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AN ASSESSMENT ON PROVISION OF ACCESSIBLE POTABLE WATER IN EDEMAYA COMMUNITY, IKOT ABASI OF AKWA IBOM STATE, NIGERIA

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ABSTRACT

This study evaluated the level of access to potable water supply in Edemaya, Ikot Abasi, Akwa Ibom State, Nigeria, using the Descriptive and Physical survey methods. Fifty structured questionnaires were distributed randomly and retrieved, while informal interviews were also conducted. Community heads or their spokesmen were the targeted respondents and data on major sources of water supply and distance to the nearest major source of water supply in the communities were collated and analyzed using the Statistical Package for Social Science (SPSS; Version 23). The rationalized data were used to generate frequency percentage distribution for the analysis. Field investigation revealed that 23 Villages make up Edemaya clan, 15 have Streams and 3 have Borehole but no access to pipe borne water, while 5 have no source of water. The most common source of drinking water was surface water (64%) and majority (56%) of the water drawers spent more than 30 minutes to fetch water from their dwelling places. (50%) of the household embark on a tiring journey of more than 200m in search for water. These suggest a very poor access to potable water supply in the communities prompting the recommendation to Akwa Ibom State Government for urgent necessary action.

Key words: Youth Corps Member, Water Borehole Construction, Edemaya, Ikot Abasi, Akwa Ibom, Nigeria.

INTRODUCTION

The National Youth Service Corps (NYSC) scheme was created in a bid to reconstruct, reconcile and rebuild the Nigerian economy after the Civil War ((NYSC, 1999; Obadare, 2010). It was established by decree No. 24 of 22nd May, 1973 which stated that it is being established "with a view to the proper encouragement and development of common ties among the youths of Nigeria and the promotion of National Unity" (NYSC, 1999, 2004; Sherraden, 2001b), while the Community Development Service (CDS) is a component and scheme of NYSC through which the Service Corps Members identify the needs of their host communities, work with the local communities to promote self-reliance by systematically prospecting and executing development projects and programmes which impact positively on the socio-economic development of the host communities (World Bank, 2005; NYSC, 2014; 2015). There are three types of CDS programme, and they include: (1) Year Round CDS14; (2) Individual CDS15 and; (3) Traditional CDS16 (NYSC, 2004).

Water is a basic necessity of life and one of the world most valuable resources (WHO, 2006). Mankind cannot survive without water as even the human body by weight constitutes about 70% of water (Ali, 2012.) and 80% animal cells (WHO 2011). The extent to which water supply contributes to economic productivity and social well-being cannot be compromised (Yang *et al*, 2013). Access to water is based on the ability of people to collect at least a minimum of 25 litters of water per person per day for domestic purposes and also walk less than 500 meters to the water point on a 30mins round trip, including going to the water point, queuing, fetching the water, and returning home **(**Ross *et al*.2010; Jong-Wook, L. and Bellamy, C. (2004); Village water, 2010**).**

On the other hand, the Office of the High Commissioner for Human Rights (De Albuquerque, 2010; OHCHR, 2007.), contends that accessible

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water supply refers to the right to equal and non-discriminatory way to an adequate amount of safe drinking water for personal and domestic uses including drinking, personal sanitation, washing of clothes, food preparation and personal and household hygiene with the aim to sustain life and health of the users. According to Simons, *et al.,* (2009) water accessibility involves being able to physically reach the source and afford the charges which should be sustainably accessible, both financially and in terms of the reliability of source yield. As identified by Jones, *et al.,* (2002) physical accessibility to water implies the use of less time spent in identifying the infrastructure leading to the saving of time for every household to spend on other productive activities such as cooking and cleaning.

In defining accessibility to water infrastructure, Woodhouse (2004) argues that accessibility to water infrastructure could be looked at both the community level and individual level: physical accessibility to water infrastructure at the community level is the capacity of the water facilities to provide sufficient, safe and regular water; have a sufficient number of water outlets to avoid prohibitive waiting times; reasonable distance from the household; and there is equitable distribution of all available water facilities and services. Access to water in the required quantity is needed to achieve good personal and domestic hygiene practice (Huttly *et. al.,* 1997; Mark *et al,* 2002; Ishaku *et.al* 2011).), while potable water ensure preservation of human health especially children (Ezzati *et al.,* 2003, Parsons *et al.* 2006). Inaccessibility and unequal access to potable water supply can constrain the inclusiveness of growth and thus result in low standard of living among the rural people (Cohen, 2006; Yang *et al,* 2013;). In addition, poor access to potable water leads to serious economic disruptions (Ohwo, 2012.), pose risk (WHO, 2010), and impact health by causing acute infectious diarrhoea, which can arise from chemical species such as arsenic and fluoride, ((Lantagne and Gallo, 2008; Muta'aHellandendu, 2012).

