

Water, Sanitation and Hygiene (WASH) Programme Impact in Nigeria

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Available online at: www.isroset.org

Received: 23/Dec/2020, Accepted: 15/Jan/2021, Online: 31/Jan/2021

Abstract— Water is a vital commodity for sustaining life, aiding the existence of an ecosystem in all its forms and location. Water is said to occupy 80% of the human body, 80% in fish, and over 60%, in the bodies of mammal birds and reptiles. The earth-surface is covered by over two-third of water while less than $\frac{1}{3}$ are taken by land, a tiny 3% of the water on the earth surface are drinkable; leaving the earth with a huge challenge of sourcing drinkable water. This form one of the challenges facing Africa; postulating that a near 50% of Africans will be living under water scarcity by year 2025. Research was focused on the people in Utagba-Uno Community at Delta State of Nigeria to determine the impact of Water, Sanitation and Hygiene (WASH) project executed by a consortium of organizations. The research paper evolved the use of primary and secondary data, analysis subjected to the use of tables and frequency distribution that informed a conclusion and recommendations. The study showed the impact of wash programme with relationship to the alleviation of water shortage, reduced mileage in sourcing of clean water, resulting in punctuality to various places of institutions and economic activities by all and sundry. This Study is significant as users shall have accessible report adjudged to the level of actualization of the sustainable development goals number six 'Clean Water and Sanitation'.

Keywords— Clean Water, Sanitation, Policy, Sustainable development goals, Sanitation

I. INTRODUCTION

Water is a very vital commodity for sustaining life aiding existence of an ecosystem in all its forms and location. But the world is faced with several issues; one of the most urgent issues is inadequacy of safe water for sanitation and hygienic uses. Availability and improvement in water usage are crucial in meeting the ambitions of sustainable development goals (SDGs).

Nigeria population estimated to be over 200 million puts Nigeria as the largest country in Africa, having a gross domestic product (GDP) figure of \$398,186 million in 2018, number 33 in the ranking of GDP of 196 countries with a leap of 1.9% from previous year 2017.

Delta State is one of the 36 states in Nigeria and currently has twenty five (25) Local Government Areas (LGAs). The 2006 population census showed 4,112,445 in figure indicating a growth rate of 3.92 per cent per year compared to 2014 census. The State has made a significant contribution towards social economic and political development through budget and implementation [1].

Currently, Nigeria ranks No. 2 in the world in classification of people defecating in the open, and 25 per cent of Nigeria populace are still in the practice of open defecation. The United Nations Sustainable Development through Goals 6.1 and 6.2, seek to put an end to open defecation by 2025 and ensuring easy access to sustainable

and safely managed Water, Sanitation Hygiene, Programme (WASH) services by 2030.

This study examines the impact of WASH on the people of Umusadege in Utagba-Uno community under Ndokwa West Local Government of Delta State in Nigeria.

Brief History of Utagba-Uno

Utagba-Uno is one of the communities under the Ndokwa West Local government area in Delta State located between latitudes 5o56oN and 5o59oN and between longitudes 6o22oE and 6 o25oE of Nigeria. Utagba-Uno community comprises of 7clans namely Umusadege, Umusadeli, Umuseti, Etua-Uno, Isumpe, Umusam and Ikilibi-Uno. The descendants of Utagba-Uno are made up the seven sub-clans exposted by [2]. The area that makes Utagba- Uno is estimated to be 16.8km², the population of Utagba-Uno is about 29,988. The Water-Supply-Wells in Umusadege quarter witness's frequent influx of people in and around the community coming to fetch water for various uses.

Statement of the Problem

The challenges of sourcing of fresh, drinkable water has been a huge challenge, dwindling the ability to maintain sanitation and hygienic activities, Women and children treks a long distance of about 1 and 1½ kilometers during wet and dry season respectively to get water from the river or stream with buckets and other container on their head or on bicycle; further causing health challenges.

Aims and Objectives

The study examines the impacts of the European Union, UNICEF WASH Project at Umusadege quarter in of Delta State of Nigeria. Its objectives emphatically are to:

- determine the gender and age group that fetches water from the site
- determine the major sources of cooking and drinkable water
- determine the relationship of the WASH project to hygienic practices and sicknesses as a health challenge in the community
- determine the effect of WASH project on education and economic activities
- Examine how the WASH project has contributed to the actualization of SDGs Goal 6, clean water and sanitation for all.

Significance of the Study

This study is significant to the people of Utigba-Uno, Nigeria, multilateral organizations policy makers and the entire society of academia. The study refers to safe drinkable water as that which is qualified by the World Bank UNICEF report of 2003.

