

Development Partners in Nigeria's Infrastructural Projects: An Evaluation of European Union Water Project in Odukpani Local Government Area of Cross River State

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Abstract

The study evaluates European Union water project (WSSSRPI) in Odukpani Local Government Area, Cross River State, Nigeria. Specifically, the study sought to determine whether European Union water project could increase access to portable water, as well as reduce water-borne diseases in Odukpani Local Government Area, Cross River State. Cross-sectional survey research design was adopted. The study adopted purposive sampling technique in selecting four hundred (400) respondents from the nine communities in the study area. Data were obtained using a 31-item questionnaire entitled European Union Water Project designed by the researcher and validated by measurement and evaluation experts. The obtained data was statistically analysed using Pearson Product Moment Correlation Analysis. Two hypotheses were raised and subjected to statistical testing at 0.05 level of significance. The result of the study revealed that European Union water project has significantly increased access to access to portable water, as well as reduced water-borne diseases in Odukpani Local Government Area of Cross River State. The study concluded on the note that European Union water project (WSSSRPI) has increased access to portable water, as well as reduced water-borne diseases in Odukpani Local Government Area of Cross River State, Nigeria. Based on these findings, it is recommended among other things that government in collaboration with community leaders should improve on the water supply system in Odukpani Local Government Area of Cross River State. Also, diesel should be supplied by community leaders on a daily basis to maintain a constant supply of water in the study area.

Keywords: Development, partners, third world, donor, agencies, sustainable development, European Union, and water project

1. Introduction

The frightening dimension of poverty, underdevelopment, environmental degradation, inadequate infrastructural amenities, diseases, and unemployment in developing countries, have been an issue of great concern to many development partners like United Nations Development Programmes (UNDP), European Union (EU), World Bank among others. These worrisome socio-economic conditions, especially in Nigeria have attracted the attention of notable international donor agencies like EU to the country, with the sole aim of ameliorating the plight of the poor, especially with regards access to portable water and other basic social amenities (Agba, Akpanudoedehe & Stephen, 2014). Since the advent of the fourth republic in 1999, Nigeria has enjoyed improved bilateral relations with other countries and international organizations, including the European Union (Nnadi, Nnadi, Aja, Chikaire & Okafor, 2012). The targets of these international organisations include among others, to improve peace and security, foster good governance and human rights; boost trade and regional integration. The EU water project is targeted at partner countries in developing countries that have experienced serious deficits in access to safe drinking water and basic sanitation, or face critical challenges in protecting fresh water sources. The project is also aimed at strengthening water planning and management, enhancing access to safe drinking water and improving sanitation, increasing water conservation and storage capacity, and enhancing solid and hazardous waste management to prevent contamination of water (OECD, 2008). Nigeria is ranked as one of the poorest nations in the globe with reasonable number of her population living below the poverty line, in spite of the large deposit of natural resources in the country (Antai, 2004). Social infrastructures such as electricity, portable water; educational facilities, health facilities, and access to good roads are in deplorable conditions, making life miserable and uncomfortable for most citizens of the country (Anam, 2016). The above situation has increased poverty levels, which has exposed Nigerians to all sorts of problems including malnutrition, hunger, and diseases. The pains of underdevelopment, which is greatly felt by all, and sundry, has caused starvation, deprivation, and destitution among a remarkably large number of Nigerians. Inadequate supply of portable water has further compounded the problems of Nigerians as only thirty-one per cent of Nigerians have access to improved water supply in their homes (Ikpefan & Uchendu, 2017). This particular problem affects poor women and heads of households, who lacks the financial capacity to purchase clean drinking water, and the younger generation who trek a significant distance to fetch water before going to school.

