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ASSESSMENT OF SANITATION AND HYGIENE SITUATION IN HAWUL LOCAL GOVERNMENT AREA OF BORNO STATE

MOHAMMED USMAN*[1], HARUNA ABUBAKAR[1], S.G. SARA1 AND UGWU, S. J[2]

1 Department of Training, National Water Resources Institute Kaduna
2 Department of Research and Technical Services, National Water Resources Institute Kaduna
**Corresponding Email: malinta2015@gmail.com Phone: 0703601806*

ABSTRACT
The study assesses the Sanitation and Hygiene Situation in Hawul Local Government Area of Borno State, Nigeria and the methods used for the study comprises data collection using structured questionnaire administered at household level, field observation, data analysis and results presentation using tables and charts with a total of 100 household interviewed. The result from the respondents indicates 52% of the households are headed by adult male. 54% of household have a household size of between 6-10 members. The main source of water for household use is borehole (88%) while protected dug well constitute 6%. Despite the devastating impact of insurgency in the study area, about 55% of the respondents use single household latrine while 32% use shared household latrine. This may not be unconnected to the intervention of donor (humanitarian) agencies providing WASH supports in the area. Also 59% of respondents don't have problem using the latrines while 91% of them use household designated bathing area and they are 66% satisfied with that. However, 69% of respondents does not have soap for hand washing. Designated open area (38%) and communal pit (33%) are the major solid waste disposal areas in the study area and 70% of the respondents are satisfied with that. It is pertinent to note that 66% of the women and girls in the study location use disposable pads as their menstrual hygiene materials while 21% still use cloth, and another 5% use Reusable pads. The study recommends the protection of women, girls and the few people living with disability in the areas for privacy and security while using toilets and in the empowerment of community members to have access to soap and menstrual hygiene materials.

KEYWORDS: *Sanitation, Hygiene, Facilities, Situation, household*

INTRODUCTION

Sanitation refers to public health conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage. The World Health Organization defines the term "sanitation" as the provision of facilities and services for the safe disposal of human urine and feces (World Bank, 2019). The word 'sanitation' also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal (WHO and UNICEF, 2017). Women, girls and children under the age of 5 are mostly affected by deplorable state of sanitation especially

during crises that causes displacement of communities. Their vulnerability along with some social issues such as security and privacy worsens the situation in many instances.

Sanitation systems aim to protect human health by providing a clean environment that will stop the transmission of disease, especially through the fecal–oral route. For example, diarrhea, a main cause of malnutrition and stunted growth in children, can be reduced through adequate sanitation SOE (2019). Other diseases that are easily transmitted in communities that have low levels of sanitation include cholera, hepatitis, polio, schistosomiasis and trachoma, among others, (SuSanA, 2008). A range of sanitation technologies and approaches exists. Some examples are community-led total sanitation, container-based sanitation, ecological sanitation, emergency sanitation, environmental sanitation, onsite sanitation and sustainable sanitation. A sanitation system includes the capture, storage, transport, treatment and disposal or reuse of human excreta and wastewater. Sanitation includes all four of these technical and nontechnical systems: Excreta management systems, wastewater management systems (included here are wastewater treatment plants), solid waste management systems as well as drainage systems for rainwater, also called storm water drainage. However, many in the WASH sector only include excreta management in their definition of sanitation, (Gates Foundation, 2010).

Sanitation can include personal sanitation and public hygiene. Personal sanitation work can include handling menstrual waste, cleaning household toilets, and managing household garbage. Public sanitation work can involve garbage collection, transfer and treatment (municipal solid waste management), cleaning drains, streets, schools, trains, public spaces, community toilets and public toilets, sewers, operating sewage treatment plants, (Suresh *et al,* 2019).

1.1 Basics of Sanitation and Hygiene

Transmission of excreta-related diseases is largely faecal-oral or through skin penetration. Figure 1 illustrates the potential transmission routes for pathogens found in excreta Harvey (2007).

Good sanitation practices include:

i. Safe disposal of human excreta
ii. Personal/home and food hygiene
iii. Safe disposals of solid and liquid wastes
iv. Safe collection and storage of water
v. Control of insects and rodents
vi. Safe food handling and storage.

