ASSESSMENT OF THE LATRINE FACILITIES AND THE HEALTH CONDITION IN IDP CAMPS IN BRONO STATE

Abstract

There are over 2.1 million Internal Displaced Persons (IDPs) who have been in camps and host communities due to the conflict between the Nigerian state armed group and non-state armed group. The provision of aides to reduce the suffering of these people, especially women and children have brought questions in terms of the adequacy and functionality of the latrine facilities in the IDP camps. This paper assesses the latrine facilities and their corresponding health implication in the selected official IDP camps in Brono State Nigeria. A well-structured questionnaire was employed and administered to various categories of the respondents within the area of study to determine their perception of the latrine and the health impact was assessed. A total of 331questionnnaires were received well filled out of the 392 distributed giving a percentage response of 84.4%, and the data collected was analysed using SPSS version 19.0. the result revealed among others that: the major type of latrine in the camps is the 'traditional pit latrine'. According to a larger percentage of the respondents, there are less than forty (40) latrines in the Camps. Also, it was discovered that the latrine is usually de-sludge but is done once in two months. This is against the standard requirement from the UNHCR and SPHERE standards. also, the most common illness experienced in the camp arranged in the order of severity is; 'Diarrhea' STDs; Fever, and Tuberculosis. Consequently, it is recommended that there should be strict compliance concerning the construction of latrines and toilet facilities. They should be constructed by the provision of standards like UNHCR and sphere, as this will help in reducing the tendency to spread diseases in the camp.

Keywords: Latrine Facilities, Health Condition, and IDP Camps

Comment [THR1]: The abstract is good, but it has not been explained how many camps were the research locations out of the 392 questionnaires distributed.

INTRODUCTION

Refugee numbers continue to grow globally same as the case in Nigeria. Camp-based refugees are always faced with the long-term prospect of living in a camp for as much as 10 or more years (UNHCR, 2006). In some cases, camps are placed in rural locations where the camp may lack infrastructure such as electricity or water (MIDMAR, 2015). Camps that do have basic infrastructure can also be plagued with service inconsistent and compounded by the state of "permanent temporariness" which is associated with refugee camps (Dunm, 2016) hence the need to assess the operational efficiency of the existing sanitation facilities.

The large concentration of many persons in either formal or informal camps requires water sanitation and hygiene services that matched these displaced numbers, as a lack of good hygiene and sanitation practices and facilities respectively will lead to an unhygienic environment susceptible to an outbreak of diseases such as diarrhea and cholera. According to Family Health International (FHI), 360 (2015) all the camps have reported cases of trauma, skin infection, anemia, measles, chicken pox, vomiting, fever, diarrhea, cholera, and malnutrition. About 64% of the camps have reported HIV cases. All these diseases can be because of inadequate or non-

Comment [THR2]: References to the background should be updated in the last 3 years. The background should show how important this case is. What is the urgency of this research also has not been answered in the background?

functional sanitation facilities thereby questioning the operational efficiencies of the sanitary facilities provided in the camps.

In the words of Harvey (2007) inadequate and unsafe disposal of human feces can lead to the transmission of Feaco-oral diseases which can result in the contamination of the ground and water sources and can provide breeding grounds for flies and mosquitoes and may carry the infection in addition. Feaces may also attract domestic animals and vermins which spread the potential for diseases. It can also create an unpleasant environment in terms of odour and sight (Harvey 2007).

While lack or inadequate number of sanitation facilities poses a serious threat to the life of the IDPs, inappropriate design and location of water and sanitation facilities can also provoke serious protection risks for displaced people, particularly women and girls, and also for people with specific needs, such as elderly persons and persons with disabilities. (SPHERE 2000).

Emergency water supply and sanitation must come adequately as they aim to provide a minimum quantity of clean water and also reduce fecal-oral disease transmission and disease-bearing vectors. Another important reason is to help people who are displaced to live and perform daily life tasks such as going to the toilet and washing with dignity, security, and while being comfortable. (SPHERE project 2000).

