



Evaluation of Water, Sanitation and Hygiene Facilities in *Ekilisiyar Yan'uwa A* Nigeria Internally Displaced Persons Camp in Maiduguri, Borno State, Nigeria

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ABSTRACT: The objective of this paper was to evaluate water, sanitation and hygiene (WASH) facilities in *Ekilisiyar Yan'uwa A* Nigeria (EYN) internally displaced persons (IDP) camp in Maiduguri, Borno State, Nigeria using appropriate standard methods by selecting 332 respondents out of 1952 IDPs. Data obtained reveals that IDPs have access to latrines and bathrooms in the camp and most (98.3%) of them have demarcation between male and female compartments. The study also revealed that 37.6% of the IDPs dispose their household waste using collective bin and have access to health care centre. The study found that the main source of drinking water among the IDPs is from borehole which also serves as the source of water for daily and domestic use. The study concluded that in order to improve the WASH facilities in EYN IDP camp, various humanitarian organizations should work hand in hand with government officials in providing sanitation, hygiene and health care facilities to the EYN Internally Displaced Persons in Camp Maiduguri, Borno State, Nigeria.

DOI: <https://dx.doi.org/10.4314/jasem.v28i10.48>

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Cite this Article as: BATA, D. A; SAWA, B. A; MIDALA, S. D; HYELADZIRA, Y. B (2024). Evaluation of Water, Sanitation and Hygiene Facilities in *Ekilisiyar Yan'uwa A* Nigeria Internally Displaced Persons Camp in Maiduguri, Borno State, Nigeria. *J. Appl. Sci. Environ. Manage.* 28 (10B Supplementary) 3339-3345

Dates: Received: 21 August 2024; Revised: 29 September 2024; Accepted: 08 October 2024 Published: 31 October 2024

Keywords: sanitation and hygiene; internally displaced persons; water pollution

Displaced persons are those who are compelled by man-made or natural disasters to leave their homes and relocate to other locations such as camps, cities, or neighboring villages. Internally Displaced Persons (IDPs), according to the *United Nations Guiding Principles on Internal Displacement*, are "persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border" (UNHCR, 2009). Access to WASH includes clean

water, proper sanitation, and instruction on hygiene. Enhancing the availability of WASH services can lead to positive changes in gender equality, life expectancy, health, and other crucial aspects of international development (Kooy and Harris, 2012). This can reduce illness and death, and also affect poverty reduction and socio-economic development (World Health Organization [WHO], 2015). Challenges of WASH include providing services to urban slums, improper management of water distribution systems, failures of WASH systems over time, providing equitable access to drinking water supply and gender issues. WHO (2015) further noted that WASH services have to be provided to household locations

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but also to schools, healthcare facilities, work places, markets, prisons, train stations, public locations et cetera. According to UNHCR (2016), Internally Displaced Persons (IDPs) are considered some of the world's most vulnerable people. Considering the historical trends, the causes of internal displacement and forced migration in Nigeria are complicated, arising from a variety of sources. Overall, there are two primary categories of causes of displacement: man-made and natural disasters that may be connected to violent incidents (Mohammed, 2017). According to International Organization for Migration (IOM, 2021), Nigeria has the third-highest population of internally displaced people in Africa. The report from the International Organization for Migration states that the IDPs in Nigeria are about 3,300,000. Affected population loose access to food, shelter, security, and (or) means of livelihood. In some cases, many lose their families or are delinked from families and communities (Sheriff and Ogbu, 2018). IDPs are often forced to live in deplorable conditions due to the unplanned and swift movement. Sheriff and Ogbu (2018) mentioned that the great majority of these internally displaced people reside in congested camps. According to the Risk Index (2020), Nigeria is among the countries with the highest overall projected conflict risk index and increased risk in socio-economic vulnerability, inequality, and food insecurity in 2019. After more than ten years of conflict, the humanitarian crisis in Borno, Yobe and Adamawa states remains one of the most severe in the world today (Risk Index, 2020). One of the IDP camps in Maiduguri metropolitan council is known as *Ekilisiyar Yan'uwa a Nigeria* (EYN) IDP camp. The internally displaced persons in the camp are from Gwoza, Askira and Chibok Local Government Areas (LGAs). These LGAs have been affected by the conflict in north-eastern Nigeria. These LGAs were repeatedly attacked between May 2013 and September 2014 and finally seized by the armed groups who turned it into their headquarters. This made the people of these Local Government Areas to move to the state capital which is Maiduguri and CAN center was allocated to them as an IDP camp and it still exists. Access to safe water, sanitation, and hygiene (WASH) facilities is considered a basic human necessity for survival and well-being. Without these basic needs, the health conditions of millions of people especially children are at risk (Sridhar *et al.*, 2020). Sanitation and hygiene are critical to health, survival and development. Many countries are challenged in providing adequate sanitation for their entire population. People are at risk for water sanitation and hygiene related diseases (WHO, 2012). Therefore, the objective of this paper is to evaluate water, sanitation and hygiene facilities in *Ekilisiyar Yan'uwa A Nigeria*