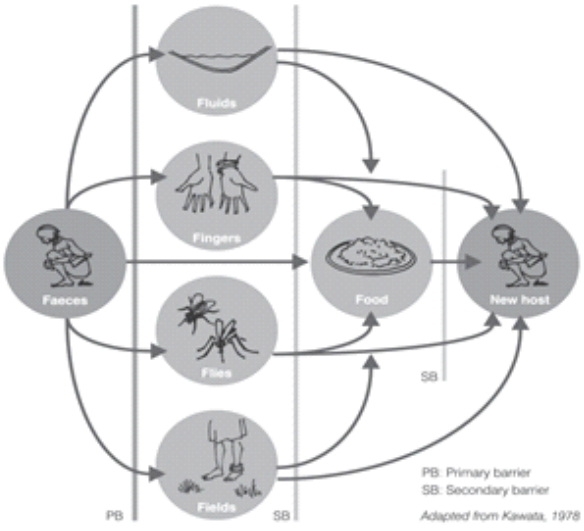
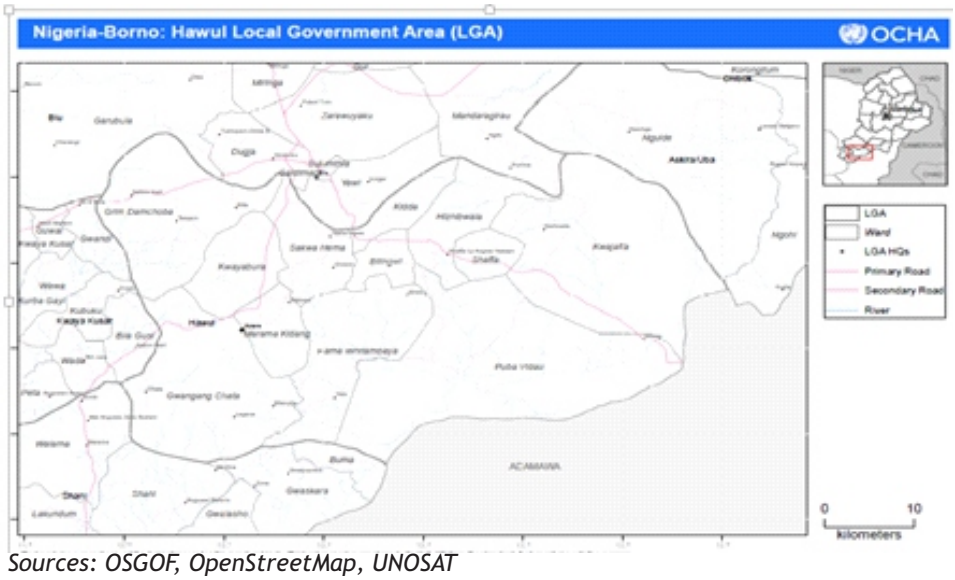


Figure 1: Faecal-oral transmission routes
Source: Harvey (2007)

2.0 MATERIALS AND METHODS

2.1 Study Area

Hawul Local Government Area (LGA) located in the Southern part of Borno State, North East of Nigeria with headquarters in the town of Azare along Gombi- Song-Girei-Yola Road (Figure 2). It has an area of 2,098 km^2 and a population of about 120,000 in the 2006 census (NPC, 2006). The postal code of the area is 603, (NIPOST, 2012). It is one of the four LGAs that constitute the Biu Emirate, a traditional institution of repute and highly respected, in Borno State, Nigeria, (FMI 2000).



Sources: OSGOF, OpenStreetMap, UNOSAT

Figure 2: Map of Study Area

2.2 Sampling, Data collection and Analysis

Due to demographical composition of the area, both probability and non-probability sampling methods were used in the selection of study communities and respondents where simple random and purposive sampling were used at various stages of the study. There are about fourty two (42) thousand households in communities of Azare, Yimirshiika, Sokwa, Marama and Garkida towns surveyed and using Slovin's equation for the determination of sample size, the sample size is obtained from:

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

Where N = population size for the research,
n = Sample size
e = Error margin at 0.1
The sample size is therefore computed as

$$n = \frac{42000}{(1+42000 \times 0.1^2)} \quad \frac{42000}{420.01} = 99.998$$

Therefore the sample population 100 households is used for the survey.