According to WHO, disease related to drinking water contamination represent a major burden on human health (John-Dewole, 2012; WHO, 2008) causes illness and death among the poor in the developing countries (WHO 2010; 2011; Nwankwoala, 2011; Prüss-Üstün, 2008). The World Bank stated this on the World water challenge, "the access to water supply services and sanitation is a major factor in reducing child mortality". It revealed that of about 1.7 million deaths that occur every year worldwide are attributed to unsafe water, poor sanitation and hygiene, mainly through infections diarrhoea (World Bank, 2002; 2007). A key target of the Millennium Development Goal (MDG 7) which aims to Ensure Environmental Sustainability by providing access to safe drinking water and basic sanitation (MDGs Nigeria Report, 2013), this water supply target underpins several other MDGs, including those related to Poverty (MDG1), Education (MDG 2), Gender Equality (MDG3), and Reduction of Child Mortality (MDG4) (MDGs Nigeria Report, 2010). However, provision of accessible potable water supply according to WHO and UNICEF Joint Monitoring Programme produced the Global Assessment of water supply and sanitation describes reasonable access to water as the 'availability of at least 20 litres per person per day from a source within one kilometre of the user dwelling' (WHO and UNICEF, 2010).

It is the prevailing unfortunate circumstances in Edemaya, Ikot Abasi, Akwa Ibom State that triggered the objective of this study to evaluate the level of access to potable water supply in the community and the decision to construct a borehole water supply facility in the community as my National Service Year Community Development Service (CDS) project. This is in line with the required efforts to address the required Health and Socio-Economic well-being of the people (Parsons, 2006); promote the noble objective of NYSC Community Development Service (CDS); and achieve the 7th Goal of the Millennium Development Goals (MDGs), which is to "Ensure Environmental Sustainability" (NYSC, 2007; 2015).

METHOD OF STUDY

Study Area: Edemaya is a district (town) in Ikot Abasi Local Government of Akwa Ibom State, Nigeria. It has 23 Villages (Atan Eka Iko, Atan Ikpe ,Ediduo, Iboro ,Ikot Abia Ndia, Ikot Akpabio, Ikot Apian, Ikot Obio Akpan ,Ikot Efre ,Ikot Eneni, Ikot Etenge Ndom, Ikot Eyen Imo, Ikot Ekara, Ikot Iyire, Ikot Ndien, Ikot Obio Akpan, Ikot Obio Ekpe, Ikot Ubo Akama, Ikot Ufot, Ikot Unya, Ikot Uso Ide,

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Ukan.), and is one of the oil producing community in Akwa ibom Niger Detal region blessed with surface water. Edemaya signifies a male name of Ibibio Origin. It means born in Edemaya. It is a Clan in Ikot Abasi and located in the Southern Eastern coast of Nigeria and in the south-west corner of Akwa Ibom with an area of 371 km and population of 132,023 people (NPC 2006). It lies between latitudes 4.5739 and 4.34'26'' North of the Equator, and Longitudes 7.5789 and 7.34'44'East of the Greenwich meridian based on the census of 2006. The major occupation of the people is farming, fishing, craftsmanship and boatbuilding. Few are either government employed civil servants or are involved in private business. The town is linked by highway to Aba in Abia State and Portharcourt in Rivers State. It has also been described as a community situated at a break in the mangrove swamps and rain forest of the eastern Niger River delta (National Population Commission, 2006; Ikot Abasi, Nigeria, 2017; and Stoveland *et al*., 2000).

Study Design and Sampling Technique: The Descriptive Survey design was adopted to determine the actual locations of the various sources of water in the Edemaya Community. The Cluster Sample techniques were used to administer a total of 50 structured questionnaires which were randomly distributed in the sample area. The sub-study areas were the 23 Villages in Edemaya where the questionnaires were administered. The Systematic Random sampling technique was adopted (Araoye, 2003).

Ethical Consideration: Before the research was conducted, Ethics approval was obtained from the NYSC State Coordinator, through the Local Government Inspector and Zonal Coordinator of National Youth Service Corps, Uyo. Consent to work in the area was granted by the Local Government Chairman Ikot Abasi, Akwa Ibom State. At the households, informed consent was obtained from the local traditional leaders who signed the consent form (translated into the local language) after having read and/or heard and understood it.

Data Collection: The data for this study was obtained by means of well- structured questionnaire to assess and provide a potable water supply in Edemaya.

Data Analysis: The data were analysed using computer software Statistical Programme for Social Sciences (SPSS), version 2003. Also, the data were presented as frequency and percentage. The results obtained were presented in tables for clarity

RESULT

The table below shows that 12 of the inhabitants (24%) have access to Borehole, while 32(64%) depends on Stream and River'. None had access to Pipe borne water at the time of the study, while others (n=6; 12%) relied on commercially sold bottle water.

Table 1: Percentage of access to sources of supply water for domestic uses in Edemaya community.

Access to water sources	Frequency	Percentage %
Ground water : Borehole	12	24.0
Surface water: Stream, River	32	64.0
Pipe borne	NIL	NIL
Others specify: Bottle/ sachet water	6	12.0
Total	50	100

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Table 2: Percentage of access to sources of supply water for domestic uses in Edemaya community.