internally displaced persons camp in Maiduguri, Borno State, Nigeria.

MATERIALS AND METHODS

Description of study area: Maiduguri is a cosmopolitan town. It is inhabited by many ethnic groups from within the state and from other parts of the country. Some of these ethnic groups include: Kanuri, Bura, Tera, Glavda, Shuwa Arab, Hausa, Igbo, Marghi, Yoruba, Mandara and others. Maiduguri being one of the urban centers in Nigeria has seen a dramatic increase in number of people due to push migration from other Local Governments of the state as a result of the offensive lunched by Boko Haram insurgency. This massive number of people trooping to Maiduguri led to the creation of internally displaced persons' camps (Waziri, 2009). The population of internally displaced persons in camp across Borno state is fluid, depending on the frequency of violence in other parts of the state. The total number of IDPs residing in EYN IDP camp is 1,952 people and they are from Gwoza, Askira and Chibok Local Government Area (USAID, 2015). Most of the people are engaged in administrative work, trading, industries (weather modern or local industries), academics and large numbers of people are also engaged in farming and commercial activities.

Sample Collection: Primary and secondary sources of data were used for the study. Primary sources were the questionnaire, Focus Group Discussion (FGD) and direct observation in the study area. The questionnaire was divided into sections. The secondary sources include existing official and unofficial records, both national and international journal articles, websites, past projects, thesis, publications, textbooks as well as newspapers publications, internet and other related materials.

Sample Data Evaluation: It has already been stated that the population of EYN IDP camp is 1,952 IDPs; not the whole population was used but a sample of the population. The sample size of the study was determined using Yamane (1967) sample size formula which gives sample size with 95% confidence level and 5% sampling error assumption. A total of 332 copies of questionnaire was prepared and distributed in the study area to obtain the needed data. Simple random sampling technique was adopted to select the respondents that answered the questionnaire in the study area. The inclusion criteria were all IDPs who are willing to participate in the study, while the exclusion criteria were IDPs who are not willing to participate in the study. In using simple random sampling technique, the researchers wrote YES (332) on pieces of paper and NO (332) on separate pieces of

paper. These pieces of paper was then squeezed and placed in a bowl. With due permission taken and introduction of what the researcher intends to do, IDPs were made to pick a piece of paper each from the bowl. Those who picked YES became part of the respondents for the study while those who picked NO were excluded from participating in the study. Focus group discussion was used to source information on the WASH situation at the group level. Purposive sampling technique was adopted to select a group of 12 male and 12 female separately (because of cultural belief) that were involved in the group discussion which lead to two sessions. FGD guide was used throughout the discussion and head of households that have stayed for over 3 years in camp were part of the discussants.

Statistical Data Analysis: The main instruments used were questionnaire, Focus Group Discussion (FGD) and direct observation. The researchers gave the respondents the questionnaire who filled them and were collected immediately. However, the researchers helped in explaining and filling of the questionnaire for the respondents that could not read or write. Responses from respondents on the available WASH facilities were analyzed descriptively. A standard WASH check list from UNHCR (2022) was used to record availability of the facilities and using frequency count and simple percentages for analysis the result is presented on tables and charts. Focus group discussions was used to obtain data on the perception of IDPs on the available WASH facilities as it comprises of interactions with IDPs, using an FGD guide to discuss and understand the perception of IDPs on the available WASH facilities. The data was interpreted with the use of Computer Assisted Qualitative Data Analysis Software.