Based on the UNDP and disaster waste recovery (DWR) assessment on waste and debris (January 2015), there is accumulated waste as a result of the ongoing hostility in Borno state. It is reported that the uncollected waste is resulting in serious public health risks through decomposing waste leading to an increase in vermins and a high potential for spread of diseases which is even riskier for the vulnerable ones. (DWR 2015).

According to the FHI360 (2015) report, malaria is among the leading diseases presently ravaging the Borno state. It has been established that poor drainages around homes breed disease vectors that transmit diseases. If there are improper drainages in the camp, this can result in an environment that is infested with mosquitoes there adding to the suffering of the people.

It is against this background that the study aims to assess the performance of the sanitation services installations in the IDP camps in Borno State to develop initiatives that will improve the living of the IDPs in terms of water, sanitation, and hygiene.

LITERATURE REVIEW

Comment [THR3]: Same as above, references need to be updated in the last 3 years

Excreta Disposal Systems

The major concern is the creation of a barrier against fecal contamination. Provision of sanitary facilities during the planned layout will ensure adequate provision of the same. Sanitary facilities if not well maintained and used can become sources of problems such as bad smells and flies and the biggest one is a diarrheal disease (UNHCR 2010). Inadequate maintenance of sanitary facility systems even if it is properly designed and subsequently installed can break down easily. The family or the user is the guarantor for the maintenance of the latrines(WHO 2011).

Human Excreta Disposal System Considerations

The water supply should be protected from contamination by localization of excreta disposal. Physical factors and cultural considerations should be taken and anal cleansing materials and

hand washing materials should be provided in place. Pit latrines are most preferred, but trench latrines may however be used initially. Protection concerns/risks should be addressed beforehand by providing the latrines in secure locations so that the women and the children can use them. Time and pollutants in the environment are other major considerations. Temporary systems to ensure the immediate need are paramount. (UNHCR 2010). Consideration for emergency provision of sanitation systems is shown in fig 1