A structured worksheet was designed and published on the Ona.io platform (an Electronic Data Collection Tool) and deployed to the field using android phone/tablet using ODK in sourcing information on sanitation and hygiene situation in the study location. Data was analyzed using Microsoft Excel and presented in form of tables and chats.

3.0 Results and Discussion

3.1 Demographic Information

3.1.1 Who Heads the Households?

Table 1 shows the response in terms of household heads.

Table 1: Head of household

Who is the Head of Household	No	%
Adult Female	8	8
Adult Male	52	52
Elderly Female	6	6
Elderly Male	34	34
	100	100

From table 1, it could be seen that adult male (52%) and elderly male (34%) head most of the households surveyed in the study area. Only between 6% and 8% of the household are headed by adult female and elderly female.

3.1.2 Number of household members

Figure 3 presents the response on the number of peoples in each household.

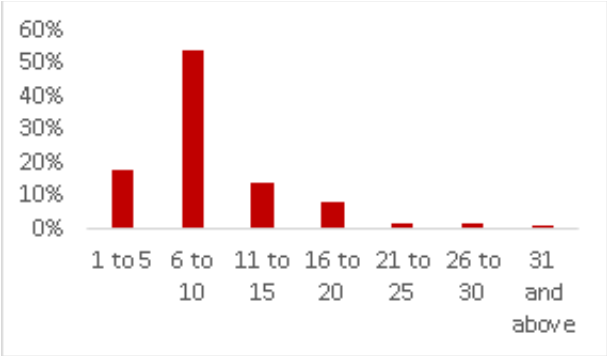


Figure 3: Number of people in a household

Result in Figure 3 indicate that the majority of households interviewed are having number of persons living in the household between 6 -10 (54%) followed by a household size of 1 -5 which constitutes 18% of the surveyed household. This makes it easy for household to manage their sanitation facilities as larger number of persons using a latrine, create more difficulty and costly to maintain.

3.1.3 Gender of respondents

Figure 4 presents the gender distribution of the respondents.

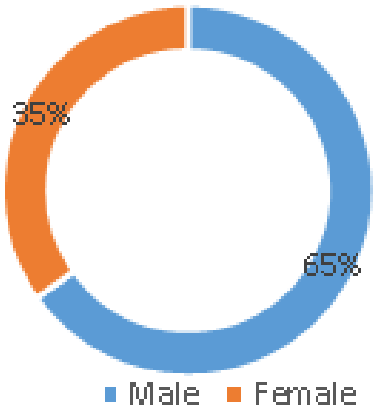


Figure 4: Classification of respondents based on gender

Results from Figure 4 above indicate that 65% of the respondents are male while 35% are female. Though not equally distributed, however, it is indicative of the fact that the responses can be used as a representation of the views of women and girls in the communities.

3.1.4 Number of children under five years

Figure 5 presents the number of children in household under five (< 5 years) old

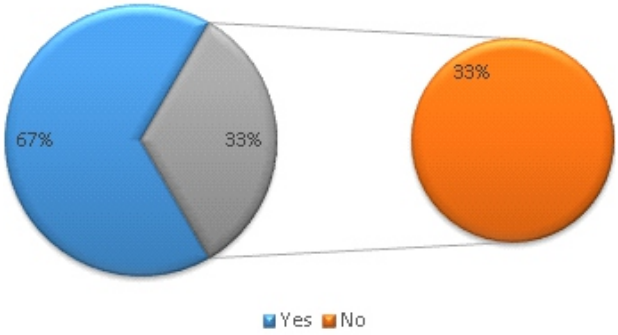


Figure 5: Households with children under the age of 5 years

Figure 5 present data on the number of household with children under the age of five (5) years. The result indicate that 67% of the household are with children under 5 while 33% do not have. Consequently, the result shows the level of vulnerability of the community to issues with sanitation and hygiene as most of those children under 5 could not handle their excreta safely and effectively without assistance from an older person.