In addition, this problem has exposed the poor to drinking unclean and polluted water, which affects their health condition. There is enough evidence that suggests that limited or no access to water, sanitation, and

hygiene (WASH) services adversely affects individuals' health, hinder their access to educational and economic opportunities, and affect their work efficiency and labour productivity (Ikpefan & Uchendu, 2017). UN report revealed that, "more than 1.1 billion people are estimated to lack access to safe drinking water while 2.4 billion people do not have adequate sanitation" in developing nations including Nigeria. Department for International Development (DfID) and WEDC (1998); Water Aid, (2001) reported that "every minute, 10 people in developing countries, Nigeria inclusive die from water related-diseases and it is estimated that at any one time, half of the world's hospital beds are taken up by people suffering from water related diseases associated with dirty water and poor sanitation"

The European Union Agenda for human and economic growth has been felt in Cross River State. Some of the prime counterpart projects embarked upon in the state include among others rural infrastructural projects such as provision of borehole to boost water supply and sanitation in the rural areas, rural agricultural development projects, small and medium enterprises (SMEs) development projects, and sustainable environmental management projects. Aid for water supply and sanitation has risen since 2001 after a temporary decline in the second part of the 1990s (OECD, 2008). This attempt by EU has ensured increased access to water for the poor; increased access to improved sanitation; increasing water coverage in urban areas; addressed environmental and land use practices that result in poor water quality and availability; maintenance of existing infrastructure; as well as participation of user groups in the development and operation of water services. While an earlier study and policy analysis did generally support the view that EU development project in water have significantly improved the well-being of Cross Riverians, attempts at empirical validation have been limited and the evidence remains scanty. This study therefore sought to validate previous studies by providing empirical data on EU water project and its effect on the well-being of people in Odukpani local government area of Cross River State, Nigeria.

1.1 Objectives of the study

The study was designed to assess the effect of European Union water project on the well-being of people in Odukpani Local Government Area of Cross River State, Nigeria. The specific objectives are:

- (i) Examine whether European Union water project has increased access to portable water in Odukpani Local Government Area
- (ii) Determine whether European Union water project has reduced water-borne diseases in Odukpani Local Government Area

1.2 Research questions

The following research questions were designed to guide the study:

- (i) To what extent has European Union water project increased access to portable water in Odukpani Local Government Area?
- (ii) To what extent has European Union water project reduced water-borne diseases in Odukpani Local Government Area?

1.3 Statement of hypotheses

The following hypotheses were put forward to guide this research:

- (i) European Union water project could likely increase access to portable water in Odukpani Local Government Area
- (ii) European Union water project could likely reduce water-borne diseases in Odukpani Local Government Area

1.4 Study area

The study area is Odukpani Local Government Area. Odukpani Local Government Area is located in southern senatorial district of Cross River State, Nigeria. The local government area covers an area of 2,624.sq. Km with thirteen (13) Council Wards, Forty (40) Clans and cover above five hundred (519) villages (Coker & Obo, 2012). The area share boundary in the North with Akamkpa LGA and in the South by Calabar Municipality, in the South East with Calabar Municipality, in the North East with Biase Local Government Area, in the West by Akwa Ibom, East with Akamkpa and North West with Abia State. The area passed through two large rivers namely; Calabar River and Cross River (ODU-LEEDS, 2013-2016). Odukpani Local Government Area was created in 1976 as Western Calabar covering the present Odukpani and Akpabuyo Local Government Areas. The exact origin of Odukpani people has not been fully documented, but there are several settlements in Odukpani Local Government Area namely; Efik, Efut, Qua and Okoyong people. Efik and Ejagham are the two major languages spoken by the people of Odukpani; Qua communities speaks Ejagham, while other three speak Efik largely (ODU-LEEDS, 2013-2016).