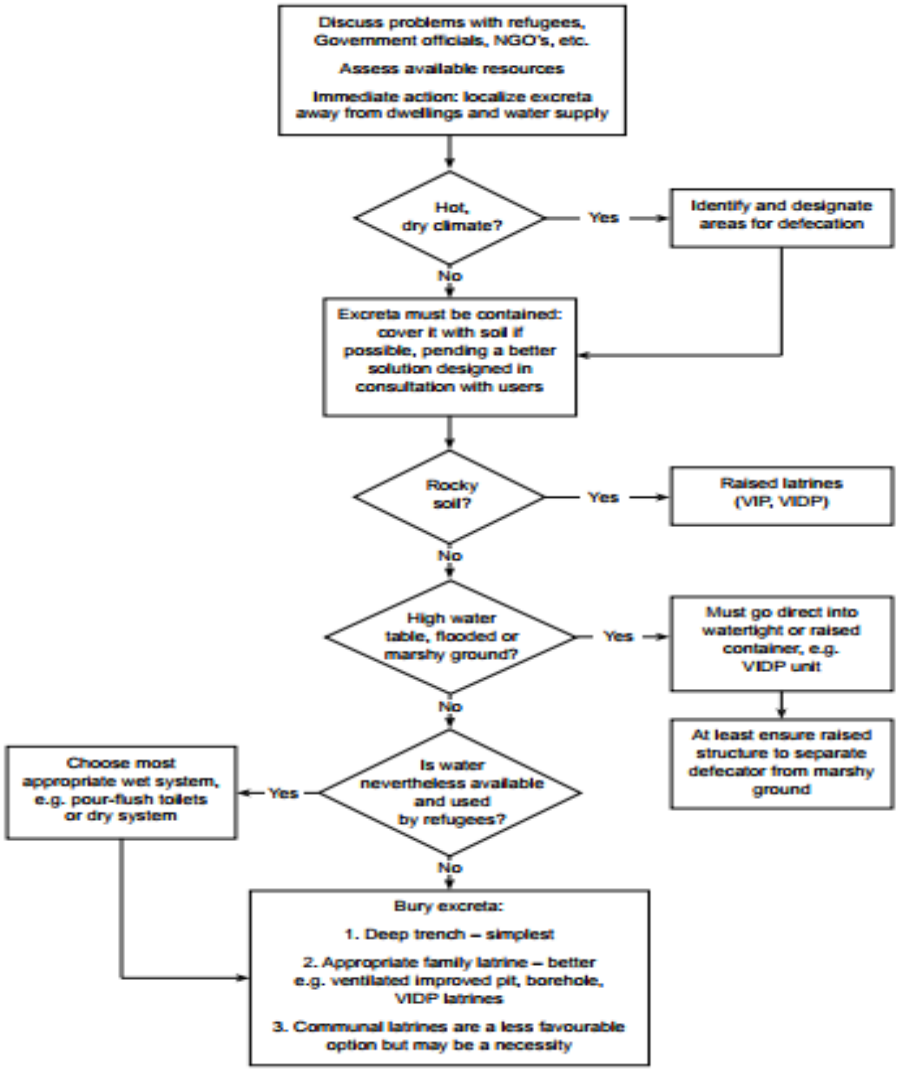

Figure 1: Considerations for planning emergency sanitation systems

Basic Requirements before Excreta Disposal System Setup

The most important point of commencement is to find by interviewing and looking out for the traditional sanitation practices that the IDPs and refugees are used to. This could then be modified to ensure health risk is mitigated in IDP emergencies. The important information required includes the history of previous sanitary systems and practices, their method of anal cleansing, the position of sitting or squatting, privacy as well as sex segregation and other groups which are culturally unacceptable, cultural practices of children and cultural taboos, social factors including the likelihood of community action to ensure proper usage of excreta systems provided and the systems used locally in the neighborhood of campsite.

Comment [THR4]: Is it true that there will be an interview or is it just distributing questionnaires?

RESEARCH METHODOLOGY

The research method adopted is quantitative. For this research, out of the 5 states with high ranking IDPs, Borno state was studied because it has the highest number of camps/ camp-like settlements with about 240 camps. (16 IDP camps are officially known while others are unofficial camps situated in Host communities within the state. (NRC, 2016, SEMA). Borno State was also selected based on the population of the IDPs which was estimated to be 1, 370, 880 people. Twelve (12) major camps were selected purposively out of 16 officially known camps in Borno state and are varied according to the number of residents in the camp. The study was carried out in 12 officially registered IDP camps but 5 camps could not be accessed due to insecurity reports around the locations of these camps during the time of the research

Table 1: Population and Communities with the IDP camps in Borno State

S/NO	NAME OF CAMP	CAMP LOCATION	No HHs	EST POPULATION	SOURCE OF DISPLACEMENT	GPS COORD	visited Y/N	Qst administered
1	Girls secondary School camp	Maiduguri Municipal Council	1287	7726	Bama	N11.83225, E013.14010	Y	18
2	Farm Centre camp	jere	4,500	31,500	Jere, Mafa, Dikwa, Kala balge, Konduga, Bama&Marte	N11.86142, E013.21474	Y	67
3	Government College camp	Maiduguri Municipal Council	9478	56,868	Gwoza	N11.83515, E013.12718	Y	132
4	muna garage idp camp	Maiduguri Municipal Council	1033	6200	mmc	N11.83415, E013.11955	Y	20
5	Teachers Village camp	Maiduguri Municipal Council	1323	7938	Kukawa	N11.84307, E013.09869	Y	24

