

ENVIRONMENTAL HEALTH HAZARD AND COMMUNITY INFORMATION SERVICES IN BOSSO- MINNA, NIGER STATE OF NIGERIA

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Abstract

The paper examined community information services with a view of Salvaging Bosso from water and environmental epidemics. The research design was a survey of the case study. The researcher designed a questionnaire tagged "Community Information Services Questionnaire (CISQ), copies of which were randomly distributed to houses in five discernible areas that make up Bosso community in Niger State, Nigeria. A major finding was that most of the residents in Bosso drink from unsafe sources like buying water from water hawkers (mairuwa) and shallow well. The recommendation was that awareness campaign in form of information services on what constitutes a healthy environment and how to cultivate it to avoid epidemics, should be launched in Bosso area of Niger state for the residents on periodic basis.

Keywords: *Environmental health hazard, community information services, Bosso community in Niger state of Nigeria.*

INTRODUCTION

A group of individuals come together to form families, families make up communities, a group of communities form towns and cities and consequently a combination of towns and cities make up a nation. Reasoning from this point, the welfare of one community such as Bosso is indirectly the welfare of Minna at large and by extension, of the Nigerian community as a whole. Therefore, any information that is geared towards the welfare, comfort, health and well-being of a community like Bosso should be accorded priority.

Man's existence and continual survival is inextricably tied to some basic necessities such as water, air and food. While man's life can be terminated without regular and constant ingestion of air (oxygen), man's existence becomes threatened too if he fails to drink pure and clean water regularly. However, if the environment is dirty, nauseating and sordid, it is likely that man would have no option than to ingest and inhale polluted air with dire unpalatable consequences. Thus, the need to ensure that people live in a clean, neat and sanitary environment becomes mandatory if man will not die of preventable diseases like dysentery, cholera, malaria etc. If however, the environment is clean and tidy but water is polluted, man risks the danger of contacting water-borne diseases like typhoid, cholera, etc.

LITERATURE REVIEW

Habibu (2005) argued that water management is a problem in urban and rural communities worldwide. Many areas particularly in developing countries like Nigeria still have inadequate waste management, poorly controlled open dumps and illegal

roadside dumping. Such dumping spoils scenic resources, pollutes soil and water resources and is a potential health hazard to plants, animals and indeed man. In a similar vein, Ibrahim (2005) while alluding to the good old days with nostalgia commented on the impact of the compulsory monthly environmental sanitation which played an important role in ensuring that Nigerians embraced the culture of cleanliness. He observed with regret that today most of the cities and towns have changed for the worst in terms of sanitation. Dirt is allowed to pile up everywhere. It is safe to note that today very few towns in the country are decent enough to catch the attention of visitors coming to the country. Ibrahim further noted that since health is wealth, a healthy nation is a wealthy nation but Nigeria cannot boast of this attribute because a visit to most administrative and commercial towns across the country can authenticate evidence of filth. Most big cities have urbanization problems such as traffic congestion, environmental pollution, over population and indiscriminate dumping of refuse everywhere without recourse to their serious adverse health problems.

WHO, as quoted by Strohecker (2005), reported that unsafe drinking water and poor sanitation kill 4,000 children every day across the globe. Four out of 10 people around the globe do not have access to a simple pit latrine and one-fifth have no source of safe drinking water. The report added that there should be an outcry from the health community for immediate concerted effort to confront the reality that sanitation coverage rates in developing world barely keep pace with population growth. Again, WHO as quoted by Muanya (2005) raised a serious alarm over the possibility of the spread of cholera epidemic from communities in Niger state, Nigeria.

UN reports as quoted by the Guardian (2005), observed with dismay that cholera epidemic is spreading rapidly across the West Africa countries, killing nearly 500 people and infecting thousands of others and that the epidemic is often transmitted by infected water and causes death by dehydration from diarrhoea and vomiting. It reported further that the scourge can be treated if dehydrated patients are rehydrated quickly and clean water supplies made available. Onyekakeyah (2005) opined that water supply and sanitation essentially go together and that proper waste disposal habit and hygiene must be inculcated in the population as a precondition for healthy living.