For administrative convenience, Odukpani Local Government Area is divided into thirteen wards, namely:

“Adiabo/Efut, Akamkpa, Creek town 1, Creek town 11, Ekori Anaku, Eniong, Eki, Obomiat/Mbiabo/Eniong, Odot, Odukpani Central, Onim Ankiong, Ikoneto, Ito/Idere/Ukwa”. There are thirty-eight thousand, four hundred and eighty-nine (38,489) household in the study area with a projected population of 242, 985 by 2015. Further analysis of the projected population statistics revealed that Odukpani Central have the highest population of 34, 991, closely followed by Ito/Idere/Ukwa and Ekori/Anaku. Onim Anikong is expected to have the lowest population of 7,201. The major occupation of residents of the area includes farming, trading, and lumbering. The rich top soil is laced underneath with unfathomable and extensive beds of limestone, clay, lead, iron, alt, gravel, quartz, pyrite ore, etc. The area is blessed with abundant human and agricultural resources such as cocoa, plantain, cassava, oil palm, maize, coconut, palm, banana, cocoyam, okro, cucumber, pumpkin, yam, etc. forest resources of various names, shapes and colours are also in abundance in this area.

2. Literature review

2.1 European Union water project and increased access to portable water supply

The increasing relevance of water in human and national development cannot be overemphasized. Water is generally, seen as embodying a bundle of social, cultural, environmental, and economic values. Every human organism requires clean drinking water for survival. Farm produce and sustained food supply are also critically dependent on water availability as the planting time and crop yield are both determined by the onset, duration and the amount of rain that is recorded in a rainy season. Water plays a key strategic role in sustaining human life, promoting development, and maintaining human environment. This explains why European Union considers it as a critical part of human survival. A sustainable supply of safe drinking water is fundamental to health, survival, growth, and a cornerstone for sustainable development. Access to clean water and proper sanitation, and attention to waste disposal and water treatment, has proven beneficial to public health. The Department for International Development (DFID) Participatory Poverty Assessment (PPA) found that the lack of access to potable water is ranked as the highest priority problem facing rural people. The World Bank estimates that to increase coverage of safe drinking water to 80 per cent by 2020 would require investment of over \$10 billion in water supply.

The type of access and quantum of water supply as well as the quality of sanitation facilities available to a household or community determines the quality of life of the people. The World Health Organization (WHO) has estimated that 1.8 million children die every year because of diseases caused by unclean water and poor sanitation. This translates into one death every eight seconds. According to the United Nations Development Program (UNDP), more than 1 billion people – about one in six people in this world – have no access to clean and safe drinking water, while over 2 billion lack access to adequate sanitation. The effects of unclean water often lead to an endless cycle of poverty, conflict, disease, and death. In spite of the enormous water resources in Nigeria, only about 65 per cent (46.1 million) of the urban and 30 per cent (22.1million) of the rural populations had access to improved drinking water sources, based on the population and water supply coverage of the country in the year 2006. The total water supply coverage was only 47 per cent, which implies that only about 68 million Nigerians had access to improved water supply source, leaving 77 million without access. In fact, trend analysis of Nigerian water supply coverage from the year 1990 to 2006 reveals a declining total coverage, which if unchecked, will result a total coverage of 42 per cent by this Vision’s target year of 2020. More significantly, the trend reveals that Nigeria is diverging rather than converging on the MDG target of 75 per cent for improved water supply coverage by the year 2015. This underscores the need for Nigeria to review its water supply policy and implementation strategies in order to facilitate accelerated attainment of the MDGs and Vision 20:2020 targets.

According to Lawal and Basorun (2015), the gains from improved water supply and sanitation as well as water resource management benefit both the rural and urban dwellers. He noted that water resources are critical to production processes, and workers’ health is critical for increased production and productivity. Ayanni (2006) posits that a society’s economic sectors, including agriculture, industry and services, rely on water resource and related services. Ayanni maintained that improved access to water services and improved management of water resources contribute substantially to economic growth through increased business productivity and development. It also improves human health, productivity, and dignity considerably. There is a positive correlation between increased national income and the proportion of population with access to improved water supply. Improved water services and water resource management are essential and necessary condition for economic development and growth (Okereke, 2000; Ofuoku, 2001; Tinubu, 2007). Improved water and sanitation service contributes significantly to better health, economic growth and eradicating poverty. It also increases productivity, and production accrued at individual/household level is augmented by economic, health, and education gains.