3.1.6 Number of household members with disability

Another vulnerable group in the communities are the persons living with disability. This is presented in Figure 6.

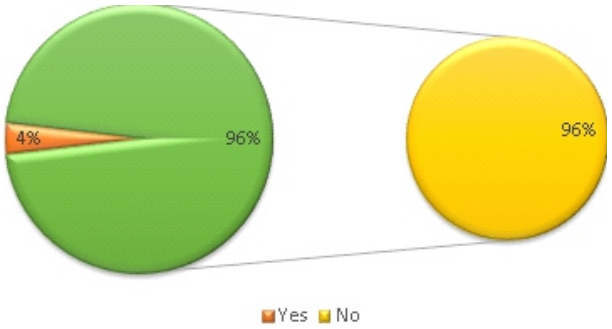


Figure 6: Households with disabled persons

The results from Figure 6 show that only 4% of the households are having people with disability with almost 96% without any person with disability. Though this number may be small, it indicates the level of vulnerable group in the communities in the study location.

3.1.7 Sources of Water

Figure 7 presents the response to the primary source of water

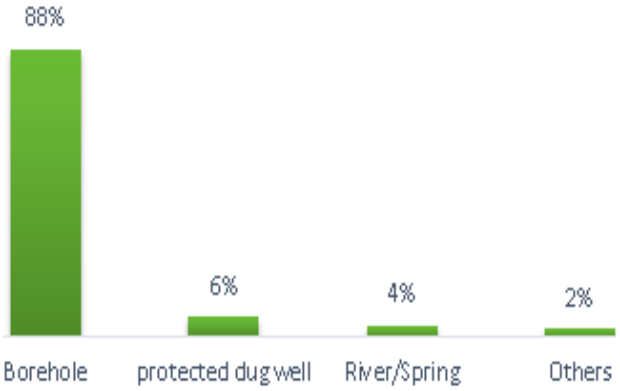


Figure 7: Primary Sources of Water for the household

Borehole (88%) and protected dug well (6%) constitute the primary/major sources of water for the households surveyed. This indicates that the household have adequate water supply to maintain hygiene and sanitation. However, it is important to ensure that the water is available within and around every toilet facility for effective hygiene and sanitation practices.

3.1.8 House hold ownership and type of toilets

Figure 8 presents the methods of defecation in the various households interviewed.

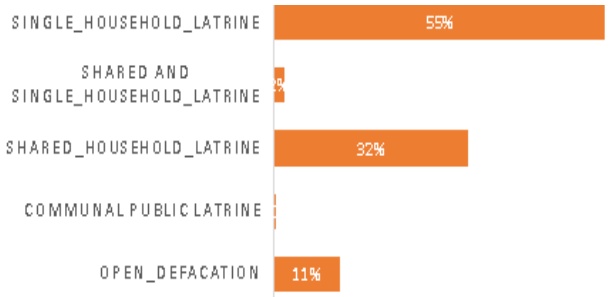


Figure 8: Households ownership and use of toilet

55% of the respondents maintain they use Single household latrine to defecate, while 32% use shared household latrine (Figure 8). This is quite encouraging. However, the practice of open defecation by 11% of the household is as detrimental because of the many transmission routes of faeco-oral diseases, (UNICEP, 202).

3.1.9 Satisfaction with access to type of toilets

Figure 9 shows the responses in regards to user satisfaction with the kind of toilets available.

Figure 9: Level of households' Satisfaction with use of toilet/latrine

55% of the respondents said they are satisfied with their access to latrine while 41% maintain they are not. This is evident from the results presented in Figure 9 and it indicate the need for more improvement in the type of toilet facilities available in the study area.

3.1.10 Bathing Places

Figure 10 presents the response in regards to places of bathing, while Figure 11 presents response to the question if there were issues with the bathing places.