Time spent(minutes) to collect water from bore hole source	Frequency	Percentage %
< (less than)15 mins	8	16.0
>15-30 mins.	14	28.0
>(more than)30min	28	56.0
Total	50	100

The above table indicated that 8(16%) of the people especially women and children spend less than 15minutes to fetch water from their dwelling places, 14(28%) spent 15-30minutes while majority 28(56%) of the people spent more than 30minutes to fetch water from their homes.

Table 3: Percentage of access to sources of supply water for domestic uses in Edemaya community.

Distance (meter) of water borehole source from household	Frequency	Percentage %
< (less than) 0-100m	9	18.0
> 100 -200m	16	32.0
> (more than) 200m	25	50.0
Total	50	100

The above table revealed that 8(16%) of the people covers a distance of 0-100m in search of water, 16(32%) travelled between 100-200 meters to obtain water for their daily use, 25(50%) of the house hold embark on a tiring journey of more than 200m in search for water.

Table 4: Percentage of access to sources of supply water for domestic uses in Edemaya community.

In habitant perception of access to water supply	Frequency	Percentage %
Highly satisfactory	6	12.0
Satisfactory	8	16.0
Fair	10	20.0
Unsatisfactory	12	24.0
Highly unsatisfactory	14	28.0
Total	50	100

The table revealed the inhabitant perception of access to water supply in the study area, that 6(12%) of inhabitants have a satisfactory water supply, 8(16%) satisfactory, 10 (20%) fair. Majorities 12(24%) and 14(28%) of the inhabitant tend to have Unsatisfactory and Highly Unsatisfactory with the supply of water.

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Table 5: Data base of sources of water in Edemaya Community.

CLUSTERS AREAS (Villages)	SOURCES OF WATERS			
	BOREHOLE	STREAM	PIPE BORNE	OTHERS SPECIFY
Atan Eka Iko	X	√	X	√
Atan Ikpe	X	√	X	X
Ediduo	X	√	X	X
Iboro	√	√	X	√
Ikot Abia Ndia	x	X	X	X
Ikot Akpabio	x	√	X	X
Ikot Akpan	√	√	X	X
Ikot Efre	√	√	X	X
Ikot Eneni	x	X	X	X
Ikot Etenge Ndom	x	X	X	√
Ikot Eyen Imo	√	X	X	X
Ikot Ekara	√	X	X	X
Ikot Iyire	√	√	X	√
Ikot Ndien	√	√	X	X
Ikot Obio Akpan	√	√	X	X
Ikot Obio Ekpe	√	√	X	X
Ikot Oboro Enyin	X	√	X	√
Ikot Okpok	√	X	X	X
Ikot Ubo Akama	√	√	X	X
Ikot Ufot	X	√	X	√
Ikot Unya	√	X	X	X
Ikot Uso Ide	X	X	X	X
Ukan	√	√	X	√

Keys: √ - Signifies village that has ones of the sources of water; X – Does not have any.

Table 5 shows the status of water supply sources in the 23 villages that make up Edemaya clan. Out of the 23 villages, 15 villages have Stream and 3 villages have Borehole, while 5 villages have no source of water.

The result of this study led to a good the understanding of the villages that needed help and voluntary assistance within the study area. Through random sampling method Ikot Enini and Ikot Abia Ndia were selected out of the 5 villages that have no access to portable water for the installation of the boreholes. This indicated that access to portable water supply in the area was very poor.

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Fig 1: Corps Member Okoye Sheila Chizoba (AK/12C/0868) the Coordinator, Millennium Development Goals Ikot Abasi Chapter at Ikot Enini and Ikot Abia Ndia Edemaya of Ikot Abasi L.G.A. Akwa Ibom State.

