



RESEARCH ARTICLE

Impact of International Donor Agencies Sponsored Water and Sanitation Projects on the People of Enugu State

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ABSTRACT

This study examined the impact of international donor agencies-sponsored water and sanitation projects on the people of Enugu State. The specific objectives of the research are; to assess the impact of the water and sanitation projects on the economy of the communities; to investigate the impact of the water projects on the health of the people in the benefitting communities and to find out the impact of the water projects on the sanitation and hygiene practice in the communities. The study adopts a descriptive research design using the cross-sectional method and the field survey approach. A quantitative approach was used to gather data for the study. Taro Yameni Formulae were used to determine the sample size. Data collected were analyzed using both descriptive and inferential statistics with the aid of the Statistical Package for Social Sciences (SPSS). The result reveals that water and sanitization project have a significant impact on the economy of the community ($p=0.007$), the health of the people in the benefitting community is significantly influenced by the water project ($p=0.029$) while water project has a significant impact on sanitization and hygiene practices in the community by ($p=0.000$). We hereby concluded that international donor agencies-sponsored of water and sanitation projects has a strong significant impact on the economy of the communities of the people of Enugu State Nigeria. We recommended that the government should endeavor to increase water and sanitization projects in our communities across the country.

Keywords: International Donor Agencies; Sponsored Water; Sanitation Projects; Enugu State

Introduction

Water is life and an adequate water supply is central to human existence and civilization. Among the five basic human needs (water, food, health, education, and peace), water is central to the other four. Nigeria has been experiencing water and sanitation challenges throughout its history. In 2018, President Buhari declared a state of emergency on the water and sanitation sector in Nigeria. This was due to the acute shortage of potable water being experienced nationwide and the increased prevalence of water-borne diseases ravaging the population leading to preventable high mortality. Available statistics on the Nigeria Water, Sanitation, and Hygiene (WASH) sector are alarming. Access to pipe-borne water, which was 32% in 1990, declined to 7% in 2015. Similarly, access to improved sanitation significantly decreased from 38% in 1st/90 to 29% in 2015. Nigeria occupies the unenviable 2nd position in the global rating on open defecation, with 20% of the population practicing open defecation. (Buhari, 2018).

Nigerians fetch water from contaminated/unimproved sources leading to various health problems such as diarrhea, typhoid, dysentery, cholera, etc., including soil-transmitted

parasitic helminth infections, schistosomiasis, and trachoma. These diseases cause chronic health problems leading to stunting, wasting, and underweight citizens. Improving access to water and sanitation has significant implications for poverty reduction and human development outcomes (IBRD, 2017). Over the years, the Federal, State and Local governments had been a series of policy programs in the water and

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sanitation sector of Nigeria. Aside from these Governmental efforts, there were also a series of interventions from International Agencies which provide significant funding for the provision of water to Nigerians (Akpabio. 2012).

These include; UNICEF, Japanese International Co-operation Agency (JICA), United Nations Development Projects (UNDP), European Union (EU), Department for International Development (DFID), Water Aid, United States Agency for International Development (USAID), World Health Organization (WHO) and World Bank (IBRD). However, surprisingly the impact of the interventions of these international donor agencies on the water supply situation in Nigeria is yet to be determined, and not a few of such water and sanitation projects quickly fail shortly after commissioning. Okereke (2017).

Statement of the Problem

The Water, Sanitation, and Hygiene (WASH) situation in Nigeria has been a seemingly intractable challenge to the government and the people since independence. The interventions of the international donor agencies in tackling the water and sanitation challenges in Nigeria are also experiencing similar problems of sustainability. It has been estimated that up to US\$ 360m has been spent by International Donor Agencies in sinking boreholes and wells in rural communities to help alleviate the water and sanitation problems of the people. (Ferreira, 2016. Okereke. 2017: Casey et al. 2009). This research, therefore, seeks to assess the impact of the huge investments made by the international community in providing water and sanitation facilities in the lives of the people.

Objective of the study

The main objective of the study is to examine the impact of international donor agencies-sponsored water and sanitation projects on the people of Enugu State. The specific objectives of the research are:

- I. To assess the impact of the water and sanitation projects on the economy of the communities.
- II. To investigate the impact of the water projects on the health of the people in the benefitting communities.
- III. To find out the impact of the water projects on sanitation and hygiene practices in the communities.