Dirty environment, contaminated drinking water, polluted air and environment are precursors to sicknesses and epidemics. Suffice it to add that cancer-causing substance was discovered in water in Delta State, while six people died of cholera in Makurdi and toxic waste was dropped in Ibadan which spontaneously attacked the residents like a plague (The Punch, Daily Trust, and Nigerian Tribune, 2005).

Thus, the need to live in a clean, sane, sanitary, environment, ingest pure air (oxygen) and drink pure water becomes imperative for man's continual existence, healthy and happy living. Since it is only healthy and sound people that can contribute their own quota to the socio-economic development of a nation like Nigeria, providing information on what constitutes good and healthy living, causes of sicknesses and epidemics and how to prevent them is apposite in this age which is characterized by a global concern for the care of environment and proper waste management. Environmental issues are presently

of grave concern to the global community. As a result, the choice of Bosso community in Bosso Local government of Niger state for a study of this nature is appropriate for some plausible reasons: Bosso is the host community to the Federal University of Technology Bosso campus, Minna, has about 12,000 student population. Secondly, Bosso is congested and densely populated due to the presence of students and staff of the Federal University of Technology, Minna. Moreover, in this community there is a lot of shanty and poor slums that are called houses and more are constantly being raised indiscriminately and without proper building plan. The houses are built to meet the ever increasing demand of students. Furthermore, a lot of refuse and sordid sites are noticeable in different areas of Bosso. Finally, the community is the worst hit by the problem of water scarcity. Majority of the residents depend on water hawkers (mairuwa) that fetch water in kegs for their sustenance. Apart from the fact that the source of such water is not ascertained, such water is sold at exorbitant prices like ₦120 per keg especially during dry seasons. Cases of outbreak of epidemics like typhoid, cholera and dysentery have been reported. Hence, the need to conduct this study to find out details of the environmental health hazards and what community information services are available to encourage the people to imbibe healthy habits by drinking clean water.

PURPOSE OF THE STUDY

The general purpose of the study is to encourage healthy habits among people living in Bosso community, Minna Niger state of Nigeria. Specifically, the study sought to find out whether:

- i. Majority of Bosso inhabitants drink contaminated and unsafe water.
- ii. Many of the citizens in Bosso community live in houses without adequate toilets.
- iii. They have access road and good drainage system.
- iv. They drop their refuse in gutters and road sides.
- v. There are solutions to their problems.

RESEARCH QUESTIONS

The following research questions were asked:

- i. Do the Bosso inhabitants drink unsafe and contaminated water?
- ii. What type of toilet facilities do they have in their community?
- iii. What type of access road and drainage system do they have?
- iv. How do they dispose their refuse?
- v. What are the commonest diseases in Bosso community?
- vi. How can the inhabitants of Bosso community be encouraged to imbibe healthy habit?

METHODOLOGY

Survey research method was adopted in conducting this research. The researcher designed a self-constructed questionnaire tagged "Community Information Services Profile" (CISP) copies of which were randomly distributed to 100 tenants living in

different areas and homes in Bosso town. Four senior colleagues face validated the instrument to ensure that it elicits the right response. Seven criteria were used to elicit data namely: the nature of the house, number of toilets and type, population of users per house, methods of refuse disposal, sources of drinking water, prevalent sickness and access to road.

Sampling procedure

Bosso community was divided into five (5) major areas namely: Bosso City, Mypha Area, Bosso Estate, New York City, and Bosso Low Cost all in Minna town, Niger State, Nigeria. One hundred houses were randomly picked in the above areas and copies of the questionnaire were distributed to tenants in proportion to the number of respondents or size of the areas. For data presentation and analysis, tables and frequency count were used.

