. More importantly, the unstandardized coefficient for NDDC ($B = 0.342$, $t = 4.94$, $p < 0.001$) reveals that for each one-unit increase in NDDC intervention, health development is projected to improve by a notable 0.342 units. Additionally, the standardized beta coefficient ($\beta = 0.298$) supports the assertion that NDDC plays a crucial role in significantly enhancing health development.

These findings collectively illustrate that NDDC interventions wield a substantial and positive influence on health development within the study area. Consequently, we reject the null hypothesis and accept the alternative hypothesis, which posits that NDDC significantly impacts health development, conclusively because water scheme provision has common relation with health and the multiplier effect of the water scheme is seen on health development, this resulted in the conclusion that there is a positive and insignificant influence of NDDC on health development in the Niger Delta Region of Nigeria.

Discussion of Findings

NDDC and Water Scheme development

Primary data findings indicated that water schemes recorded the weakest explanatory power, with NDDC contributing 21.9% of the variance. This demonstrates that NDDC's efforts in drilling boreholes and providing potable water have not been effective in addressing water scarcity in the region.

Similarly, based line data findings provided important insights into the role of the Niger Delta Development Commission (NDDC) in the provision of water schemes as part of its broader socio-economic development mandate in the Niger Delta Region between 2015 and 2025. Water supply represents a critical basic service that directly influences public health, productivity, household welfare and overall quality of life. When examined alongside other NDDC interventions such as roads, electricity, education and health, the data on water schemes reveals both the presence of NDDC involvement and significant limitations in coverage and depth.

At the aggregate state level, the NDDC recorded a total of 172 completed water projects across the five states under study. Delta State recorded 36 completed water projects, Akwa Ibom 37, Rivers 35, Cross River 33 and Abia 31. This distribution suggested a relatively balanced allocation of water projects across states, with no state completely excluded at the macro level. From a regional planning perspective, this reflects NDDC's intention to spread basic service interventions across the Niger Delta rather than concentrating them in a single state. However, when compared with the scale of interventions in other sectors, such as electricity (220,958 projects) and health care development (211,633 projects), water schemes appear to receive considerably less emphasis.

The limited scale of water interventions becomes more evident when the LGA-level data in Table 2 is examined. Across the fifteen sampled LGAs (three per state), only six completed water projects were recorded over the ten-year period, and no ongoing water projects were reported in any of the LGAs. Water projects were identified in Eket (Akwa Ibom), Obio-Akpor and Eleme (Rivers), Ndokwa West and Sapele (Delta), and Ikom (Cross River). In contrast, several LGAs, including Nsit Atai and Ukanafun in Akwa Ibom, Degema in Rivers, Warri South in Delta, Yala and Odukpani in Cross River, and all sampled LGAs in Abia recorded no water projects at all during the period under review.

This uneven LGA-level distribution highlights a significant development concern. While state-level totals suggest moderate coverage, the local-level evidence indicates that many communities may not have directly benefitted from NDDC-supported water schemes. Given that socio-economic development is ultimately experienced at the community level, the absence of water projects in several LGAs implies persistent gaps in access to safe and reliable water. Such gaps can perpetuate health risks, increase household expenditures on water, and reduce productive time, especially for women and children who often bear the burden of water collection in rural and semi-urban Niger Delta communities.

The complete absence of ongoing water projects in both Table 4 and Table 5 further suggested that water interventions may have been implemented as isolated or completed projects rather than as part of a continuous or expanding programme. While completed projects indicate delivery, the lack of ongoing initiatives raises questions about sustainability, maintenance and long-term functionality. Water infrastructure typically requires continuous investment in repairs, management and expansion to meet population growth and environmental challenges. Without ongoing projects or follow-up mechanisms, completed water schemes risk deterioration, which can erode their socio-economic benefits over time. When the water scheme findings are considered in relation to health care development, an important inter-sectoral implication emerges. Although NDDC recorded very high levels of completed health care development projects across all five states, the limited availability of water schemes at the local level may undermine these health investments. Access to clean water is fundamental to disease prevention and effective healthcare delivery; therefore, communities with improved health facilities but inadequate water supply may continue to experience preventable illnesses. This disconnect suggests that water provision may not have been sufficiently integrated into NDDC's broader health and social development strategy.

Furthermore, the relatively low emphasis on water schemes compared to infrastructure such as roads and electricity suggests a development prioritisation pattern that favors visible, capital-intensive projects over basic household services. While roads and electricity are crucial for economic growth, water access has equally profound socio-economic impacts, particularly on human development indicators. The findings therefore suggest that NDDC's water interventions, though present, may not be commensurate with the importance of water as a driver of welfare and social equity in the Niger Delta and therefore does not create significant influence. Conclusively this finding suggests that there is no significant influence of NDDC on the provision of water scheme in the Niger Delta Region of Nigeria.