RESULTS AND DISCUSSION

Figure 1 shows that 98.4% of the respondents have access to water for daily use while 1.6% do not have access to water for daily with in the IDP camp. This indicates that the most of the IDPs in the camp have access to water; therefore water facilities are available within the study area. This was confirmed by the researcher with the aid of WASH standard checklist from UNHCR (2022). The findings of this study is similar to that of Norwegian Refugee Council (2019) who discovered that water supply in all sites in Kahdestan, Shahrak-e-Sabz, Shaidayee, and Regretion area of Injil district, Herat Province of Afghanistan are acceptable but still there was a need to focus on maintenance of existing water points, installation of new water distribution points or increase in the amount of Water tracking per day. It was found during the assessment that in 69 sites out of the 175, there were

existing communal water tanker storage and 106 sites were collecting water from the truck. Norwegian Church Aid (2018) discovered that IDPs, refugees and host communities had access to clean and adequate water supply. The findings of this study also agrees with UNHCR (2019) who conducted a study in a refugee camp in Uganda and found out that most (85%) of the households fetched water from protected sources such as hand pump/bore hole, public tap/standpipe and protected spring.

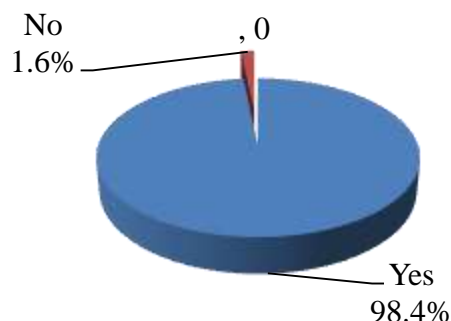


Fig 1: Access to Water Source
Source: Field Survey, 2023

The finding of this study however, goes contrary to the results of Ahmed *et. al.*, (2021) which shows that 69.3% do not have enough water facilities in Kahda IDP Camp Mogadishu Somalia and that of Adedejiet *al.*, (2021) that in the Heipang IDP camp, IDPs have little or no access to water facility provided in the camp. Results from CARE (2021) study also showed that only 37% of the sites have sufficient and regular access to water supplies which is a contradiction to the finding of this research. Table 1 shows that 66.3% of the respondents source their current drinking water from borehole, 18.8% from sachet water, 11.6% from truck and 1.6% indicated that there is no access to water source in the camp therefore they source there water from other sources. Only 1% of the respondents obtain water from well and 0.7% from streams. This shows that the source of water for drinking in the study area for majority of the respondents is from borehole. This was confirmed by the researcher using direct observation that the main source of drinking water is borehole.

Table 1: Drinking Water Source

Drinking Water Source	Frequency	Percentage
Truck	35	11.6
Stream	2	0.7
Well	3	1.0
Borehole	201	66.3
Sachet Water	57	18.8
Others	5	1.6
Total	303	100

Source: Field Survey, 2023

The finding of the study is contrary to that of Ukeje (2021) where the major source of drinking water in Bama IDP Camp is sachets water and Miner *et al.*, (2017) which showed that the most common sources of drinking water in Jos north LGA were pipe. The finding in this study is in agreement with that of UNHCR (2019) which showed that most (64%) of the households in Kyangwah refugee camp, Uganda reported hand pumps/borehole as their main source of drinking water. Figure 2 showed that 93.7% of the respondents have access to bathroom while 6.3% do not have access to bathroom in the IDP camp. This is because there were series of interventions by NGOs with regards to the provision of WASH facilities within the IDP camp. This indicates that most of the IDPs in the camp have access to bathroom; therefore bathroom facilities are available within the study area. This was confirmed by the researchers with the aid of WASH standard checklist from UNHCR (2022) through direct observation.