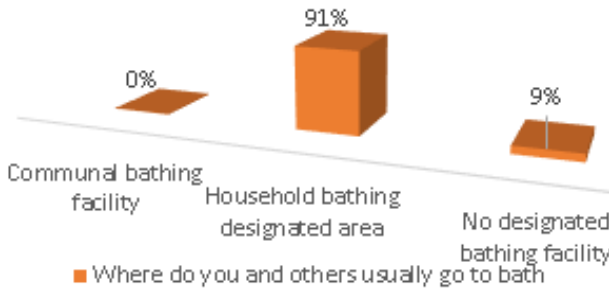


Figure 10: Responses of households with respect to bathing facility

Figure 10 reveal that 91% of the households have Household bathing designated area while 9% do not have designated bathing area. This implies that the 9% of the household without designated bathing area have to take their bath in the open, and hence, privacy is not protected and security not assured, especially for women and girls.

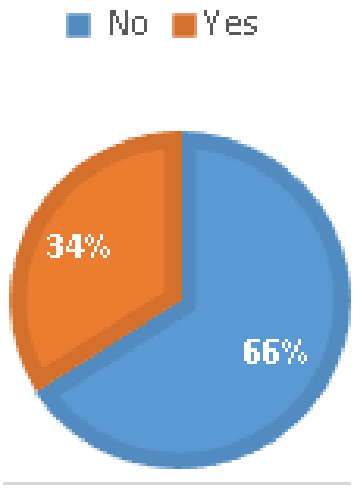


Figure 11: Problem with Bathing by Household

More than half (66%) of the respondents maintain that they don't have any problem bathing, however, 34% lament that they have problem bathing. The problem from information gathered through physical observation on the field during the survey range from lack of concrete/cement floor in the toilets, lack of door/keys in the toilets and lack of roof on top of the toilet which exposes users to many health and weather related inconveniences and other issues.

3.1.11 Domestic waste disposal

Figure 12 shows the response in regards to where family disposes of its domestic solid wastes. Similarly, Figure 13 presents the response to satisfaction with the manner of waste disposal.

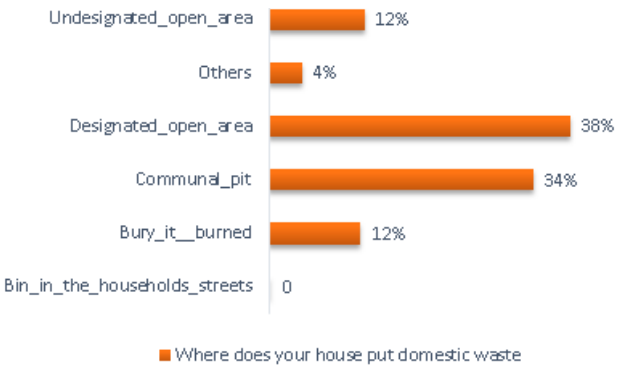


Figure 12: Domestic waste management by household

Designated open area or communal pit are the major places where domestic wastes are being disposed of in the communities according to the responses obtained from this study. 12% of the households dump their domestic waste in undesignated open areas. Virtually none of the households have/use bin in the house (compound).

Figure 13: Satisfaction with domestic waste management by household

70% or the respondents said they are Satisfied with the waste management system in their household/community while 24% lament that they are not satisfied (Figure 13). Though not satisfied, it could be recalled from Figure 10 that

majority of the household don't have household waste bins, this implies that the community members are either not aware of, or are ignorant of the need to have household designated waste bin that will be emptied and a short frequency into the public designated waste collection point for further sorting and or evacuation/recycling.

3.1.12 Access to hand washing with soap

Figure 14 presents the response on practice of handwashing with soap

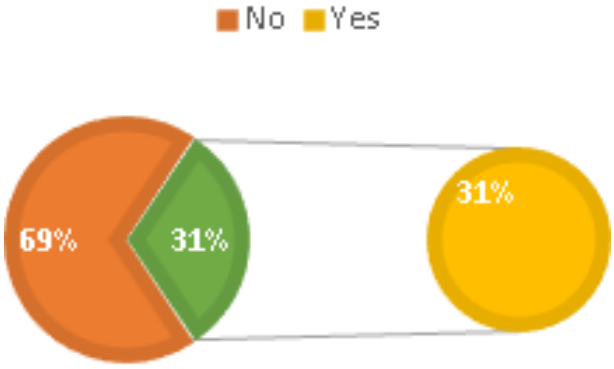


Figure 14: Household access to soap for hand washing facility

Figure 14 shows that 69% of the household have access to soap for hand washing while 31% do not. This is a very worrying situation as hand washing is a critical barrier to disease transmission. This is according to WHO and UNICEF (2017) and WHO (2009).