Ishaku, Majid, Ajayi, and Haruna, (2011) reported that the economic benefits of improved water are immediate and long-term. Immediate benefits include averted health-related costs, and time savings associated with having water and sanitation facilities closer to homes. Time saved due to less illness and closer access to facilities translates into higher productivity. Lack of access to safe water, basic sanitation and hygiene practices

is the third most significant risk factor for poor health in developing countries with high mortality rates. Diarrhoea disease for examples is widely recognised as the principal result of inadequate water sanitation and hygiene. 1.8 million People die every year from diarrhoea related diseases; 90 per cent of whom are children under the age of 5. 133 million people suffer from high intensity helminthic infections (Ascariasis, Trichuriasis, Hookworm disease), which often leads to severe consequences such as cognitive impairment, massive dysentery or anaemia.

2.2 European Union water project and reduction in water borne diseases

The provision of portable drinking water is of great moral and ethical relevance rooted in the cultural and religious tradition of societies around the globe. Pathak (2013) observed that access to clean drinking water is among the most important approaches through which water-borne diseases can be check. According to Pathak (2013), the provision of portable drinking water and basic sanitation contributes to sustainable improvements in peoples' lives regarding their health condition, the preconditions for fighting water-borne diseases as well as for the eradication of extreme poverty. Pathak (2013) posits that water-related diseases are the most common cause of death and illness among the poor population in developing countries and children under 5 years are particularly affected. Murty and Surender (2002) reported that providing sustainable access to safe drinking water supply and basic sanitation brings about a major reduction of water-related health risks and child morbidity and mortality. They maintained that a reduction in maternal mortality depends strongly on the water supply and sanitation situation. Majuru, Michael, Mokoena, Jagals, and Hunter (2011) revealed that one of the leading causes of poor maternal health is contaminated water and poor hygiene, this result to infection and slow post-natal recovery. However, reducing the health risk by improving water supply and sanitation needs to be linked to improving hygiene practices in order to bring about the desired impacts.

Literature on the development of water resources acknowledges the importance of adequate and safe water for human health, economic production, and sustainable development (WHO, 2010). Failure to ensure the provision of clean and safe water could expose citizens to the risk of contracting waterborne diseases. The lack of access to safe and clean drinking water is a serious problem, which EU water projects in developing countries like Nigeria has helped to address. The WHO (2011) estimated that 1.1 billion people worldwide lack access to improved water supply while John-Dewole, (2012) reported that, about 20 per cent of the world's population lack access to safe drinking water. Although all nations have deficiencies in providing adequate supplies of safe water for domestic use, the problem is most critical among the developing countries (Linda-Stalker, 2005). UNICEF/WHO (2012) estimated that in 50 per cent of the developing countries, the majority of the populations have no access to adequate safe and clean water. Furthermore, UN Population Division (2004) reported that of 117 countries with data available in developing nations, the majority of the population lack access to safe drinking water. According to the World Health Organisation 2010, 1.1 billion people lacked access to an enhanced water supply in 2002, and 2.3 billion people got ill from diseases caused by unhygienic water. Each year 1.8 million people die from diarrhoea diseases, and 90 per cent of these deaths are of children under five years (WHO, 2006).