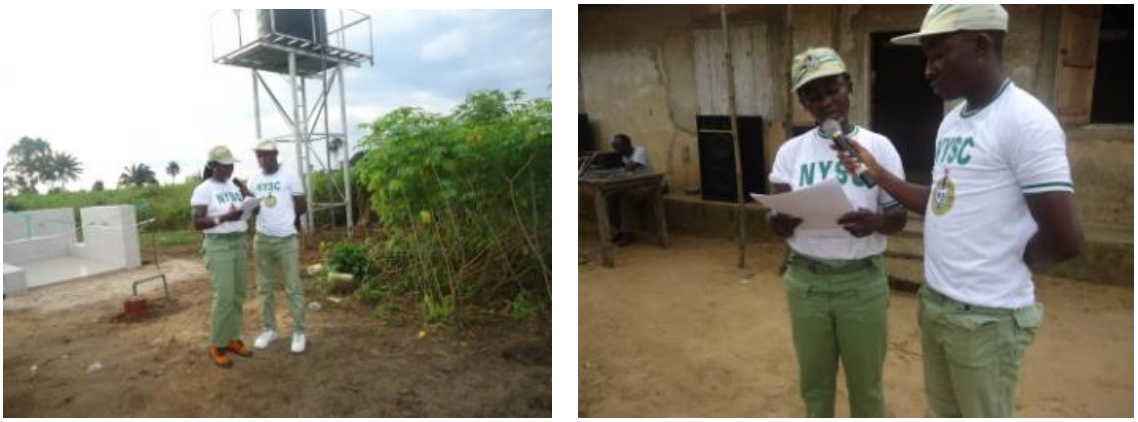

Fig 2: Corps member Okoye Sheila Chizoba (AK/12C/0868), Presentation of welcome Address on the commissioning day the 7th day of October 2013 at the TWO Communities, Ikot Eneni and Ikot Abia Ndia villages Edemaya. On her right hand is Gbadamosi Abudulrasheed (AK/13A/169) the CLO of Ikot Abasi L. G. A.

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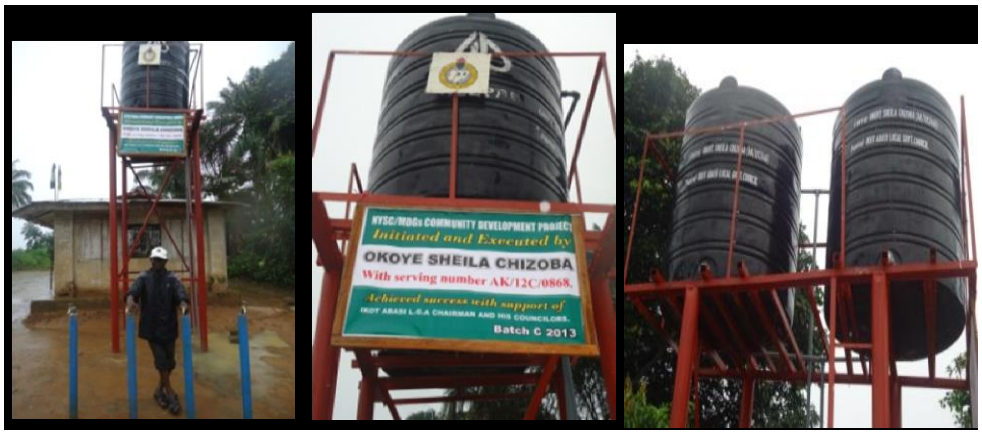

Fig 3: Front view of Overhead water storage at Ikot Abia Ndia villages Edemaya of Ikot Abasi L.G.A. Akwa Ibom State.

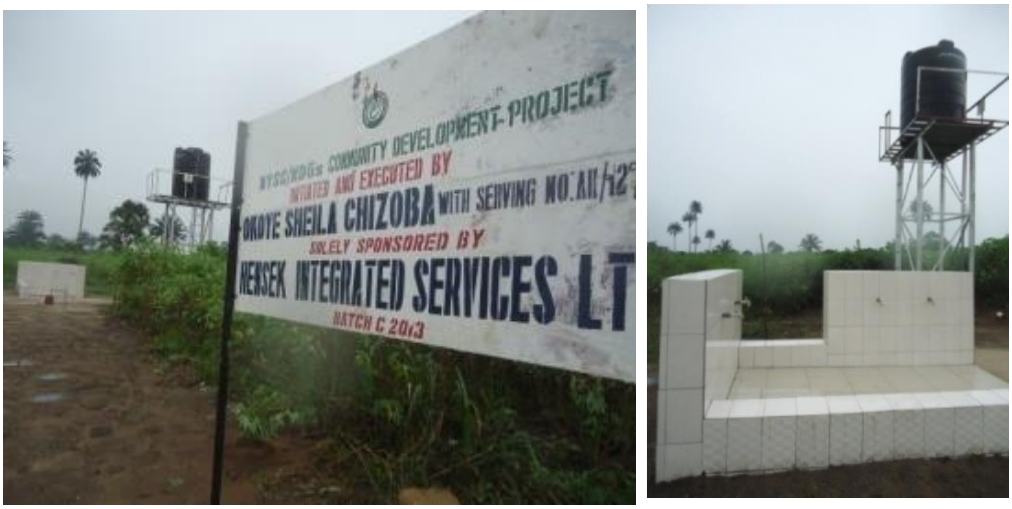

Fig 4: Side and front view of the Overhead water storage at Ikot Eneni villages Edemaya of Ikot Abasi L.G.A. Akwa Ibom State.