Data presentation and analysis

The data that were gathered from the administered questionnaire are presented in the tables as follows:

Table 1. Distribution of questionnaire according to areas

Area	No of questionnaire administered	No of questionnaire retrieved	% of questionnaire retrieved
1. Bosso City	20	10	50%
2. Mypha Area	30	15	50%
3. Bosso Estate	20	6	30%
4. New York City	20	10	50%
5. Bosso low cost	10	6	60%

In table 1, responses to the questionnaire are not very impressive. Trend indicates the people are not used to responding to data collection instrument that has been used. A follow up interview was subsequently applied which enabled the researcher to gain better insight in the people and their habits, most especially why they expose themselves to environmental hazards. On the whole, 80% of the people were interviewed in clusters as seen in table 1. Initial survey indicates the people were a mixture of educated and semi-literates. This informed the use of only the questionnaire as it was considered that text interpretation could be carried out to enable the people to respond appropriately. However, this consideration was changed when the researcher discovered otherwise. Overall, the two instruments (questionnaire and interview) elicited reasonable responses with the type of respondents. It is therefore advisable for researchers to apply both when dealing with people of a similar background.

Table 2. Nature of drinking water in Bosso communities

S/No	Description of sampled houses.	No of people living in the house	No of toilet/ type	Population /toilet ratio	Method of waste disposal	Source(s) of drinking water	Common sicknesses	Access to good road and drainage system
1.	Beside FUT, Bosso Campus, Minna	25	2/pit	13:1	Disposing into open field	Water hawkers (mairuwa)	Malaria/ cholera	Not accessible
2.	Opposite FUT, Bosso campus, Minna	35	2/pit	18:1	Open field	Water hawkers	Typhoid	Accessible to roads
3.	Opposite FUT, Bosso campus, Minna	16	2/water closet	8:1	Burning	Well	Typhoid/ malaria	Accessible to roads
4.	Opposite FUT, Bosso campus, Minna	13	2/pit	7:1	Open field	Well	Typhoid/ malaria	Accessible to roads
5.	Opposite Bosso market	19	1/pit	19:1	Open field	Well & hawkers	cholera/ malaria	Accessible to roads
6.	Opposite Bosso market	26	1/pit	26:1	Open site	Water hawkers	Typhoid/ Cholera	Accessible to roads
7.	Opposite Amadi Bookshop	15	1/pit	15:1	Open field	Water hawkers	Typhoid/ malaria	Accessible to roads
8.	Havana	52	3/water closet	18:1	Open field	Water hawkers	Typhoid/ malaria	Accessible to roads
9.	Opposite Havana	12	2/pit	6:1	Open Field	Water Hawkiers	cholera/ malaria	Accessible to roads
10.	Behind Living Faith	28	1/water closet	28:1	Open field	Water Hawkiers	Typhoid/ malaria	Not accessible

In table 2 findings indicate that majority of the people drink water from water hawkers or 'Mairuwa', and shallow well water, sources of which are contaminated. Population density is high for toilet use with upper limits of 18 to one toilet and in other areas 28 to one. Overall, description of sampled houses show a lack of plan, it is difficult to distinguish one house from the other, as some of the houses have similar design, they are not properly numbered for easy identification, population density is high, the number of people living in one house ranges from 12-52, where there are usually pit toilets, few water closet and a general bad method of waste disposal. Although this study is not concerned with the type of sickness the people suffer, interview responses show a high prevalence of 'Malaria fever' 'Typhoid'.

Sl. No.	Name of the Respondent	Age	Sex	Level of Education	Occupation	Religion	Marital Status	Number of Children	Number of People Living in the House	Water Source	Toilet Facility	Waste Disposal Method
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2
3
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Table 3. Type of toilet facilities in Bosso communities.