6	Bakassi camp	Maiduguri Municipal Council	1680	10083	Munguno&Guzamala	N11.79308, E013.11784	Y	29
7	NYSC camp	Maiduguri Municipal Council	738	4425	Konduga, Bama&Damboa	N11.82590, E013.11947	Y	16
8	MOGCOLIS camp	Maiduguri Municipal Council	485	2907		N11.84564, E013.14880	Y	13
9	SandaKyarimi camp	Jere	951	5711		N11.84984, E013.18254	Y	19
10	Dalori camp 1	Jere	2588	15529		N1177930, E013.22357	Y	41
11	zonal education IDP Camp	Biu LGA	342	1880	Mandaragrau, Buratai, Gur, kamuya		Y	13
12	muna el-badawey camp	maiduguri municipal council	1050	6302			N	0
13	transit camp	pulka	199	1194			N	0
14	Arabic Teachers College camp	Maiduguri Municipal Council	381	2284			N	0
15	primary school premises camp	damboa	2139	12835			N	0
16	Gubio Camp	MMC	481	2891			N	0
		Total	**28,655**	**176,273**				**392**

Source: FHI 360 (2016), field survey (2018)

Population, Sample Size, and Sampling Technique

Population

According to the DTM index report of December 2016, there are currently 1,770,444 internally displaced persons with 314,574 households in the northeastern part of Nigeria. The states according to hierarchy include Borno, Adamawa, Yobe, Bauchi, Taraba, and Gombe. Internally Displaced Persons; Borno State is host to the largest number of IDPs with the biggest concentration in Maiduguri Metropolitan City (NRC report 2016, SEMA).

For this research, out of the 5 states with high ranking IDPs, Borno state was studied because it has the highest number of camps/ camp-like settlements with about 240. 16 IDP camps are officially known while others are unofficial camps situated in Host communities within the state. (NRC, 2016, SEMA). Borno State was also selected based on the population of the IDPs which was estimated to be 1, 370, 880 people. Details of affected communities are shown in Fig 2

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Comment [THR6]: Determination of population according to whose theory?

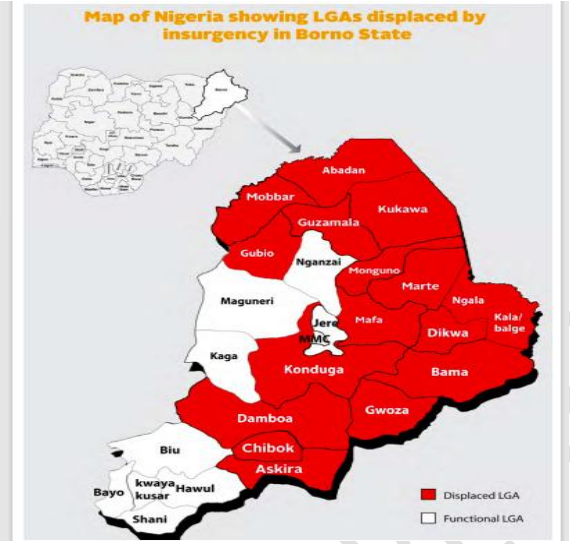

Fig 2: Affected Areas by Conflict in North East Nigeria

Sample Size

With regards to the sampling size in the distribution of the questionnaire, the sampling size was determined using the Yamani (1973) Formula. The formula states that for a known population, population size can be calculated as

$n= N/1+N(e)^2$ ……(1)

Where;

n = the desired sample size

N=population size

e= level of precision or sampling of error which is plus or minus 5%

n=? N= 28,655 HHs,e= $(0.05)^2$,

n= $28,655/1+28,655(0.05)^2$

n=392

Therefore, a total of three hundred and ninety-two (392) questionnaires were distributed to HHs across the 12 IDP camps visited.

Questionnaires

A well-structured questionnaire was employed and administered to various categories of the respondents within the area of study to determine their perception of the sanitation situation as well as suggest initiatives for improvement in the IDP camps. The questionnaire was structured to be consistent with taking into cognizance the United Nations Humanitarian Commission for Refugees (UNHCR) and SPHERE standard requirements for IDP camps.