This failure has led to many urban dwellers resorting to obtaining water from unsafe sources such as hand-dug shallow wells. Water from such sources is often contaminated with faecal material, domestic and industrial wastes. Such polluted water results in an increased public health risk of waterborne diseases outbreaks (Aribigbola, 2010). The link between inadequate water supply, sanitation, and hygiene, on one hand, and disease incidence, on the other hand, is well-established. Pathogenic microorganisms are transmitted through the consumption of contaminated fresh water, which results in water-borne diseases. These diseases can be caused by protozoa, e.g., cryptosporidiosis and giardiasis; viruses, e.g., gastroenteritis and hepatitis A; or bacteria, e.g., typhoid, cholera, salmonellosis—many of these are intestinal parasites. Bathing in coastal waters contaminated with faecal waste from humans and animals can also contribute to other skin, ear and eye infections, such as conjunctivitis (WHO, 2006). Nigeria has a very high incidence of water-, sanitation-, and hygiene related diseases; and it has among the highest rates of infant mortality in the country. Diarrheal disease, which is often linked to inadequate water supply, sanitation, and hygiene, is one of the three leading causes of under-5 mortality in Nigeria. There are also outbreaks of other types of diseases related to water, sanitation, and hygiene (WASH), such as scabies; but these are not officially reported (Murray & Lopez, 1997). Cohen, (2006) noted that in developing countries, the poor people have a great burden of diseases due to inadequate water supply, sanitation and hygiene.

Water-borne diseases are caused by the drinking of water polluted by pathogen-bearing urine or faeces. They include typhoid, bacillary and amoebic dysentery, cholera and other diarrhoeal diseases. Water-washed diseases come about as a result of bad personal hygiene and some skin and eye contact with contaminated water. Examples are, trachoma, flea, scabies, lice and tick-borne illnesses. Water-based diseases result from parasites that live in water-based organisms. The water-based organisms serve as intermediate contacts for these parasites. These diseases include schistosomiasis, dracunculiasis and other helminths. Water- related illnesses result from

insect vectors, for example mosquitoes that breed in uncovered water sources. These include malaria, trypanosomiasis, onchocerciasis, filariasis, dengue and yellow fever (OECD 2009). Trachoma is an eye disease spread generally out of poor hygiene due to lack of sufficient amount of water and poor sanitation conditions. Approximately 6 million people world-wide are blind today due to trachoma. It affects women two to three times more than men and infants are particularly vulnerable. Studies have found that providing adequate water supplies could reduce infection rates by 25 per cent (WHO, 2006). Approximately, 133 million people world-wide are diagnosed with high intensity intestinal helminths illnesses mostly resulting in acute conditions such as cognitive impairment, heavy dysentery or anaemia. In fact, roundworm and whipworm alone are approximated to affect one-fourth of the world's population and 10 per cent of the population of the developing world has intestinal worm infestations (Murray & Lopez, 1997).

Hepatitis A is a viral infection caused by the ingestion of contaminated food and water (UNICEF/WHO, 2012). Symptoms are similar to the common flu with some temperature and vomiting. There are 1.5 million cases of clinical hepatitis A every year world-wide. Typhoid fever is a bacterial disease transmitted by eating polluted food and water. Symptoms include headaches, nausea and loss of appetite. About 12 million people are affected by typhoid every year world-wide. Heavy metal contamination of natural water sources is also a major cause of the diseases. Underground water especially due to its coolness and absence of particles is regarded as safe by users. Arsenic pollution of ground water has been detected in several countries, namely; Argentina, Bangladesh, Chile, China, India, Mexico, Nigeria, Thailand and the United States (UNICEF, 2000/WHO).

3. Methodology

3.1 Research design

The study made use of the cross-sectional survey research design. The choice of this design was because of its ability to collect information that correctly and without bias describes the phenomenon under study (Babbie 2008). The total population of the study was drawn from Odukpani Local Government Area of Cross River State. According to the National population commission (2006) report, Odukpani Local Government Area has a population of one hundred and ninety-two thousand, eight hundred and eighty-four (192,884). The study covered both males and females in the local government. Purposive sampling technique was adopted in this study. This method was adopted because it allows the researcher the convenience and latitude to choose the respondents that will give the needed data for the study. The technique was used to select nine communities that have benefitted from European Union water project in Odukpani Local Government Area. Purposive sampling technique was also used to select respondents from the sampled communities. The distribution of the respondents picked was not even because some communities have more population than others. The break down reveals that fifty-three (53) respondents were selected from Adiabo communities, forty-seven (47) respondents from Atan-Eki, forty-one (41) from Atan Okoyong, thirty-four (34) from Edemiyi community, forty-one (41) from Odon Nwong community, forty-seven (47) from Creek Town, forty-nine (49) from Mbiabong community, fifty-nine (59) from Ukwa-Eburutu, and twenty-nine (29) respondents from Obufa-Esuk.