Emphatically, this paper is in six sections; Section I contains the introduction; being Water, Sanitation And Hygiene (Wash) Programme Impact In Nigeria, A Case Study Of Umusadege, Utigba-Uno, Community, Ndokwa West Local Government Area in Delta State of Nigeria. Section II contains the related work of on the subject covering literature review and reports. Section III contains the area of Study, research design and the method of data analysis. Section IV covers analysis of the demographic composition of the sample size and outcome showing varying level of hygienic practices in the community by individual household and the economic benefits arising. Section V presents results analysis and discussion that follows and maintenance practices at WASH site. Section V contains conclusion of the paper with proposed directions for future research work.

II. RELATED WORK

In Water, Sanitation and Hygiene sector, poor household are repeatedly left behind. Data obtained from national survey points that less than 30 percent of the poor in Nigeria have access to improved source of water; persons living outside urban community are also disproportionately impacted according to [3].

It has been asserted that if available water in a society is noted as unsafe for drinking; and if access to toilet is unsafe or limited, it therefore implies that such a society is not delivering for the world's children. Children and families in the poor rural communities are most at risk of being left behind in the scheme of development. According to [4], governments must invest in those communities in order to bridge the gaps in development and deliver on humanitarian gestures centered on basic human right

An estimated number of 224 trillion liters of surface water with 50 million trillion liters of groundwater was said to be available in Nigeria as at year 2000; while estimated 6 billion liters of water is said to have been consumed in year 2001, which indicates availability of water resource for her teeming population [5]. However, Nigeria faces trifling obstacles to utilize the available water potentials [6]. [7] In a study to ascertain catalyst for achieving universal clean and affordable water in Nigeria recommended efficient water policies in a sustainable manner and making infrastructure a priority in the scheme of programme.

Federal Structure of Nigeria on Water and other Infrastructural Services

Prior to the establishment of the River Basin Development Authorities in 1976, Nigeria had no agency or department charged with water management programme. The River Basin Development Authorities (RBDA) established in 1976 was 12 in number and were saddled with the functions bordering on resources development, water utilization and conservation [8]. Many policies and programmes have been formulated and implemented for the development of the WASH sector against the backdrop of various institutional arrangements and frameworks, including the regulatory framework and the political framework of federalism.

In Nigeria water supply is the responsibility of each States of the federation. Nigeria has witnessed the creation of State Water Boards (SWBs), build and operate systems for water service delivery across its states especially in the urban areas. The federal government provides raw water from its dams through the River Basin Development Authorities for power, irrigation and regional water supply development. [9] made a submission that rural based water projects requires sound community water management skills to improve their performance.

The Federal Government, through the Federal Ministry of Water Resources, is responsible for:	The State Government, through relevant agencies like Water Supply Agencies, RUWASSA, Water Boards, is responsible for:	The Local Government Council are responsible for:
• Policy formulation, data collation, resources and demand surveys, and monitoring and evaluation. • Coordination of water supply development and management. • Research and development • National funding and technical support. • The creation of an enabling environment for meaningful private sector participation.	• Establishment, operation, quality control and maintenance of urban and semi-urban water supply systems. • Licensing and monitoring of private water supply • Monitoring of the quality of water supply to the public. • Provision of technical assistance to local governments.	• Establishment, operation and maintenance of rural water supply schemes in conjunction with the beneficiary communities. • Establishment, equipment and funding of the Water and Environmental Sanitation (WES) departments.

Source: UNDP Nigeria; Delta State Development Report 2015

Figure 1: Federalism and Water Service Delivery: Roles and Responsibilities

The proportion of Nigerians population practicing open defecation is falling in numbers. Insufficient WASH programmes can cause unprecedented exposures to a wide range of microorganism leading to diseases and several

health problems according to [10]. A group of researchers [11] asserted that industrial activity practiced in an unsustainable manner resulting in an accidental spillage and inappropriate waste disposal highly contaminates ground water [11].

Conditions for Sitting WASH in Umusadege

Sitting of WASH comes with certain conditions that are expected to be met by the hosting community. These understanding came during interactions with the elders and members of Umusadege in Nigeria while on field work. They proclaimed every household must have constructed pit latrines; encourage the use of the constructed toilets and latrines facilities at designated areas; disengage the practices of open defecation; clear feces from homes and promote burial of feces.

III. METHODOLOGY

The study employed the survey research design and a cluster sampling method to examine sustainable development at the grassroots with emphasis on Umusadege community at Delta State of Nigeria.

Area of Study

The study area is on Umusadege community of Utagba-Uno, inside Ndokwa West Local Government Area of Delta State that made up the twenty-five (25) Local Governments in Delta State.

Population of Study

The study population included all person; males and females that are resident in Utagba-Uno communities that composed the seven quarters. Umusadege clan was selected for study because of its unique characteristics of his en-route to other clan coupled with the fact that information gathered in the area would represent to a large extent, the information concerning other grassroots clans in Delta State community. In the 1991 population census, the population of Ndokwa West Local Government was put at approximately 103,313 with a 1999 projection figure of 152,246 people.