Hypothesis of the study

- I. Water and sanitation projects have no significant positive impact on the economy of the communities.
- II. Water projects have no significant positive impact on the health of the people in the benefitting communities.
- III. Water projects have no significant impact on sanitation and hygiene practices in the communities.

Literature Review

Conceptual Review

Water, Sanitation, and Hygiene Situation in Nigeria

Water, Sanitation, and Hygiene, or WASH, are issues that affect the health and wellbeing of every person in the world. Everyone needs clean water to drink. Everyone needs a safe place to pee and poop. Research evidence shows that a significant number of water projects in Nigeria fail within the first year of completion while the majority become moribund within five years. (IBRD, 2017; Okereke, 2017; Niyonkuru, 2016; Nkwocha and Egejuru, 2010; Zuofa and Ochieng. 2014; Akpabio, 2012). WASHINGTON, May 25, 2020 –The World Bank today approved the Nigeria Sustainable Urban and Rural Water Supply, Sanitation, and Hygiene Program (SURWASH). The \$700 million credit from the International Development Association (IDA)* will provide 6 million people with basic drinking water services and 1.4 million people access to improved sanitation services. The program will deliver improved water sanitation and hygiene (WASH) services to 2,000 schools and Health Care Facilities and assist 500 Communities to achieve open defecation-free status.

These will be implemented as part of the Government of Nigeria's National Action Plan (NAP) for the Revitalization of Nigeria's Water Supply, Sanitation, and Hygiene Sector.

In 2019, approximately 60 million Nigerians were living without access to basic drinking water services, 80 million without access to improved sanitation facilities, and 167 million without access to a basic handwashing facility. In rural areas, 39 percent of households lack access to at least basic water supply services, while only half have access to improved sanitation, and almost a third (29 percent) practice open defecation – a fraction that has marginally changed since 1990. In recent years, the Government of Nigeria (GoN) has strengthened its commitment to improving access to WASH services, spurred on by the need for Nigeria's WASH sector to catch up with its regional counterparts. This led to the Government declaring a State of Emergency in 2018 and launching the NAP aimed at ensuring universal access to sustainable and safely managed WASH services by 2030, commensurate with the SDGs. The program will support the NAP which is a 13-year strategy prioritizing actions within three phases: Emergency Plan, Recovery Plan, and Revitalization Strategy and also Clean Nigeria; Use the Toilet Campaign which aims to have Nigeria free of open defecation by 2025. Given that access to WASH is an important determinant of human capital outcomes, including early childhood survival, nutrition, health, learning, and women's empowerment – all of which in turn affect labor productivity and efficiency; the Program's centrality to the human capital agenda and its potential to influence key human capital outcomes cannot be overemphasized," says Shubham Chaudhuri, World Bank Country Director for Nigeria, "The Participating States will be able to improve access to safe water, sanitation and hygiene which will help to keep more girls in school, create employment, and reduce open defecation, while developing greater resilience to the impact of climate change, as well as conflicts between different land and water users.

The SURWASH Program is performance-based and participation is open to all states in Nigeria based on their commitment to specific reforms in the sector. The Program will support the GON to enact necessary policy reforms and incentivize state and local governments, service providers, Technical Assistance providers, and community-based organizations (CBOs) to effectively deliver sustainable services in the sector. It will support a package of investments to expand access to and increase the use of WASH services in urban, small towns, and rural areas. Specifically, the program will support the development of infrastructure to improve water supply service delivery, sanitation, and hygiene in institutions (schools and healthcare facilities) and public places such as markets, motor parks, and others.

The World Bank's International Development Association (IDA), established in 1960, helps the world's poorest countries by providing grants and low to zero-interest loans for projects and programs that boost economic growth, reduce poverty, and improve poor people's lives. IDA is one of the largest sources of assistance for the world's 76 poorest countries, 39 of which are in Africa. Resources from IDA bring positive change to the 1.6 billion people who live in IDA countries. Since 1960, IDA has supported development work in 113 countries. Annual commitments have averaged about \$21 billion over the last three years, with about 61 percent going to Africa.