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Fig 5: The Village Head of Ikot Enini, Chief Akpan Nelson Akpan, crowning corps member Okoye Sheila Chizoba (AK/12C/0868), The Obongawan Unwana of Ikot Enini (The Light Bearer of the community)

Fig 6: The Village Head of Ikot Enini, Chief Akpan Nelson Akpan, presenting a gift to corps member Okoye Sheila Chizoba (AK/12C/0868), The Obongawan Unwana of Ikot Enini (The Light Bearer of the community)

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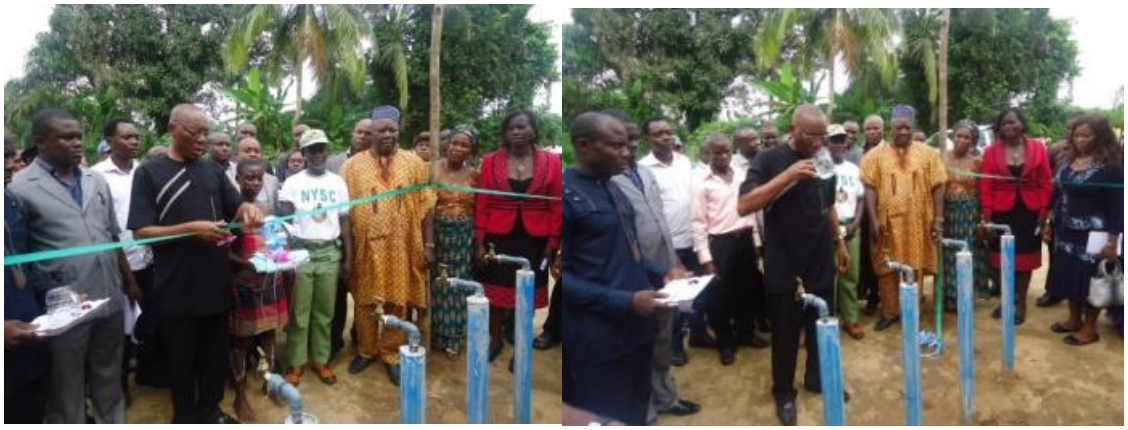

Fig 7:The Executive Chairman of Ikot Abasi L.G.A, Hon. (Arch.) U. S. Udoinyang cutting the ribbon on the day of the commissioning of Water Borehole in Ikot Enini and Ikot Abia Ndia witnessed by the Zonal Inspector NYSC of Abak zone.(7th October, 2013).

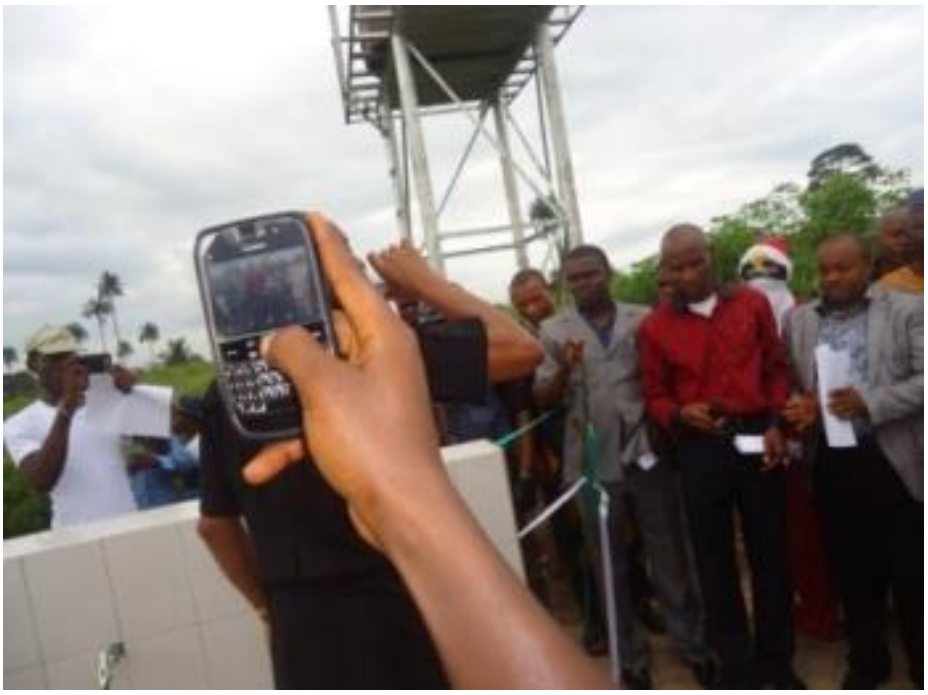

Fig8: The Executive Chairman of Ikot Abasi L.G.A, Hon. (Arch.) U. S. Udoinyang cutting the ribbon on the day of the commissioning of Water Borehole in Ikot Enini and witnessed by the zonal inspector of Abak zone.(7th October, 2013).

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Fig 9: Presentation of Generator set to the Corps member Okoye Sheila Chizoba (AK/12C/0868) by The Leader of Ikot Abasi Legislature Council, Ikot Abasi Local Government Area of Akwa Ibom State.