Sampling Method

The study used sampling method to collect the total sample size. The Availability or Accidental sampling Technique was used because of the difficult nature of drawing a random sampling across homes and families that have neither streets nor house numberings.

Sample Size

In this study, a total sample size of 140 was considered out of the total of 150 questionnaires administered. Umusadege was clustered into (3) classes of people and had the following respondents - Women (80), Children/Teens (30), Men (30); this relatively turnout in number is adduced to the time of the year the research study was carried out being festive seasons of December 2019 and January 2020.

Instruments for Data Collection

Data emanated from primary and secondary sources. Primary data was collected using a questionnaire; this was self-administered questionnaire to the respondents drawn from all the clustered classes of people in the community. The questionnaire centered on the effects of the Water Project and its multiplier effect in other areas such as sanitation, hygiene and ease of life in their everyday economic and family activities. And with effort to unravel unprecedented obstacles if any emanating from sitting the water project.

Secondary data were sourced from reports, books, Journals, reports, official documents, published that were relevant to the study.

Method of Data Analysis

This study; fundamentally is a survey research and therefore adapted descriptive statistics involving tables, numbers, percentage distribution and frequency patterns in analyzing the results of the responses from the administered questionnaires.

IV. RESULTS AND DISCUSSION

The results analysis and discussion which follows is based on the usable 140 questionnaires returned. This study established the impact of the WASH Project, especially the water itself in the community in the pursuit for the actualization of sustainable development goal (SDG) number 6, safe and clean water for all. A study of the demographic composition of the sample size unit revealed that it was made up of different kinds of people. There is no doubt that the people depend to a large extent, on safe drinkable water for cooking, household sanitation, personal and household hygiene. Every rural community are seemingly envisaging a better life

Table 1: Sex Distribution

Sex	Frequency of Outcome	Percentage Outcome
Male	44	31
Female	96	69
Total	140	100

Source: Field Survey, 2019.

There were more female than male among the respondents. The accompanied table proves more details of these characteristics and analysis.

Table 2: Main Source of Safe Drinking Water

Respondents	Frequency of Outcome	Per cent age Outcome
Dug well	0	0
Rainwater	5	4%
River/Stream	5	4%
Borehole water	130	92%
Total	140	100

Source: Field Survey, 2019

Umusadege Utagba-Uno Community has various source of water. Borehole water which is the UNICEF Joint WASH Project is much depended; showing 130 being 92% of the total sample size.

Table 3: Main Source of Water used for Cooking

Available Water Sources	Frequency Outcome	Percent age Outcome
Rainwater	5	4%
River/Stream	5	4%
Borehole Water	130	92%
Total	140	100

Source: Field Survey, 2019

The Borehole sited on account of the Joint WASH Project is also the major source of water used for drinking in Umusadege community, the table 3 above showed a domineering support representing 92% of the people.

Table 4: Main Source of Water used for Clothes Washing /Domestic Purposes

Available Water Sources	Frequency Outcome	Per cent of outcome
Dug well	90	64%
Rainwater	0	0
kiosk	0	0
Tanker water	0	0
River/Stream	10	7%
Borehole Water	40	29%
Total	140	100

Source: Field survey 2019

According to the table 4 above the main source of water for clothes washing and for other domestic purposes are largely from the dug well depicted by 64 per cent of the respondents; only 29% uses the UNICEF Joint WASH Borehole water project for clothes washing and for other domestic purposes. It implies that the community conserves the borehole water for cooking and safe drinking water; while they exerts more time and energy in sourcing water for clothes washing and other domestic purpose from dug well and stream. This directly paves way for longevity of the UNICEF Joint WASH Borehole water project.

Table 5: Time spent fetching Water

Respondents	Frequency Outcome	Per cent of outcome
True	140	100%
False	0	0
Total	140	100

Source: Field survey

Time spent fetching water has fallen due to the WASH Intervention Project and the Time equally channeled to other gainful / economic activities gleaned from Table 5.

The study found that the time spent fetching water has fallen considerably due to the WASH Intervention Project and the gained time equally channeled to other gainful and economic activities depicted by a 100% affirmation. The entire population recognized and agreed that the Joint

WASH Intervention Project resulted in time saving; and they channeled the saved time into gainful chores and other economic activity. Responded outcome showed that WASH Project has a direct improvement to each household sanitation directly causing improved hygienic practices in the community household. The analysis further attest increased punctuality to their daily place of activity by pupils, students and workers of various professions in the community.