The sample size for this study is 400 respondents (male and female), who were purposively selected from nine (9) communities in the study area. Taro Yamane's sample size determination technique was utilised in selecting the minimum sample size for the study. This is because; Eboh (2009) noted that Taro Yamane provides a simplified sampling formula for calculating sample size in social science research.

Sample size for Odukpani Local Government Area Using Taro Yamane's sampling formula:

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

Where:

n = Sample size

N = Total population

e = Error limits (0.05 on the basis of 95 per cent confidence level).

Therefore:

$$n = \frac{192,884}{1 + 192,884 (0.05)^2}$$

$$n = \frac{192,884}{192,885 \times 0.0025}$$

$$n = \frac{192,884}{14.42}$$

$$n = 400$$

3.2 Method of data collection and analysis

The main instrument of data collection was a 26-item questionnaire, scored on a four – point Likert scale format ranging from “Strongly agree (SA), Agree (A), Disagree (DA) and Strongly Disagree (SDA)”. The questionnaire

was divided into two main parts. Section A, elicited information on the respondent’s personal demography such as sex, age, marital status, educational level, occupation and religion. The second part consists of 20 items designed to measure independent and dependent variables; each requires the respondent to indicate the frequency of their responses. Elucidated data collected were properly checked to make sure all items in each of the questionnaire is responded to, thereafter, responses were edited, coded and analysed using Pearson product moment correlation analysis The tentative statements were tested one after the other at 0.05 level of significance.

4. Results

4.1 Data analysis

In this section, the main variables of the study were identified, their mean and standard deviation calculated. The Statistical Package for Social Sciences (SPSS) Version 21 was used to perform frequency count, percentages, mean, standard deviation, while the Pearson Product Moment Correlation Coefficient analytical tool was employed to test the study’s hypotheses. Four hundred (400) copies of the instrument was distributed, however, three hundred and ninety-four (394) was retrieved and used for the analysis.

Hypothesis One

Hypothesis one in its null form states that, “European Union water project could likely increase access to portable water in Odukpani Local Government Area”. The independent variable is EU water project while the dependent variable is increase access to portable water. To test hypothesis one, Pearson Product Moment Correlation Coefficient (r_{xy}) analysis was used in testing the hypothesis as presented in Table 1. From the analysis, the calculated r-value was 0.134* which was tested in comparison with the table value of 0.086 at 0.05 level of significance. The calculated r-value was greater than the critical r-values. Hence, the result was statistically significant (the result therefore suggest that EU water project has increase access to portable water in Odukpani Local Government Area. From the result presented in table 1, since the calculated r-value of 0.134* is greater than the critical r-value of 0.086 at .05 level of significance, the null hypothesis which, states that European Union water project could likely increase access to portable water in Odukpani Local Government Area, was rejected. While the alternate accepted, this implies that, European Union water project has increase access to portable water in Odukpani Local Government Area.

TABLE 2

Pearson product moment correlation coefficient analysis for EU water project and increased access to portable water (N=394)

Variables MSD	$\sum x$	$\sum x^2$	$\sum xy$	r-value	Sig.
EU water project 13.882. 790	5304	76612		0.134*	0.00
Increased access to portable water 13.442. 823	5130	71938	71632		

**significant at 0.05 level, df =2, critical r 0.086

Hypothesis Two

Hypothesis two in its null form states that, “European Union water project could likely reduce water-borne diseases in Odukpani Local Government Area”. The independent variable is EU water project while the dependent variable is reduction of water-borne disease. To test hypothesis two above, Pearson Product Moment Correlation Coefficient (r_{xy}) analysis was used in testing the hypothesis. From the analysis in Table 2 the calculated r-value was 0.49* which was tested in comparison with the table value of 0.086 at 0.05 level of significance. The calculated r-value was greater than the critical r-values. Hence, the result was statistically significant (the result therefore means that European Union water project has led to the reduction of water-borne diseases in Odukpani Local Government Area.