S/No	Description of houses.	No of people living in the house	No of Toilet/ Type	Population/Toilet ratio	Method of waste disposal	Sources of drinking Water	Common Sicknesses	Access to good road.
1.	No D6 363 Mypha Road	18	2/pit	9:1	Throwing to drainage	Water hawkers	Malaria	Accessible
2.	No B5 84 Mypha Road	15	1/pit	15:1	Drainage	Water hawkers	Malaria	Accessible
3.	No D3 325 Mypha Road	24	2/water System	12:1	Drainage	Water hawkers	Malaria	Accessible
4.	No D6 230 Mypha Road	28	2/pit	14:1	Drainage	Water hawkers	Malaria	Accessible
5.	No B5 85 Mypha Road	24	2/pit	12:1	Drainage	Water hawkers	Malaria	Accessible
6.	No B5 89 Mypha Road	17	2/pit	9:1	Drainage	Water hawkers	Malaria	Accessible
7.	No D6 113 Mypha Road	29	2/pit	15:1	Drainage	Water hawkers/ Well	Malaria/ Typhoid	Accessible
8.	No D6 118 Mypha Road	35	2/water System	18:1	Drainage	Well/ Water hawkers	Malaria/ Typhoid	Accessible
9.	No D6 136 Mypha Road	8	2/water System	4:1	Drainage	Well	Typhoid	Accessible
10.	No D6 106 Mypha Road	26	3/water System	9:1	Drainage	Tap Water	Malaria	Accessible
11.	No D6 126 Mypha Road	12	2/water System	6:1	Drainage	Well	Typhoid	Accessible
12.	No D6 56 Mypha Road	27	2/pit	14:1	Drainage	Well/ Water hawkers	Malaria/ Typhoid	Accessible
13.	No D6 612 Mypha Road	5	2/water system	3:1	Drainage	Water hawkers	Malaria/ Typhoid	Accessible
14.	No D6 501 Mypha Road	6	1/water system	6:1	Drainage	Well	Malaria	Accessible
15.	No B5 81 Mypha Road	15	2/pit	8:1	Drainage	Well	Malaria/Typhoid	Accessible

In table 3 above, responses on the type of toilet facilities people use show the population is between the upper limits of 12-35 of people living in the houses. The toilet types are more of pit than water system. The population range of users to one toilet is between the lower limits of 4:1 and upper limit of 18-1. The method of waste disposal is by throwing refuse into the drainage system. While the major source of drinking water is either well or water hawkers. Again the commonest sicknesses are malaria and typhoid fever. However, the houses in Mypha enjoy access to better roads or small pathways than those in Bosso city. All the same, a situation where 9, 12,14,15,or 18 people share one toilet is not only dehumanizing but also precarious to life hence the need to salvage this community from an outbreak of epidemic. Through the use of one toilet by many people *cholera* and dysentery can be contacted. There is therefore a need to alert the sanitary inspectors of the precarious nature of peoples' life in this community so that they can influence the people to build separate toilet for each apartment of not more than six people for a desirable healthy living.

Table 4. Type of access road in Bosso Communities

S/No	Description of sampled houses.	No of people	Toilet /type	Pop. /toilet Ratio	Method of disposal	Sources of drinking water	Common sickness	Accessibility
1.	House No 1	10	1/pit	10:1	Burning	Tap	Typhoid	Accessible
2.	House No 7	23	2/water system	12:1	Open field	Tap	Malaria	Accessible
3.	House No 10	5	1/water system	5:1	Open field	Tap	Typhoid/malaria	Accessible
4.	House No 12	5	1/water system	5:1	Burning	Tap	Nil	Accessible
5.	House No 17	10	1/water system	10:1	Burning	Well	Cholera	Accessible
6.	House No 22	8	1/water system	8:1	Open field	Tap water	Malaria	Accessible

In table 4 above, responses are on access road in Bosso city. From the description of house numbers 1, 7, 10, 12, 17, and 22, the lower limit of number of people is 5 and the upper limit is 23. However, the commonest toilet type here is water system but the population ratio of toilet users is fairly high. The lower limit ratio is 5:1 and upper limit is 10:1. The methods of refuse disposal are burning and open field or throwing into the drainage system. Interestingly, the most popular source of drinking water is tap-water or pipe borne water though most occupants of House 17 still depend on well as a source of their drinking water. The commonest sickness is malaria, this is followed by typhoid fever and cholera. This estate has a fairly distributed network of good access roads and pathways. What remains is road maintenance in EL-Wasiri area, Up-hill and New York. These require a face-lift and improved drainage system to prevent flood from diverging into people's houses.