Challenge of Water and Sanitation in Nigeria

Poor access to improved water and sanitation in Nigeria remains a major contributing factor to high morbidity and mortality rates among children under five. The use of contaminated drinking water and poor sanitary conditions result in increased vulnerability to water-borne diseases, including diarrhea which leads to the deaths of more than 70,000 children under five annually. Seventy-three percent of the diarrheal and enteric disease burden is associated with poor access to adequate water, sanitation, and hygiene (WASH), and is disproportionately borne by poorer children. Frequent episodes of WASH-related ill-health in children, contribute to absenteeism in school, and malnutrition. Only 26.5 percent of the population use improved drinking water sources and sanitation facilities. Also, 23.5 percent of the population defecates in the open.

Hygiene Practices

Personal and domestic hygiene activities are critical determinants of household health. In the classic F-diagram developed by Wagner and Lanoix, fecal-oral diseases stem from the transmission of human excreta to food via fingers, flies, fluids, and fields (Wagner and Lanoix (1958)). Safe hygiene practices can block all of these transmission

pathways. Safe stool disposal reduces excreta in the environment and can reduce fly transmission of fecal matter to food and utensils. Latrine use limits human exposure to excreta and has been shown to reduce household diarrhea (Baltazar et al. (1988), Daniels et al. (1990)). Washing hands after defecation prevents cross-contamination of domestic water supplies, dishes, and food, lowering exposure for other household members (Pinfold (1990)). Handwashing blocks several transmission routes of diarrheal pathogens and has been shown to significantly reduce diarrheal morbidity (Esrey et al. (1991), Cairncross et al. (2010)).

Hygiene affects not only household diarrhea outcomes but also has been shown to positively impact outcomes of water-washed diseases. Studies have demonstrated that clean faces are significantly associated with reduced trachoma prevalence ((Taylor et al., 1989), West et al. (1991), Hsieh et al. (2000), Golovaty et al. (2009)) and that frequent washing is associated with a lower prevalence of trachoma (Cumberland et al. (2005)) and skin infections (Verweij et al. (1991)). Handwashing has been shown to significantly reduce the prevalence of respiratory infections (Ryan et al. (2001), Rabie and Curtis (2006), Aiello et al. (2008)). Evidence suggests that hand and face washing can generate significant reductions in fecal-oral and water-washed diseases, exemplifying the Mills Reicke phenomenon of producing not additive, but multiplicative health gains.

Foreign Aid

Foreign Aid, which is a subject in political economy, has for a long time dominated mainline discussion on development studies and international politics. However, the critical questions boggling the minds of scholars are: To what extent does donor Aid lead to the growth and development of the less developed countries, and; is Aid an instrument by donor countries to promote their selfish domestic and foreign policy interests? (Pankaj, 2005). The dominant theories believe that foreign Aid should not replace indigenous development efforts as Aid may lead to dependency. Kabonja (2017) interrogates the relationship between dependency theory and donor Aid and concludes that Aid has emerged as a symbol of a nuanced form of dependency. This is premised on the argument that donor funds create more employment, and demand for goods and services in the developed countries than in the Aid recipient countries, thus perpetuating underdevelopment in the latter.

Theoretical Framework

(Risse, 2012; Dickerson. 2016; Opeskin. 1996) From the available literature, the debate on the theoretical underpinning of the concept of foreign Aid can be summarized under four schools of thoughts;

- I. Compensatory Justice Theory
- II. Humanitarian Theory
- III. National Strategy/Enlightened Self-interest
- IV. Distributive Justice Theory

All these, however, will be explained in the final report.

However, the theoretical framework of this research will be based on the Integrated Water Resource Management Theory (IWRM) developed by the Global Water Partnership (GWP. 2010), The Integrated Water Resource Management (IWRM) theory is anchored on the *Four Dublin Principles* developed at the International Conference on Water and the Environment which took place in Dublin, Ireland in 1992.

Compensatory Justice Theory

Compensatory justice is profoundly conservative. Across its diverse range of applications, it usually serves to restore some status quo ante. That is characterized in various ways: as the same position people were in before others wronged them (compensatory damages, in the law of torts); as the same position people were in before public takings of their private property (just compensation, in the law of eminent domain); as the same position people were in before changes in public policy put them out of work (compensation provisions in legislation liberalizing trade, deregulating airlines, and extending the boundaries of national parks); as the same position people were in before an accident or injury or other misfortune befell them (workmen's compensation, unemployment compensation, accidental injuries compensation, criminal injuries compensation). Characterize it as you will, the

notion of some preexisting state that is to be recreated virtually always seems to lie at the core of compensatory justice.