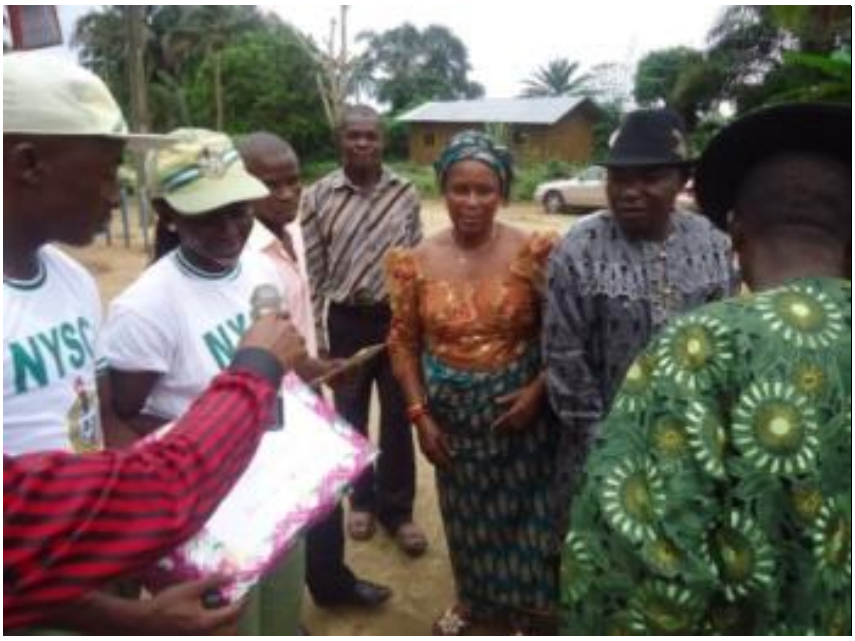

Fig10: Presentation of Gifts to the Corps member Okoye Sheila Chizoba (AK/12C/0868) by the People of Ikot Abia Ndia Edemaya.

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Fig11: Corps Member Okoye Sheila Chizoba (AK/12C/0868) and the NYSC Local Government Inspector, Zonal Inspector and well wishers at Ikot Enini , Edemaya

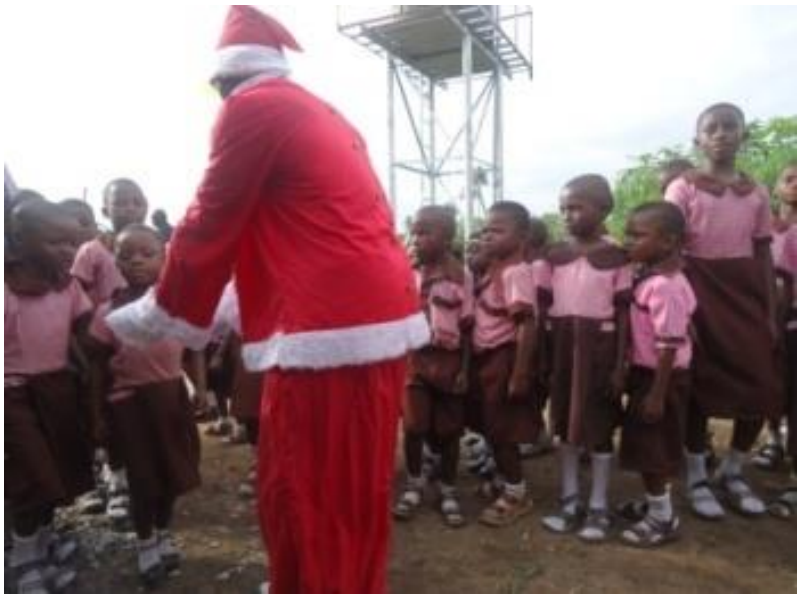

Fig 12: Corps Member Okoye Sheila Chizoba (AK/12C/0868), father Christmas and the students of Ikot Enini , Edemaya.

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Fig13: Corps Member Okoye Sheila Chizoba (AK/12C/0868) and the women of Ikot Enini , Edemaya. Happiness in Edemaya community.