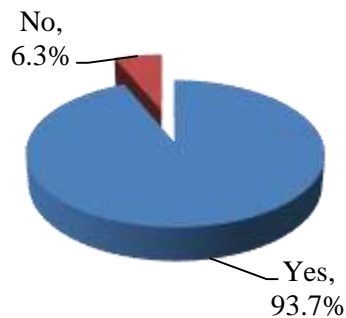


Fig 2: Access to Bathroom
Source: Field Survey, 2023

The findings of this study is in line with that of Ukeke (2021) where 65.5% have access to bathrooms within Bama IDP camp while 34.5% do not have. It also confirms the research conducted by Adamuet *al.* (2016) which showed that most (60%) of the respondents has access to bathroom facilities while 40% do not have. This finding is also in concordance with that of Aderajewet *al.* (2023) where 61.3% and 37.3% of the camps in Ethiopia had access to basic sanitation, and hygiene facilities. The result on figure 3 shows that majority (91.7%) of the Internally Displaced Persons of EYN IDP camp said they have access to latrine while 8.3% said they do not access to latrine facilities within the IDP camp. A similar situation was observed by Miner *et al.* (2017) in their assessment of environmental sanitation in communities in Jos north LGA Plateau State where about 74% used the water closet that flushes into septic tank as toilet facility and Adamuet *al.* (2016) indicated that in some IDP camps there are about 20-30 toilets which are accessible which was confirmed by the 60% of the respondents. The finding also agrees with

Norwegian Refugee Council (2019) assessment also showed that Bathing facilities are accessible in 45 sites but most of them need to be repaired. In 130 sites IDP communities have no access to bathing facilities, some areas were provided bathing facilities in the last year but due to poor quality and poor maintenance baths are out of order now.

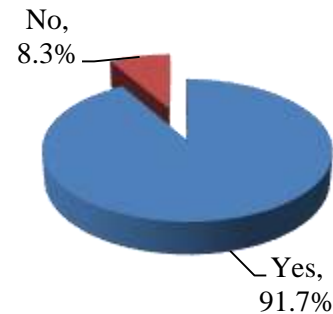


Fig 3: Access to Latrine
Source: Field Survey, 2023

The result from Table 2 showed that 52% of the respondents use any available land close to the camp to defecate, 24% use the dump site to defecate, 16% uses open field or space to defecate as an alternative to latrine and 8% uses other alternatives. However, it was confirmed due to the large population of IDPs the toilets are inadequate and some are in bad condition which makes some IDPs to use any available land as alternative for latrine. Secondly the pressure on the toilets is just too much that is difficult to cope with the high number of the IDPs. The data was confirmed by the researchers with the aid of WASH check list. The number of Latrines is not sufficient and many IDP representatives who were interviewed during Focus Group Discussion declared that they don't feel themselves safe and dignified while using the latrines existing on site.

Table 2: Latrine Alternative

Latrine Alternative	Frequency	Percentage
Open Field/Space	4	16
Any Available Land	13	52
Dump Site	6	24
Others	2	8
Total	25	100

Source: Field Survey, 2023

This result is similar to that of Norwegian Refugee Council [NRC] (2019) where it was discovered during assessment of WASH condition in the Injil district Herat Province in Afghanistan that latrines were not provided in 67 sites and the existing Latrines in the other 108 Sites were Simi damaged or not properly maintained. The defecation in holes or trenches is the more common practice and direct Open Field Defecation (OFD) was an obvious issue.

Environmental sanitation was also not good in most of the sites visited. Among the Internally Displaced Persons within the camp, Table 3 showed that 37.6% dispose their household waste using collective bin, 35% dispose their waste by dumping in the field and 27.4% burn their waste. This above result shows that sanitary/hygiene facility (waste bin) is provided for the dumping of refuse within the IDP camp that is why most of the respondents use collective bin for waste disposal. This was confirmed by the researchers during physical observation.

Table 3: Waste Disposal Method

Waste Disposal Method	Frequency	Percentage
Collective Bin	114	37.6
Burn	83	27.4
Dump in the Field	106	35
Others	0	0.0
Total	303	100

Source: Field Survey, 2023

This finding agrees with the study of Ukeje (2021) who discovered that most of the IDPs in Bama dispose their waste in an open field which is contrast with the study of Sridhar *et al.* (2020) which showed that majority of the residents in the selected LGAs in Kaduna State agreed that their household waste is being dump by open places.

Figure 4 shows that 69.6% of the respondents reported that they have access to health care centre while 30.4% of the respondents reported that they do not have access to health care centre within the IDP camp. This denotes that there is health centre/facility within EYN IDP camp, Maiduguri. Main barriers to health care access that was observed using physical observation by the researchers were the lack of financial resources, trained personnel, and inadequate drugs and supplies in the health facilities.