Humanitarian Theory

According to the Humanitarian theory, to punish a man because he deserves it, and as much as he deserves, is mere revenge, and, therefore, barbarous and immoral. It is maintained that the only legitimate motives for punishing are the desire to deter others by example or to mend the criminal. When this theory is combined, as frequently happens, with the belief that all crime is more or less pathological, the idea of mending tails off into that of healing or curing, and punishment becomes therapeutic. Thus, it appears at first sight that we have passed from the harsh and self-righteous notion of giving the wicked their deserts to the charitable and enlightened one of tending the psychologically sick. What could be more amiable? One little point which is taken for granted in this theory needs, however, to be made explicit. The things that are done to the criminal, even if they are called cures, will be just as compulsory as they were in the old days when we called them punishments. If a tendency to steal, can be cured by psychotherapy, the thief will no doubt be forced to undergo the treatment. Otherwise, society cannot continue.

National Strategy/Enlightened Self-interest

The National Strategies represent one of the most ambitious change management programs in education. They leave behind a legacy of high-quality training materials, teaching and learning frameworks, and well-trained teaching professionals and leaders of learning in schools, settings, and more widely in the education sector. Since 1998 the National Strategies have taken the form of a professional development program providing training and targeted support to teachers through a three-tier delivery model, comprising the DfE and its national field force, local authorities deploying their advisers and consultants, and then schools and settings. Before 1998, there was no systematic attempt at a national level to drive improvements in standards through a focused program of managing changes in the way that core subjects are taught in classrooms. The first attempts to do that were the National Literacy Strategy followed by the National Numeracy Strategy. Then came the Key Stage 3 Strategy (for 11- to 14-year-olds) and the Early Years Foundation Stage. These developments culminated in the remit of the National Strategies extending to all core subjects, to Key Stage 4 as well as Key Stage 3, and Early Years, Behavior and Attendance, the School Improvement Partner program, and Special Educational Needs. The National Strategies were delivered by a national team of experts and a regional field force that worked with and supported local authorities in providing training and support to schools and settings. Local authorities (LAs) in turn were funded to employ some 2000 consultants to help to deliver the National Strategies' training locally.

Distributive Justice Theory

Distributive justice theory argues that societies have a duty to individuals in need and that all individuals have to help others in need. Proponents of distributive justice link it to human rights. Many governments are known for dealing with issues of distributive justice, especially in countries with ethnic tensions and geographically distinctive minorities.

Distributive justice concerns the socially just allocation of resources. Often contrasted with just process, which is concerned with the administration of law, distributive justice concentrates on outcomes. This subject has been given considerable attention in philosophy and the social sciences. In social psychology, distributive justice is defined as the perceived fairness of how rewards and costs are shared by (distributed across) group members (Forsyth 2006). For example, when some workers work more hours but receive the same pay, group members may feel that distributive justice has not occurred. To determine whether distributive justice has taken place, individuals often turn to the behavioral expectations of their group (Forsyth 2006). If rewards and costs are allocated according to the designated distributive norms of the group, distributive justice has occurred (Deutsch,1975).

Empirical Review

Sheela, Rachel and Thomas (2019) Review of drivers and barriers of water and sanitation policies for urban informal settlements in low-income and middle-income countries. The study examined drivers and barriers to water, sanitation, and hygiene (WASH) policies in urban informal settlements in low and middle-income countries. We conducted a search of peer-reviewed and grey literature published between January 2000 and April 2018. We organized evidence into six domains of drivers and barriers: economic, spatial, social, institutional, political, and informational. Key drivers included donor prioritization and collective action, while key barriers included social

exclusion, lack of land or dwelling tenure status, the political economy of decision-making, and insufficient data. Ensuring responsive water and sanitation policies for informal settlements will require interdisciplinary collaboration and both top-down and bottom-up approaches.