From the result presented in Table 2, since the calculated r-value of 0.49* is greater than the critical r-value of 0.086 at .05 level of significance. The null hypothesis which states that, European Union water project could likely reduce water-borne diseases in Odukpani Local Government Area, was rejected. While the alternate accepted, which suggests that, European Union water project could has led to the reduction water-borne diseases in Odukpani Local Government Area

TABLE 3
 Pearson product moment correlation coefficient analysis for EU water project and reduction of water-borne disease (N=394)

Variables MSD	$\sum x$	$\sum x^2$	$\sum xy$	r-value	Sig.
	$\sum y$	$\sum y^2$			
EU water project 14.19 2.655	5421	76612			
Reduction of water-borne disease 13.442. 823	5130	71938	74195	0.49*	0.00

**significant at 0.05 level, df = 2, critical r 0.086

4.2 Discussion of findings

European Union water project and increased access to portable water supply

The statistical analysis for hypothesis one revealed that European Union water project has increased access to portable water in Odukpani Local Government Area of Cross River State, Nigeria. The study shows that through the drilling of bore holes, European Union has increased access to portable water in Odukpani Local Government Area. This suggests that, children and women no longer trek long distance to access clean drinking water. The study further revealed that the quantum of water supply available to a community determines the quality of life of the people and has the potential for poverty alleviation. This finding corroborates an earlier work by Okereke (2000); Ofuoku, (2001) Oscar (2002), Ayanni (2006) and Tinubu (2007). They observe that development partners have contributed significantly to the provision of portable water to rural communities in third world countries.

European Union project in water supply and reduction in water-borne diseases

The statistical analysis for hypothesis two revealed that European Union water project has led to the reduction of water-borne diseases in Odukpani Local Government Area of Cross River State, Nigeria. The study shows that the provision of clean drinking water by EU has significantly reduced the rate of water-borne diseases among rural people in Odukpani Local Government Area of Cross River State, Nigeria. It revealed that water-borne disease is no longer a major health challenge in Odukpani Local Government Area. This suggests that the supply of portable water by EU has helped rural communities in Odukpani Local Government Area to fight water-borne disease. The study also shows that the provision of clean drinking water in Odukpani Local Government Area by European Union has helped the communities to be free from water related diseases. This has significantly boosted the well-being of rural dwellers. Again, the study reveals that, the provision of safe drinking water is among the most critical strategy through which water-borne diseases can be control. The link between inadequate water supply, sanitation, and hygiene, on one hand, and disease incidence, on the other hand, is well-established in the study.

5. Conclusion and recommendations

The study designed to assess EU water project (WSSSRPI) in Odukpani Local Government Area of Cross River State, Nigeria. Emphasis was on the effect of European Union water project on increased access to portable water, and reduction in water-borne disease in Odukpani Local Government Area of Cross River State. After extensive statistical analysis of each of the formulated hypotheses, the following conclusions were made.

- (i) European Union water project has significantly increased access to portable water in Odukpani Local Government Area, Cross River State
- (ii) European Union water project has led to a reduction in water-borne diseases in Odukpani Local Government Area, Cross River State.

In respect to the findings of this study and the conclusion drawn from the findings, it is pertinent to put forward the following recommendations:

- (i) Government in partnership with community leaders should provide diesel as well as other essential materials necessary for the functioning of the generators and other equipment in the water plant. This will enable members of the community enjoy a stable water supply.
- (ii) Government in collaboration with international donor agencies should improve the supply of water to households in the study area. This will help in subsidizing the cost of buying a gallon of water as well as increase access to portable water supply and reduce water-borne diseases.

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