3.1.13 Menstrual Hygiene

Table 2 present responses regarding to menstrual hygiene management where respondents were asked to mention what the use during their menstrual period.

Table 2: Menstrual hygiene Management

The main menstrual hygiene materials used by female household members	%
Cloth	21
Cloth and disposable pads	3
Disposable pads	66
Re-useable pads	5
Re-useable pads and cloth	1
Re-useable and disposable pads	1
Others	3
Total	100

66% of the respondents use disposable pads while 21% still use cloth. This number is alarming as cloth may not provide the needed effective menstrual hygiene to women and girls in the community due to the fact that it is very difficult and unlikely for the women and girls to have access to or disinfect such cloths as it is beineng used. (WHO, 2009 and Gates Foundation,2010).

4.0 Conclusion and Recommendations

4.1 Conclusion

The communities surveyed have access to protected water sources (borehole and protected wells) and are having an appreciable number of sanitation facilities and are mostly aware of and are using toilets for defecation and bathing. However, a lot need to be done in the protection of women, girls and the few people living with disability in the areas of provision of privacy and security while using toilets and in the empowerment of community members to secure soap and menstrual hygiene materials.

4.2 Recommendations

The study recommends the following:

1. The protection of women, girls and the few people living with disability in the areas of provision of privacy and security while using toilets.
2. The empowerment of community members on sustainable strategies for accessing sanitation facilities and materials (access to soap and menstrual hygiene materials) e.g. by strengthening sanitation business through loan, subsidies, tax relief etc.
4. Implementation of programs and policies that will reduce poverty among community members by government at all levels, donor/development partners, philanthropic and charity organizations as a large portion of the population in the area are women, girls, and children whom are vulnerable to issues relating to poor sanitation.

REFERENCES

Gates Foundation (2010). "Water Sanitation Hygiene Fact Sheet 2010" (PDF). Gates Foundation.

Harvey, P. A. (2007). Excreta Disposal in Emergencies: A field manual WEDC, Loughborough University, UK.

Molly Danielsson (2020). (MDML, cewas – international centre for water management services) Simple Handwashing Devices. Fact sheet.

NIPOST (2012). "Post Offices- with map of LGA" NIPOST. Archived from the original (http://www.nipost.gov.ng/PostCode.aspx) on 2012-11-26. Retrieved 2009-10-20.

SOE Water and Sanitation (2019). State of India's Environment, by Himanshu Upadhyaya a faculty at Azim Premji University, Bengaluru.

Suresh R., Bhitush L. et al (2019). Managing Septage in Cities of Uttar Pradesh: An Analysis of the sanitation chain in 66 cities through SFDs, Centre for Science and Environment, New Delhi.

SuSanA (2008). Towards more sustainable sanitation solutions - SuSanA Vision Document. Sustainable Sanitation Alliance (SuSanA)

UNICEF India (2020). Covid-19 Handwashing with soap (HWWS) facilities. Compendium of Indicative Layouts, Designs and Cost Estimates, April 2020. - WHO/ UNICEF (2019). Joint Monitoring Program. www.washdata.org.

WHO (2009). Guidelines on Hand Hygiene in Health Care: A Summary. Link: https://www.who.int/gpsc/5may/tools/who_guidelines-handhygiene_summary.pdf.

WHO (2018). Guidelines on Sanitation and Health. Switzerland: WHO.

WHO and UNICEF (2017) Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines. Geneva: World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), 2017

World Bank, ILO, WaterAid, and WHO (2019). Health, Safety and Dignity of Sanitation Workers: An Initial Assessment. World Bank, Washington, DC.