Akpabio (2012) *Water Supply and Sanitation Services Sector in Nigeria: The Policy Trend and Practice Constraints*. Water supply and sanitation provision have been at the core of international attention reflected in various international directives and declarations over the past three decades. How are such international priorities domesticated in the national and local policy agenda? The paper specifically assesses the Nigerian policy trend and practices in relation to water supply and sanitation coverage over the past ten decades. The review observed that the Nigerian water and sanitation policy environment is characterized by: a) too many short-lived policies without corresponding action; b) excessive and opportunistic use of some international policy instruments; c) very many agencies with none effectively in charge; d) unrealistic assumptions of situations and; e) poor implementation practices. Although this trend of observation seems a general problem in developing countries, the paper argues that the Nigerian case looks exceptional, to a large extent, given the peculiarities of ethnic politics, long years of military rule which undermined the evolution and development of necessary institutions in the water and sanitation sector, official corruption, among several other factors. These factors and others contribute to making public water supply and sanitation services inaccessible to the poor. Given the nature of the observations, the review concludes with some necessary recommendations.

Riswan, (2015) *Contribution of Community Water Projects in Preventing Water Crisis: A Study Based on CKD-affected Villages in Dehiyattakandia Divisional Secretariat*. The lack of clean water is a major risk factor for poor health and sanitation, and it has major health impacts on rural communities. Safe drinking water is fundamental to health, survival, growth, and development. The study is based on data collection through surveys, interviews, focus group discussion, and consultation of medical reports at Ampara RDHS and project reports at Ampara NWSDB, and other relevant authorities. Using the secondary information, the paper demonstrates the status of CKD (Chronic Kidney Diseases) in the recent past in all Grama Niladhari divisions in the study community, and it explores Community Water Supply or Rural Water Supply (RWS) projects implemented by the National Water Supply and Drainages Board (NWSDB) with the support from Government and International Organizations in the CKD affected villages, to mitigate water crisis in Dehiyattakandia. This study found that the scarcity of safe drinking water was not an outright factor for the endemic of CKD, perhaps, the scarcity of safe drinking water was one of the major factors to determine this health implication among rural communities in Dehiyattakandia.

Methodology

The study adopts a descriptive research design using the cross-sectional method and the field survey approach. Miller and Yang (2008) opine that cross-sectional survey design makes comparisons across units of analysis at a single snapshot in time as the basis for inferring a causal relationship. The cross-sectional survey is considered apt for the study owing to the huge population involved and the need to collect original data from the respondents concerning their knowledge, attitude, and behavior in respect of the subject under study. A quantitative approach was used to gather the data for this study. A questionnaire with both open-ended and closed-ended questions served as the data collection tool. A questionnaire is an efficient way to collect data from many respondents quickly, while also ensuring participant uniformity and facilitating data processing and analysis. Based on the study's key variables, the questionnaire was thoughtfully divided into sections with open-ended and closed-ended questions. Adapted and modified study-related questions on the impact of international donor agencies-sponsored water and sanitation projects were used. The respondents received the appropriate and sufficient instructions they needed to complete the survey.

The area of this study will be based on the benefitting communities in the Local Government Areas in the Enugu State of Nigeria. The population of this study will comprise 5027, 528 for the 17 Local Government Areas in the Enugu State of Nigeria. This was obtained from extrapolation of the 2006 National Population Commission Census as gazette in 2009 using a 3.2 National percentage in the projection of population growth up to 2020. Details will be shown in the final work. The sample size of 2499 was determined from the population using Taro Yameni Formulae (1964) and an error margin of 2%.

$$n = \frac{N}{1 + N(0.02)^2}$$

$$n = \frac{5,027,528}{1 + 5,027,528(0.0004)}$$

$$n = \frac{5,027,528}{2012.0112} = \underline{\underline{2499}}$$

This section contains questions on the constructs – Water and sanitation project, community economy, community health, and community hygiene. The four constructs were measured using a 4- point Likert scale where “1” = Strongly Agree (SA), “2” = Agree (A), “3” = Disagree (D), and “4” = Strongly Disagree (SD).

The Cronbach Alpha reliability test was used to determine the questionnaire's internal consistency and reliability. Since the scale's alpha values were higher than 0.7, all the constructs showed high reliability. Cronbach alpha should be greater than 0.7, according to Nunnally (1978). Table 1 provides a summary of the reliability analysis.