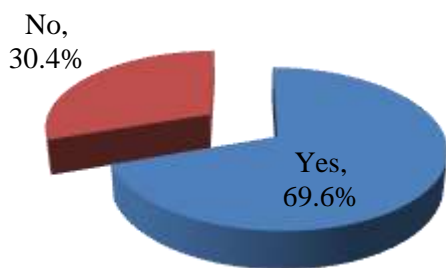


Fig 4: Access to Health Centre
Source: Field Survey, 2023

The finding of this study is in line with the study conducted by Christopher (2013) which showed that 67.5% of the IDP in Kitgum and Pander district of Uganda lived within 5 km distance of a health facility.

The majority (62.9%) of respondents mentioned that health related information was readily provided. 43.5% of health providers were always available in a health facility.

Perception of the IDPs on the Available WASH Facilities: During the study, focus group discussion was carried out on this specific objective. The researcher had to establish what WASH facilities are to the respondents involved in the IDP camp. On the question of the source of water within the IDP camp, most of the IDPs involved in the focus group discussion opined that there are many sources of water but the main source is the borehole and the water is safe and clean for use at all times. This response corroborates the response from the questionnaire. Below is the response from one of the discussants.

“Water has always been available at the camp where we live, however occasionally we have to get it on our own. Before we can receive water, we have to walk 200 meters across the road from the camp to a church (EYN Maiduguri No. 1), and this has to happen early in the morning most of the time. This is a result of the IDP camp's taps breaking and not working properly”. (Source: Fieldwork; FGD, 2023). Participants at the FGD corroborated the statement above but few added that

“We occasionally use sachet water in the camp, and there used to be a "well-like structure" there. But now that it's completely dry, it serves as a dump for rubbish. One of the amenities in the camp when it was first established was the well.” (Source: Fieldwork; FGD, 2023)

According to Hareguet *al.* (2017), there hasn't been a corresponding rise in the capacity or money to manage the solid waste produced per person in Africa. According to reports, less than 30% of urban waste in developing nations is properly collected and disposed of. The effects of improperly managed waste on health are manifold and contingent upon the type of trash, the people affected, the length of exposure, and the accessibility to remedies for those affected. Although it is not adequately managed, the IDP camp also has a location where people typically dispose of their waste.. According to a discussant:

“There is a provision for a collective bin where we generally dump and dispose of our dirt and burn it whenever we see that it has piled and is littering, and the BOSEPA comes in regularly to pack everything out of the IDP camp for a better and cleaner environment.” (Source: Fieldwork; FGD, 2023)

The camp's occupants have expressed concern over the solid waste's subsequent distribution and littering. Even though there are male-only and female-only restrooms, having access to water has made things easier by making it less difficult to flush and clean the toilets, which has prevented many people from choosing to defecate outside. When question regarding hygiene was asked to the group of female discussants, they claimed that taking care of their hygiene during menstruation has not been easy at all. They stated that:

"We can't afford to buy sanitary pads, so we usually use rags and wash them well with water. This has been really frustrating. Even though NGOs occasionally offer us pads, they are insufficient for us". (Source: Fieldwork; FGD, 2023)

The lack of sufficient sanitary pads has an impact on the camp's female residents' overall cleanliness and limits their ability to enjoy the seclusion they want. Menstrual pad disposal is often done delicately, but the conditions in the camp prevent women from enjoying this luxury. When we visited the camp, there was no first aid kit or facility available for treating minor illnesses. The camp had a clinic building that was furnished and supported by a Nigerian NGO, but owing to a shortage of funds, they are without access to medications and other necessities. One of the discussants said:

"We, the IDPs here, have health care facilities, but the services rendered to us by the healthcare providers are not sufficient, and the drugs within the facility are not adequate enough. So anytime we fall in need, we self-medicate, or if we have little money, we use it to buy drugs and treat ourselves". (Source: Fieldwork; FGD, 2023)

Conclusion: Based on the findings of this research, the main source for drinking water in IDP is the borehole. Relevant governmental and non-governmental humanitarian aid organizations should continuously maintain and rehabilitate water supply systems, bathrooms and latrine facilities are constructed with all needed sanitary facilities in the camp.

Declaration of Conflict of Interest: The authors declare no conflict of interest.

Data Availability Statement: Data are available upon request from the first author

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