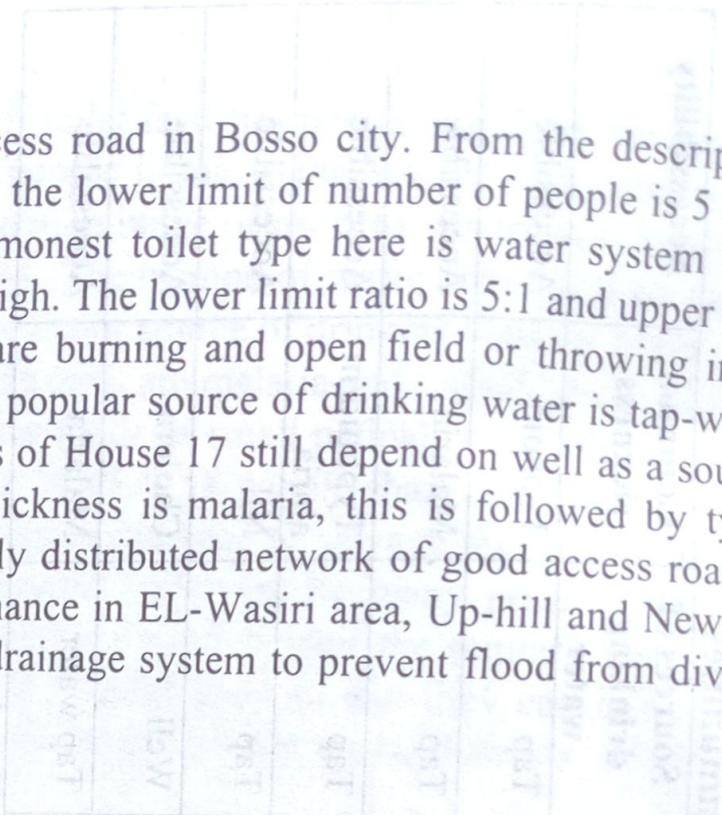


Table 5. Methods of refuse disposal in Bosso communities.

S/No	Description of sampled houses.	No of people living in the house	No of toilet /type	Popul/ Toilet Ratio	Method of waste disposal	Source of drinking water	Common sicknesses	Accessibility
1.	House no 7	10	1/pit	10:1	Open field	Hawkers	Typhoid/ cholera	Accessible
2.	House no 11	25	2/pit	13:1	Open field	Hawkers	Typhoid	Accessible
3.	House no 14	18	2/pit	9:1	dumping dumping into dug hole	Well	Malaria	Accessible
4.	House no 18	14	1/pit	14:1	Burning	Well	Typhoid	Not Accessible
5.	House no 20	15	2/water system	8:1	Open field	Tap	Malaria	Not Accessible
6.	House no 22	21	2/pit	11:1	Burning	Well	Cholera	Not Accessible
7.	House no 25	6	1/water system	6:1	Open field	Tap	Typhoid	Not Accessible
8.	House no 30	12	1/pit	12:1	Burning	Well	Malaria	Not Accessible
9.	House no 32	8	1/water system	8:1	Burning	Well	Typhoid	Not Accessible
10.	House no 36	3	1/water system	3:1	Open field	tap	Typhoid	Not Accessible

Responses in table 5 above are on refuse disposal. From the description of house numbers 7, 11, 14, 18, 20, 22, 25, 30, 32 and 36, the upper limit of people living in one house is 25 and lower limit is 3. The most common type of toilet is pit, though water system is used in few houses. The population ratio of toilet users in a house is in the ratio of 3:1 as the lower limit and the upper limit of 13:1. The popular method of waste disposal is open field or throwing into the drainage system, this is followed by burning and dumping in dug-hole. Throwing of refuse in drainage system is the rule in New York City and other communities in Bosso, Minna Niger state of Nigeria. The bad habit constitutes a threat to the life of the people not only in this neighbourhood but also in the entire Minna metropolis. Cases where flood consistently wash both faeces and refuse away are rampant in Minna, the capital city of Niger state. In this city free flow of drainage water is often obstructed by people who either erect building or dump refuse. Even, when refuse trucks and houses are provided, people do not make effective use of them. Some often find it difficult to climb both the truck and refuse house to empty their refuse. There is a dire need for the people to imbibe better refuse management skills to prevent diseases. Albeit, the most popular source of drinking water is shallow well though few people drink tap water and mairuwa (water from hawkers). The prevalent sickness is typhoid which is followed by malaria and cholera. This condition also calls for immediate attention of sanitary inspectors to rescue these people from serious health hazards.