Table 1: Summary of Cronbach’s Alpha Levels for the Construct

Variable name	Cronbach’s Alpha	Number of items	Decision
Water and Sanitation Project	0.708	5	Fit for use
Community Economy	0.823	6	Fit for use
Community Health	0.767	5	Fit for use
Community Hygiene practice	0.645	8	Fit for use

Data Analysis

Questionnaire Administration

With the help of some trained research assistants, copies of the questionnaire were self-administered throughout the state's local governments. The study's participants were assured of their confidentiality and were made aware of this fact by each research assistant. Throughout the local government, 450 copies of the questionnaire were completed and returned. This translates to a return rate of 88 percent.

Data Analysis

Data collected were analyzed using both descriptive and inferential statistics with the aid of the Statistical Package for Social Sciences (SPSS). While descriptive statistics were used to describe the socio-demographic characteristics of the respondents, Regression analyses were used for further analysis. All the hypotheses were tested at a 0.05 level of significance.

Results

Socio-Demographic Information of Respondents

This section presents information about the sex, age of respondents, marital status, and highest educational qualification of respondents (Table 3). The information provided here was analyzed using frequency count and percentage.

Table 2: Socio-Demographic Characteristics of Respondents

All	Demography characteristics	Frequency	Percent (%)
Sex	Male	297	66%
	Female	153	34%
Age of respondents	Under 20	32	7%
	20 - 29	112	25%
	30 – 39	151	34%
	40 – 49	87	19%
	50 – 59	56	12%
	60 and above	12	3%
Marital status	Single	209	46%
	Married	153	34%
	Separated/Divorced	11	2%
	Widowed	77	18%
Highest Educational Qualification	No Education	21	5%
	Primary Education	38	8%
	Senior Secondary School	79	18%
	College of Education/Polytechnic	118	26%
	Bachelor’s degree	99	22%
	Post Graduate Qualification	82	18%
	Others	13	3%
Does your community depend on international donor agencies that sponsored water and sanitization projects water for sustenance?	Yes	309	69%
	No	141	31%

Table 2 reveals that most of the respondents in the study area is male (66%), while 34% were female. The modal age group was 30 – 39 years (25%) followed by 20 – 29 (25%) and 40 – 49 years (19%). An evaluation of the educational level of the respondents also shows that a large percentage had a college of education/polytechnic (26%) and bachelor’s degrees (22%). Also, more than 68% of the respondents had depend on international donor agencies-sponsored water and sanitization project water for sustenance.

Results

The test for the various study objectives is presented in this section. These individual objectives were examined using linear regression analysis. The analyses of linear regression were conducted using the Enter method. The findings are listed below:

Objective One:

The Anova table (Table 3) shows that at a 0.05 level of significance, the model is significant for predicting the impact of water and sanitization on the community economy ($F = 7.716$; $p = 0.007$) among the several communities within the Enugu State. There exists a low correlation between the observed and predicted values of the variable, economy of the community ($R=0.292$), whereas only 7.4% (Adjusted $R^2 = 0.074$) of the variance for respondents’ economy of the community was accounted for by water and sanitization project (Table 3).

Table 3: ANOVA Table Showing the Goodness of the Table

Model		Sum of squares	Df	Mean Square	F	Sig
1	Regression	41.301	1	41.301	7.716	0.007
	Residual	444.276	448			
	Total	485.576	449			

- a) Dependent Variable: COMMUNITY ECONOMY
- b) Predictors: (Constant), WATER AND SANITATION PROJECT

Table 4: Predictive Power of the Water and Sanitation Project on the Economy of the Community

Model	R	R Square	Adjusted R Square	Std Error of Estimate
1	0.292	0.085	0.0742	2.31360

a) Predictors: (Constant), WATER AND SANITIZATION PROJECT

Notwithstanding, Table 4 indicates that the water and sanitization project significantly impacts the economy of the community ($p=0.007$). For every unit increase in water and sanitization projects, the economy of the community increases by 0.284.

Table 5: Impact of Water and Sanitization Project on the Economy of the Community

Model		Unstandardized coefficient		Standardized coefficient	t	Sig
		B	St. Error	Beta		
1	Constant	14.42	2.3380		6.190	0.000
	Water and sanitization project	0.284	0.102	0.292	2.778	0.007

b) Dependent Variable: COMMUNITY ECONOMY

Objective_Two:

The water project does not significantly impact the health of the people in the benefitting communities under study. Table 6 shows that the model is significant for predicting the health of the people in the benefitting communities ($F = 4.958$; $p = 0.029$). However, Table 7 shows that the correlation between the observed and predicted values of the variable, health of the benefitting community is low ($R=0.237$). Moreover, only 4.5% (Adjusted $R^2 = 0.045$) of the variance for respondents' health in the benefitting communities was accounted for by the water project.