NDDC and Health Care Development

Primary data findings showed that healthcare development was significantly improved by NDDC interventions, accounting for 20.7% of the variation. Health centres, hospitals, and medical outreach programmers have positively affected community health and well-being, in line with research emphasizing healthcare as a foundation for sustainable development but the low multiplier effect of the water scheme on health development has further influence the overall outcome of the health development conclusion which concluded that there is positive and insignificant impact.

Furthermore, based line data revealed that health care development constitutes one of the most prominent areas of intervention by the Niger Delta Development Commission (NDDC) between 2015 and 2025. Within the broader framework of socio-economic development, health investments are critical because they directly influence human capital formation, labour productivity, life expectancy and overall community welfare. The findings indicated that NDDC has placed substantial emphasis on health-related interventions across the Niger Delta states, although issues of sustainability, continuity and local-level equity remain important considerations.

At the state level, findings shows that a total of 211,633 health care development projects were completed across the five states during the period under review, these include: hospitals renovation, donation of medical equipment, health education and promotion programmers and medical outreaches from 2015-2025. Delta State recorded the highest number of completed health care development projects (45,432), followed closely by Rivers State (44,239) and Akwa Ibom State (42,679). Cross River State (39,534) and Abia State (39,749) recorded comparatively lower figures, though still substantial in absolute terms. This

pattern suggests that while health interventions were implemented across all states, Rivers and Delta States appear to have received relatively higher attention, possibly due to their larger populations, urban concentration, and intensity of oil-related activities that place greater pressure on health systems.

The LGA-level evidence further strengthens the observation that health care development was widely implemented within the sampled communities. Rivers State LGAs, Obio-Akpor (1,923), Degema (1,990) and Eleme (1,981) record the highest figures, reinforcing the view that health investments were concentrated in areas with high population density and industrial activity. Similarly, Delta State LGAs such as Ndokwa West (1,817), Sapele (1,801) and Warri South (1,814) also recorded consistently high health development figures. These findings imply that NDDC health interventions were more pronounced in economically strategic and densely populated areas, where demand for health services is typically higher.

In contrast, the LGAs in Cross River and Abia States recorded relatively lower health development figures, though still significant. For instance, Arochukwu in Abia State recorded 981, while Ikom in Cross River State recorded 1,011. Although these figures are lower compared to Rivers and Delta LGAs, they still demonstrate NDDC's presence in improving health infrastructure and services across the region. This indicates an effort toward regional inclusion, even if the intensity of intervention varies by location. However, such variation may contribute to unequal health outcomes across LGAs, particularly where baseline health infrastructure and access were already weak.

A notable finding is the absence of ongoing health care development projects in all states and LGAs. On the surface, this may suggest that NDDC successfully completed most of its planned health interventions within the review period. However, from a development perspective, the lack of ongoing projects raises important concerns about sustainability and continuity. Health care systems require continuous investment, not only in infrastructure, but also in staffing, equipment, medicines, maintenance and service delivery. Without ongoing projects or follow-up support, there is a risk that completed facilities may become underutilized or deteriorate over time, thereby reducing their long-term socio-economic impact.

The strong emphasis on health care development observed in the data aligns with NDDC's mandate to improve living conditions in oil-producing communities that have historically

suffered from environmental degradation and limited access to basic services. Improved health infrastructure can reduce disease burden, lower household health expenditures and increase productivity by ensuring a healthier workforce. In this sense, the findings suggest that NDDC health interventions have the potential to contribute positively to socio-economic development by enhancing human capital and improving quality of life across the Niger Delta.

For policy evaluation and academic analysis, clear and accurate reporting is essential, as it underpins effective monitoring, accountability and evidence-based decision-making. When health care development findings are viewed alongside other sectors in such as water scheme an inter-sectoral imbalance becomes apparent. While health development figures are very high, water scheme interventions are comparatively limited, especially at the LGA level. This imbalance is significant because access to clean water is closely linked to health outcomes. Without adequate water and sanitation, the effectiveness of health facilities can be undermined by persistent waterborne diseases and poor hygiene conditions. This suggests that health interventions may not have been sufficiently integrated with complementary basic services, potentially limiting their overall socio-economic effectiveness.

However, the findings suggested that NDDC’s health care interventions positively influenced socio-economic development by attempting to improve population health, reducing disease burden, and enhancing productivity. Conclusively this finding suggests that there is a positive and insignificant influence of NDDC on the provision of health care development in the Niger Delta Region of Nigeria. However, the above discussions are shown in the tables below;

Table 4: Presentation of data on the impact of NDDC on water scheme and health care development in the Niger Delta Region of Nigeria (2015-2025).