Table 6. Inculcation of healthy habits in Bosso communities.

S/No	Description of ideal houses	No of people to live in the house	Toilet /type	Population/ toilet ratio	Method of waste disposal	Sources of drinking water	Common Sicknesses to avoid	Nature of road
1.	Houses with proper plan and number	7	Water system	7:1	By Govt. waste disposal facilities	Tap or pipe borne water	Typhoid/malaria	Accessible
2.	Houses with good access & drainage	4	Water system	4:1	By Govt. waste disposal facilities	Tap/pipe borne water	Typhoid/malaria	Accessible
3.	Houses with good disposal facilities	12	Water system	6:1	Govt. facilities.	Tap/equivalent	Typhoid/malaria	Accessible
4.	Houses free of common sickness	10	Water system	6:1	Govt. facilities.	Tap/equivalent.	Typhoid/malaria	Accessible
5.	Ideal houses for good health habits	6	Water system	3:1	Govt. facilities.	Tap/equivalent	Typhoid/malaria	Accessible

Table 6 above contains valuable responses from the respondents during interview sessions. The respondents were asked to describe the experiences they have after watching documentary programmes or visiting places with good scenery. Majority of the respondents noted the places they viewed or visited were beautiful. They were encouraged to mention the names of the places. They noted London, Washington D.C., Canada, France as the foreign countries they have viewed their houses and environment. They also stated Abuja, Ikoyi- Lagos and Kaduna as places in Nigeria that appeal to them because of their clean environment. Based on their responses, they were requested to suggest ways in which their environment could be improved upon. Their responses are presented in table 6, serial numbers 1-5. These numbers also indicate attributes of ideal houses, the number of people that should live in them, the types of toilet facilities, the ratio of people to use the toilet, improved methods of waste disposal and sources of drinking water, the type of sickness to avoid and type of access road befitting of such houses.

CONCLUSION

From the foregoing discussions, the following conclusion can be reached:

- Majority of the inhabitants of Bosso town drink water from unsafe and contaminated sources like buying from water hawkers, fetching water from shallow well and poorly treated tap water. This can be attested to by the preponderance of sicknesses like typhoid, malaria and cholera in this community.
- Majority of the people live in houses that can aptly be described as slum because of the number of people that share one toilet in the various houses in the community.
- Majority of the houses in Bosso community are not accessible to good road and drainage system.

RECOMMENDATIONS

From the findings of this study, the following recommendations are made:

- The government at all tiers from local, state, and federal should provide bore-holes in different locations from which the people in Bosso community can fetch uncontaminated water. Pipes can also be laid from chanchaga water to serve neglected part of Bosso community. This will go a long way to prevent the members of this community from drinking unclean water.
- The sanitary inspectors should embark on enlightenment campaign using various information dissemination media to inform and educate the inhabitants of Bosso community on how to prepare and preserve clean water.
- The consequences of drinking contaminated water. Such awareness and information services should be given from time to time until positive changes in practice are achieved.

- To prevent the outbreak of epidemic like cholera and dysentery, sharing of toilet by a large number of people should be curtailed. Again, awareness campaign on how to clean the toilets and bathrooms thoroughly with detergents and disinfectants like Izal, dettol, harpic, etc, should be constantly given to the members of Bosso community on a regular basis by the sanitary inspectors. Moreover, House Inspection Health Officers should be mandated to check the houses in Bosso to ascertain the number of toilets per house and the suitability and adequacy of such toilets for the number of people that dwell in them. Houses which the Inspection Health Officers considered risky in terms of toilet provision, should be reported to the appropriate authority for necessary action.
- The landlords in Bosso community must be enlightened on how to save life rather than money. Good health is more importance than money. They should be made to understand that it is not proper to obstruct vehicular traffic with buildings. This is because erecting buildings in the wrong places obstruct the flow of water. When such enlightenment is properly given, landlords are likely to be convinced to take necessary measures to avoid health hazards in the community.

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