Table 6: ANOVA Table Showing the Goodness of fit Table

Model		Sum of squares	Df	Mean Square	F	Sig
1	Regression	27.372	1	27.372	4.958	0.029
	Residual	458.205	448			
	Total	485.576	449			

a) Dependent Variable: HEALTH OF THE PEOPLE IN THE BENEFITTING COMMUNITY

b) Predictors: (Constant), WATER PROJECT

Table 7: Predictive Power of the Water and Sanitation Project on the Economy of the Community

Model	R	R Square	Adjusted R Square	Std Error of Estimate
1	0.237	0.056	0.047	2.34958

a) Predictors: (Constant), WATER PROJECT

Table 8 however indicates that the health of the people in the benefitting community is significantly influenced by the water project ($p=0.029$). The health of the people in the community increases by 0.148 for every unit increase in the water project. In this case, we agree that the water project has an impact on the health of the benefitting community across the study area.

Table 8: Impact of Water Project on the Health of the People in the Benefitting Community

Model		Unstandardized coefficient		Standardized coefficient	t	Sig
		B	St. Error	Beta		
1	Constant	14.42	2.3380		6.190	0.000
	Water project	0.284	0.102	0.292	2.778	0.007

a) Dependent Variable: HEALTH OF THE PEOPLE IN THE BENEFITTING COMMUNITIES

Objective Three:

The water project does not significantly impact sanitization and hygiene practices in the community. The linear regression model is statistically significant for predicting the explained variable ($F = 40.080$; $p = 0.000$) among the various communities within the study area (Table 9). Moreover, the correlation between the observed and predicted values of the dependent variable (sanitization and hygiene practice of the community) is moderately high ($R=0.571$) (Table 10). Also, 31.8% of the variance for respondents' sanitization and hygiene practices of the community was accounted for by the water project (Adjusted R Square = 0.318)

Table 9: ANOVA Table Showing the Goodness of Fit Table

Model		Sum of squares	Df	Mean Square	F	Sig
1	Regression	158.125	1	158.125	40.080	0.000
	Residual	327.451	448			
	Total	485.576	449			

- a) Dependent Variable: SANITIZATION AND HYGIENE PRACTISE IN THE COMMUNITY
- b) Predictors: (Constant), WATER PROJECT

Table 10: Predictive Power of the Water and Sanitation Project on the Economy of the Community

Model	R	R Square	Adjusted R Square	Std Error of Estimate
1	0.571	0.326	0.318	1.98625

- a) Predictors: (Constant), WATER PROJECT

Table 11 however indicates that the water project has a significant impact on sanitization and hygiene practices in the community by ($p=0.000$). The sanitization and hygiene practice in the community increases by 0.409 for every unit increase in the water project. In this case, we agree that the water project has an impact on the sanitization and hygiene practices in the community across the study area.

Table 11: Impact of Water Project on the Health of the People in the Benefiting Community

Model		Unstandardized coefficient		Standardized coefficient	t	Sig
		B	St. Error	Beta		
1	Constant	9.513	1.816		5.238	0.000
	Water project	0.409	0.065	0.571	6.331	0.000-

- a) Dependent Variable: SANITIZATION AND HYGIENE PRACTISE IN THE COMMUNITY

Conclusion

Based on findings, the water and sanitization project significantly impact the community's economy, and the health of the people in the benefitting community has been significantly influenced by the water project while the water project has a significant positive impact on sanitization and hygiene practices in the community. We hereby concluded that international donor agencies-sponsored of water and sanitation projects has a strong significant impact on the economy of the communities of the people of Enugu State Nigeria.

Recommendation

The following recommendation was made:

- I. Since water and sanitization projects have a significant impact on the economy of the community, we recommended that the government should endeavor to increase water and sanitization projects in our communities across the country.
- II. Since the water project has an impact on the health of the benefitting community across the study area. We recommended that the government should endeavor to extend to other communities that have not experienced this benefit.

- III. Since the water project has an impact on the sanitization and hygiene practices in the community across the study area. We recommended that the government should endeavor to monitor the management of water projects in the respective areas.

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