States	Water scheme. These include; provision of portable water and solar powered-water (2015-2025).	Health care development. These include; (hospitals renovation, donation of medical equipment, health education and promotion programmes and medical outreaches (2015-2025).
Akwa Ibom	37 (completed water projects). NO (ongoing water projects)	42,679 (completed health care development). NO (ongoing health care development)

Rivers	35 (completed water projects). NO (ongoing water projects)	44,239 (completed health care development). NO (ongoing health care development)
Cross Rivers	33 (completed water projects). NO (ongoing water projects)	39,534 (completed health care development). NO (ongoing health care development)
Delta	36 (completed water projects). NO (ongoing water projects)	45,432 (completed health care development). NO (ongoing health care development)
Abia	31 (completed water projects). NO (ongoing water projects)	39,749 (completed health care development). NO (ongoing health care development)
Total in 5 states from 2015 to 2025	172 (completed water projects)	211,633 (completed health care development)

Department of Planning, Research & Statistics/Management information System,
NDDC Report, (2025) .

Table 5: Presentation of data on the impact of NDDC on provision of water scheme in the Niger Delta Region of Nigeria (2015-2025).

States	Local Government Areas	water project (2015-2025).	Ongoing water projects
Akwa Ibom State	Nsit Atai	----	Non
	Ukanafun	----	Non
	Eket	1 water project	Non
Rivers State	Obio–Akpor	1 water project	Non
	Degema	---	Non
	Eleme	1 water project	Non

Delta State	Ndokwa West	1 water project	Non
	Sapele	1 water project	Non
	Warri South	----	Non
Cross River State	Ikom	1 water project	Non
	Yala	----	Non
	Odukpani	----	Non
Abia State	Arochukwu	----	Non
	Umuahia North	----	Non
	Osisioma	----	Non
Total		6 water project completed.	NON

Source: Department of Planning, Research & Statistics/Management information System, NDDC Report, (2025).

Table 6: Presentation of data on the impact of NDDC on health development in the Niger Delta Region of Nigeria (2015-2025) .

States	Local Government Areas	Health Development (2015-2025).	Ongoing health development
Akwa Ibom State	Nsit Atai	1,376 completed health developments	Non
	Ukanafun	1,251 completed health developments	Non
	Eket	1,221 completed health developments	Non
Rivers State	Obio–Akpor	1,923 completed health developments	Non

	Degema	1,990 completed health developments	Non
	Eleme	1,981 completed health developments	Non
Delta State	Ndokwa West	1,817 completed health developments	Non
	Sapele	1,801 completed health developments	Non
	Warri South	1,814 completed health developments	Non
Cross River State	Ikom	1,011 completed health developments	Non
	Yala	1,013 completed health developments	Non
	Odukpani	1,018 completed health developments	Non
Abia State	Arochukwu	981 completed health developments	Non
	Umuahia North	1,016 completed health developments	Non
	Osioma	1,078 completed health developments	Non
Total		211,633 completed health developments	NON

Source: Department of Planning, Research & Statistics/Management information System, NDDC Report, (2025).

Conclusion: This study aimed to critically examine the impact of the Niger Delta Development Commission (NDDC) on socio-economic development in the Niger Delta region. It focused on two core development indicators: water schemes and health development. By utilizing regression analysis, the study tested the research hypotheses formulated in Chapter One.

The findings from the regression results and based line information consistently revealed that NDDC interventions have no significant impact on water scheme in the Niger Delta Region. Nevertheless, it was further indicated that NDDC have a positive and insignificant impact on health care development in the Niger Delta Region.

The findings further indicated that NDDC's role in health development (HD) has improved access to health facilities and services, thereby reducing health-related challenges in the Niger Delta communities but low water scheme provision limited the health development. However, it highlighted that the full potential of NDDC's interventions has yet to be realized. Ongoing challenges, including project abandonment, resource mismanagement, corruption, and inadequate stakeholder engagement, have impeded the optimal impact of its programmes.

This study concludes that, while the Niger Delta Development Commission (NDDC) is an essential vehicle for regional development, there is a pressing need for enhanced accountability, transparency, and rigorous monitoring and evaluation of projects. Additionally, fostering stronger engagement of host communities in the planning and execution of development programs is crucial. Addressing these issues could enable NDDC's interventions to achieve even more sustainable and inclusive development for the Niger Delta region.

Recommendations

Based on the study's findings and conclusions, the following recommendations were made:

1. The management of Niger Delta Development Commission (NDDC) should raise investment in potable water (boreholes, water treatment, reticulation) especially in underserved LGAs, and ensure sustainability by setting up/ training local water-user committees, providing maintenance funding models, and integrating water schemes into WASH and primary healthcare goals.
2. The management of Niger Delta Development Commission (NDDC) should shift emphasis toward operational effectiveness by equipping facilities, support solar power/water supply for clinics, partner with state health ministries for staffing,

and monitor key service indicators (maternal care, immunization, disease reduction) to confirm real impact in the region.

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