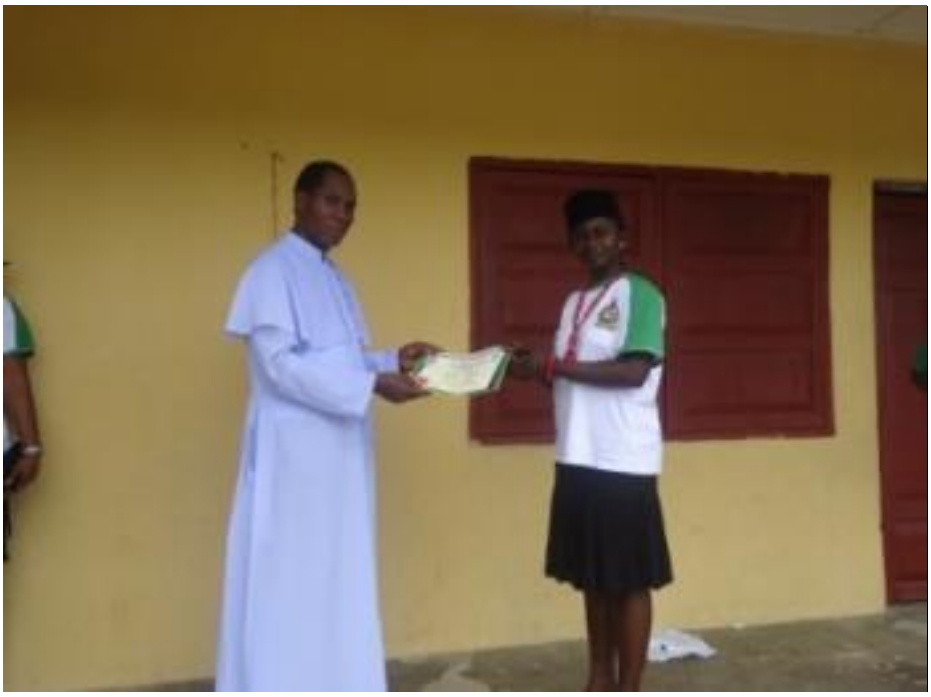

Fig 14: Presentation of Gifts and Certificate of Awards to the Corps member Okoye Sheila Chizoba (AK/12C/0868) by the Parish Priest REV. Fr. JOHN OMUTA of St. Teresa Catholic Church Ikot Abasi Local Government of Akwa Ibom State.

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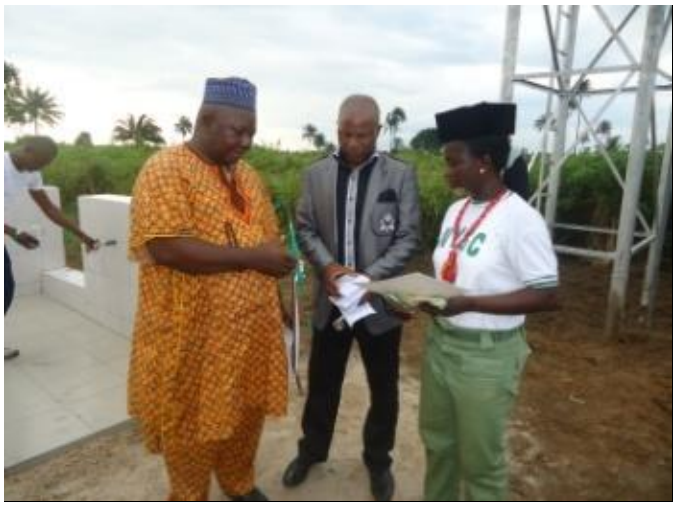

Fig15: Zonal inspector of Abak zone, Local Government Inspector AIYEDUM SAMUEL and Corps member Okoye Sheila Chizoba (AK/12C/0868)

Fig16: Resident fetching water from Water Borehole in Ikot Abia Ndia village, Edemaya.

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Fig17: Corps Member Okoye Sheila Chizoba (AK/12C/0868) the Assistant Coordinator of National Association of Catholic Corps Members (NACC) during a Thanks Giving Celebration at St. Teresa Parish Ikot Abasi.

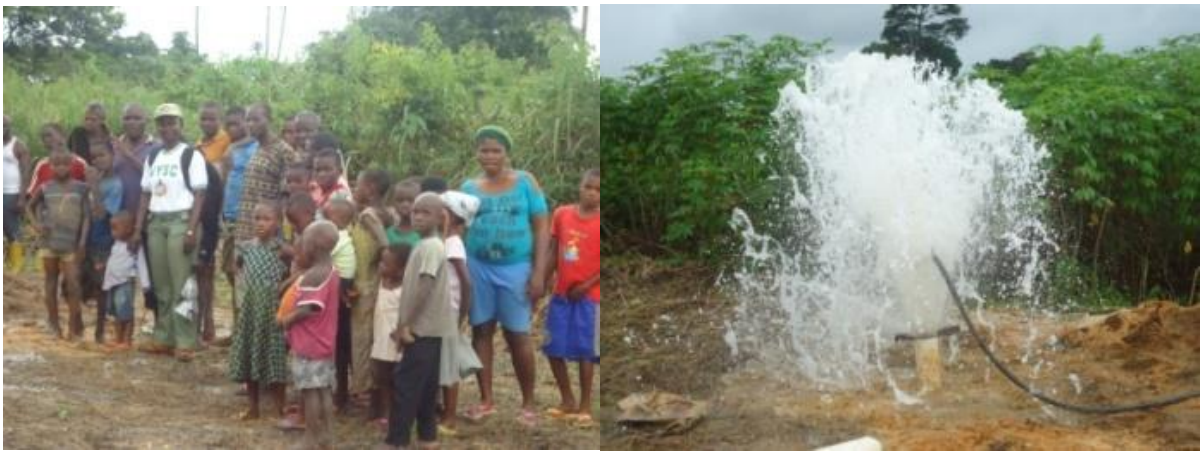

Fig 18: Corps Member Okoye Sheila Chizoba (AK/12C/0868) and the people of Ikot Enini , Edemaya during the drilling process.