The questionnaires were administered to the IDPs in the various camps. The questionnaire sought information on the following aspects of sanitation services satisfaction in the Camps:

i) The personal profile of the respondents about their link to IDP camps in Borno state.
ii) The Respondent's Knowledge of the camp activities.
iii) The respondent's number of household

iv) The respondent's knowledge of the health Condition and health services provision in the camp.

v) The respondent's suggestion of measures/initiatives for improving the sanitation systems in the IDP camps

Data Analysis

The questionnaire data collected for this study were subjected to statistical analyses using the computer-based software "Statistical Product and Service Solutions" (SPSS). The results of the analysis were represented in the form of a table for easy comparison and clear expression of the findings.

Relative importance indices (RII) were also used to rank common occurrences and their importance in the IDP Camps as well as suggestions for improvements in the sanitation situation of the camp. The Relative Importance Index (RII) was calculated for each document according to its frequency of use as suggested for use by Memon et al. (2006) and Othman et al. (2005).

Relative Importance Index (RII) $= \frac{\sum fx}{\sum f} \times \frac{1}{k}$.....(2)

Where,

$\sum$fx = is the total weight given to each attribute by the respondents.

$\sum$f = is the total number of respondents in the sample.

K = is the highest weight on the Likert scale.

Results were classified into three categories as follows (Othman *et al*, 2005) when;

RII<0.60 -It indicates low frequency in use.

0.60≤RII<0.80 -It indicates high frequency in use.

RII≥0.80 -It indicates a very high frequency in use.

DATA PRESENTATION

The result of the respondent's opinion on the latrine facilities and the health condition of the IDPs is a presented in Tables 2 and 3

Assessment Of Latrine Facilities

The result of the assessment of the latrine facilities is presented in Table 2. From the Table, it can be deduced that there are latrines and bathrooms available in the camps as affirmed by 83.5% of the respondents. Also, the result reveals that the major type of latrine in the camps is the 'traditional pit latrine' as attested by 88.2% of the respondents.

Regarding the number of larine in the IDP camp, a larger percentage of the respondents 68.5% affirmed that there are less than forty (40) latrines in the Camps. However, 26.0% of the respondent was of the contrary opinion that the number of latrines in the IDP camps is less than twenty (20). The reason for this varied opinion is because there were different IDP camps assessed. It was also identified that the latrines are usually de-sludged (76.4% of the respondent affirmed it). However, about the frequency at which they are de-sludged, a larger percentage of the respondents (65.4%) attested to the fact that it was usually done once in two months. The result also showed that there were few hand washing facilities in the latrine (67.7%), however, the few hand washing facilities were mainly plastic kettles (68.5%). Finally, Table 3 shows that the major method of disposal of household waste in the camp is via 'collection bin' (66.9%). This is contrary to observation as the central waste collection is the practice.

Table 2: Assessment of Latrine facilities

S/N	Variable	Option	Frequency(No)	Percentage (%)
1	Access to Latrines and Bathrooms	Yes	276	83.5
		No	55	16.5
		Total	**331**	**10**
2	Type of Latrine and Bathroom Facilities	Traditional pit latrine	292	88.2
		VIP	-	-
		Open Demarcated field	31	9.4
		Portable toilets	8	2.4
		Total	**331**	**100**
3	Number of latrines	<20	18	5.5
		<30	86	26.0
		<40	227	68.5
		>50	-	-
		Total	**331**	**100**
4	Segregation of latrine for both genders	Yes	321	96.9
		No	10	3.1
		Total	331	100
5	Are Latrines De-sludge	Yes	253	76.4
		No	78	23.6
		Total	**331**	**100**
6	Frequency of De-sludge	Monthly	-	-
		Once in two months	216	65.4
		Once in three months	115	34.6
		Total	**331**	**100**
7	distance of latrine from the water point	<20m	-	-
		<30m	18	5.5
		>30m	227	68.5
		>40m	86	26.0
		Total	**331**	**100**
8	Are there hand washing facilities in the latrine	Yes	107	32.3
		NO	224	67.7

		Total	**331**	**100**
9	Type of washing facilities in the latrines	Plastic bucket with tap hand washing facilities	-	-
		Bucket without tap	104	31.5
		Plastic kettles	227	68.5
		Total	**331**	**100**
10	Method of disposal of household waste in the camp	Collective bin	222	66.9
		Burn	13	3.9
		Dump in the field	83	25.2
		village collection	13	4.0
		Total	**331**	**100**