The Water, Sanitation Hygiene (WASH) was started by the European Union, UNICEF with the joint effort of the Delta State Rural Water Supply Sanitation Project (RUWASSA), the Nigeria Government and local community hosting the project completed in year 2017. It is also referred to as the Joint Water, Sanitation Hygiene, Programme (WASH) Intervention, project 2017.

The long kilometer walk in a round trip it takes to get to the closest stream and rivers was becoming a too much hardship, plus the unavailability of government-pipe-borne-water for safe drinkable water propelled agitation for the provision of safe drinkable water in community. The spate of decaying sanitation, personal, household and environmental hygiene was also worrisome. These scenarios berth a multi-stakeholders approach to salvage the situation and thus established the Joint WASH Intervention in Umusadege Utagba-Uno and has remained in good operation while the maintenance of the site is carried by a maintenance and administrative committee set up by the Elders Forum in the Community.

In line with the objectives of the research, there are five major findings. Firstly more female including women and young girls engage in water fetching than the male (men and boys) counterparts and are more as well into domestic chores.

Secondly, Umusadege Community of Delta Sate has various source of water, Dug well, Rainwater collection, Kiosk points, Water Tanker Supplies, River/Stream, borehole but the borehole water project sunk by the European Union, UNICEF Joint WASH Intervention serves as the most source of safe drinking water; and source for cooking for individual members of the household in the community. In a crystal view, Umusadege community does not have sufficiently safe-cooking water and has suffered a great deal in sourcing for cooking and safe drinkable water prior to the European Union, UNICEF Joint Water project scheme in the clan. Sitting of European Union, UNICEF Joint WASH Project has brought a great relief in the stress associated in sourcing cooking and safe drinkable water.

Thirdly, this research study showed that most people of the Umusadege, Utagba-Uno household affirms that the Joint European Union, UNICEF WASH intervention project has offered a direct improvement to their household sanitation, personal hygiene and hygienic practices and thus bringing down the curves of sickness related to consumption of

contaminated water; only a fraction 7% could not tie the occurring household sanitation to the Joint WASH intervention project.

Fourthly, the study depicted that the main source of water for clothes washing and for other domestic purposes are largely from the dug well. Sourcing from river and the European Union, UNICEF Joint WASH Borehole water project are relatively minimal. This adduced to the roles of the maintenance committee made up of the members of the community who do not allow clothes washing around the site thus bringing-in conservative culture for cooking and safe drinking water. This directly paves way for longevity of the European Union, UNICEF Joint WASH Borehole water project. However, there is tendency to exert more time and energy in sourcing water for clothes washing and other domestic purpose from constructed well, stream and river.

In the fifth findings, it is noted that the time spent fetching water has fallen considerably due to the WASH Intervention Project and they have equally channeled the saved time to other gainful and economic activities which is also a factor for their punctuality to their daily place of activities including pupils, students and workers of various professions in the community.

This research findings showed that a large proportion of the people and residents of Umusadege Utagba Uno community are not familiarity with the 17 Sustainable Development Goals and have never heard about the 17 sustainable development goals. Only 3% of the entire population are familiar with the 17 sustainable development goals. This sure necessitates education for the sustainable development goals in the community.

V. CONCLUSION

Provision of drinking water has been of primary concern to Umusadege people. Evidences from this research indicate various impact of Joint WASH intervention project. The joint effort of the European Union (EU), UNICEF, Delta State Rural Water Supply Sanitation Project (RUWASSA) and the local community has brought great relieve from the hardship of more than one hour kilometer leg-walk in fetching water from the river and streams, that usually result in lateness to school by pupils and students, and lateness to work places. The Joint WASH intervention project commissioned in year 2017 has resulted in a number of economic impacts and improvement in health among the people of Umusadege-Utagba-Uno community of Delta State of Nigeria which were clearly indicated in the findings of this study including direct improvement to household sanitation, improved personal hygiene practices by household in the community which has resulted in time saving for fetching water, creating time for gainful economic activities. The Joint European Union, UNICEF WASH Project should be embraced and replicated as a model in other rural communities in Nigeria.



Figure 2: A Cross-section of the Women Elders Forum in Uno-Community (Year 2020)



Figure 3: WASH Project Site in Utagba-Uno Community

Limitation

The study is limited to the impact on provision of water. And do not access the degree of sanitation and hygiene practices in the community under study. Water supply, sanitation and health are well related for expected results. However, for more improvement, future research should incorporate a wider scope for analysis of sanitation and hygiene to determine the degree or dept of practices that can be considered as appropriate for community practices to ensure a desired impact.

ACKNOWLEDGEMENT

I thank the Elders forum of Umusadege led by Chief. Patrick Akpe, Delta State Government, Chairman of Ndokwa West Local Government Area, and entire people of Umusadege community, Centre for Sustainable Development, University of Ibadan for guidance, and staffers of People Planet and Profit Media for their divers support at free will, while the study has no external funding.

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