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DISCUSSION

In spite of the need to have access to water supply in human existence, compromising quality, portability poses serious dangers to human lives due to the concomitants health implications (Nigeria Demographic and Health Survey, 2008). Majuro *et al*, (2011) and De Albuquerque (2010) maintain that water is said to be quality and safe if it does not pose threat to health of a person.

However, the prevailing situation in Edemaya revealed that 23 Villages make up Edemaya clan. Out of the 23 villages, 15 villages have Stream, 3 villages have Borehole, no access to pipe borne water while 5 villages have no sources of water. The findings for the study indicated that there is inadequate provision for access to potable water supply in the community based on the fact that the majority of the household depend on surface water which poses a great risk of disease outbreak such as typhoid, cholera, diarrhoea etc. The result obtained is in consonance with the view of Allen, et al (2006); Prüss-Üstün, (2008); WHO, (2008,2010); WHO and UNICEF (*2011)*; Nwankwoala, (2011); Water Aid, (2011); Ohwo, (2012); John-Dewole, (2012); Muta'aHellandendu, (2012); Frone and Frone, (2013) who asserted that poor access to potable water supply leads to economic disruptions, poses risk and impact health by causing acute infectious diarrhoea, cholera, typhoid fever etc.

Due to the inadequate supply of water between 32% and 50% of the sampled household travelled on a tiring journey of more than 200meters, engaged in long queues on daily basis in search of water in the community. The result agreed with the reported of WHO/ UNICEF Joint monitoring programme WHO, (2004a) and Udom, (2011).

In addition, the time spent in collecting water is very important in determining the physical dimension of water accessibility. Consequently, the United Nation,(2010) contented that for ease of physical accessibility to water supply collection time should not exceed thirty(30) minutes. However, time spent in collecting water in Edemaya community exceeded the established standard were 56% of the respondents spent more than 30 minutes to access water.

According to (Howard, et al 2003; Abasiodiong, 2003), access to water said to be seriously impaired when travel distance and average waiting time at the water source (queue) exceed more than 200mters and 30minutes respectively. The study however revealed that, the effect of time spent and the distance covered to access water in Edemaya were normally felt by children and women chiefly because water collection responsively is deeded the sole responsibility of children and women as burden bearers (WHO, 2004). Water is vital for life, development and the environment (Niyi, et al 2007). As a necessity of life, the quality is also important. Greater percentage (24%) of the respondents claimed to be unsatisfied with the quality and access to water supply. Supporting this findings (Cohen, 2006; Yange, et al 2013), asserted that inaccessibility and unequal access to safe water supply affect health adversely, prevent good sanitation and hygiene. (Lantagne and Gallo, 2008; Muta'aHellandendu, 2012).

Findings revealed that there is difference in level of access to safe water supply in the area. This implies that there will be lopsided development in the area, arising from the fact that safe water as a critical social welfare facility, is needed by everybody in order to contribute meaningfully to the development of the area. (Agbaeze ,2003 ; OHCHR, 2007; John-Dewole, 2012) . It shows that those areas with relatively unfavourable access to water supply recorded (e.g. Ikot Abia Ndia, Ikot Eneni, Ikot Etenge Ndom, Ikot Uso Ide, Ikot Unya).

The result of this study has led to a good understanding of the villages that need help and voluntary assistance within the study area. Through random sampling method Ikot Enini and Ikot Abia Ndia were selected out of the 5 villages that have no access to potable water for the installation of the boreholes. This indicated that access to potable water supply in the area is very poor.

CONCLUSION

Water is a unique natural resource plays vital role in human welfare and survival ((Mark et al., 2002)).

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This was discovered that poor access to potable water supply in Edemaya often leave most women and children on queues for several hours and those that cannot endure are forced to travel long miles in search for alternative sources of water which may not be fit for drinking thus pave way to poor sanitation and the spread of water-borne diseases such as diarrhoea and cholera mothers are prevented from domestic work and most children are kept away from school depriving them of the wellbeing and education necessary to become healthy adults. It is based on this grossly inadequate accessibility of portable, this project was carried out. The installation of water boreholes as an Individual NYSC CDS project executed by a Corp Member at Ikot Eneni and Ikot Abia Ndia at the time frame to increases the quality of life and light in Edemaya. However, it is the responsibility of government of any nation to provide adequate quality of portable water for its citizenry (Ajibade *et.al*, 2012).

RECOMMENDATION

Therefore, the study recommends urgent need for Akwa Ibom state Government to develop strategies to harness other sources of water to complement ground water and explore the possibility of surface water harvesting and utilization, like the streams should be look into and improved upon as the case may be to bridge the gap in those areas desperately in need of safe water sources. (Clasen, et al 2006; Cairn cross, *et al* 2010). It is therefore pertinent and essential that Youth Corps Members should think of ways to better their host communities during their service year.

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