Source: Field Survey, (2018)

Health Condition of IDPs in the camp

Enquires on the Health condition of the internally displaced people as it relates the hygiene and their environment were conducted and the result of the analysis is presented in Table 4 From the result, it can be deduced that the most common illness experienced in the camp is 'Diarrhea' (32.3%). This was closely followed by the STDs (26.8%); Fever and Tuberculosis (13.4% each). However other forms of illness like HIV were also found present in the camp though not yet rampant. There were reports of sexual violence in the camp as affirmed by 70.1% of the respondents. The result also shows that most of the victims were adolescents (61.4%) and a few adults (24.4%). however, 64.6% of the respondents attested that the victims of the sexual violence do not visit the health facility for post-exposure prophylaxis.

Table 4 : Assessment of Health Condition

S/N	Variable	Option	Frequency (No)	Percentage (%)
1	Reports of the following illness in the camp:	Diarrhea	107	32.3
		Fever	44	13.4
		Injury	21	6.3
		STD	89	26.8
		Tuberculosis (TB)	44	13.4
		HIV	26	7.8
		Total	**331**	**100**
2	Reports of sexual violence (rape)	Yes	232	70.1
		No	99	29.9
		Total	**331**	**100**
3	Victims visit a health facility for post-exposure-prophylaxis	Yes	117	35.4
		No	214	64.6

		Total	**331**	**100**
4	Groups are mostly affected	Under 5years	3	0.8
		Adolescents	203	61.4
		Adults	81	24.4
		Pregnant women	44	13.8
		Total	**331**	**100**

Source: Field Survey, (2018).

SUMMARY, CONCLUSION, AND RECOMMENDATION

Summary

The following is the summary of the findings:

a) The result, reveals that the closest distance of the source of water to the household is usually greater than forty-five (45) meters as attested by 69.4% of the respondents. This outcome does not conform to the standard requirement as specified by the UNHCR and SPHERE hence the need for its performance to be increased
b) It can be established that a larger percentage of the respondents affirmed that the major type of latrine in the camps is the 'traditional pit latrine'. According to a larger percentage of the respondents, there are less than forty (40) latrines in the Camps. Also, it was discovered that the latrine is usually de-sludge but is done once in two months. This is against the standard requirement from the UNHCR and SPHERE standards.
c) Other challenges identified reveal that the most common illness experienced in the camp is 'Diarrhea' (32.3%). This was closely followed by the STDs (26.8%); Fever and Tuberculosis (13.4% each). Still, on the health of the IDP camps, it also discovered that there are reports of sexual violence and it is common among adolescence.

Conclusion

Based on the findings, the following conclusions can be drawn:
At the time of this research, most of the latrines were in a dilapidated state, and according to respondents, the latrines are usually de-sludged but the frequency is once in two months. Diarrhea is the most common illness experienced in the IDP camps this can be linked to poor sanitation. There are also cases and records of illnesses like STDs, tuberculosis, and fever. the chemical result of the water concerning the pH value proves it tends to be toxic to the kidney.

Recommendations

The following are recommended:

i. There should be strict compliance concerning the construction of latrines and toilet facilities. They should be constructed by the provision of standards like UNHCR and sphere, as this will help in reducing the tendency to spread diseases in the camp.
ii. The final dump sites for fecal sludge collected from the camp can be utilized to produce biogas or electricity since the major problem of the IDP camp is the lack of electricity.

iii. The national policy for IDPs and refugees should specify the WASH requirements of the IDPs base on the Nigerian context. The SPHERE and UNHCR standards do not capture the entire context of Nigeria and especially Northeastern Nigeria.
iv. Academicians should endeavor to extend their research to the IDP camps to proffer more solutions to the problems of the camps

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Comment [THR7]: We recommend updating the references for the last 3 years

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