



RESEARCH PAPER

OPEN ACCESS

Monitoring water bound diseases in communities with WATSAN committees in Brong Ahafo Region, Ghana

Agyei-Ohemeng James^{*1}, Aba Taylor Mabel², Issifu Aziiz³, Twumasi Ankrah David⁴

¹*University of Energy and Natural Resources, School of Natural Resources, Sunyani, Ghana*

²*Community Water and Sanitation Agency, Sunyani, Ghana*

³*Executive Director, Social Development and Improvement Agency (SODIA), Bechem, Ghana*

⁴*University of Energy and Natural Resources, Graduate School, Sunyani, Ghana*

Article published on January 31, 2019

Key words: Empowering, Water, Sanitation, Communities, Diseases, Monitoring.

Abstract

Empowering communities through the concept of community management of water and sanitation facilities equips them with managerial responsibilities on beneficiary communities in the Brong Ahafo Region of Ghana. Five districts representing 22.7% out of the twenty-two were sampled, namely, Asutifi, Sunyani West, Tano North and Tano South Districts and Sunyani Municipal. A total of ninety-eight (98) communities were examined; Asutifi district having thirty-two (32) communities, Sunyani West seventeen (17), Tano North eighteen (18), Tano South fourteen (14) and Sunyani Municipal fifteen (15) communities, where water facilities were constructed between November 2011 to March 2012. The monitoring was undertaken from June to August 2017. The results indicated that among the five water bound diseases (Bilharzia, Guinea worm, Diarrhea, Round worm and Malaria), the incidence of Bilharzia, Guinea worm were completely not recorded at their nearby health facilities. However, incidences of diarrhea (30%), round worm (20%) and malaria (44%) were recorded in communities from their health facilities. The incidences of diarrhea among children were high (45%) across the sampled communities and women (35%) and males (20%). Recorded round worm infection among children were higher at the health facilities (60%), Females or women (30%) and males (10%). Malaria also recorded high incidences among children (55%), women (30%) and (15%) among the males. The monitoring has proved that availability water facilities in communities help to reduce incidence of water bound diseases in communities with functioning WATSANs.

***Corresponding Author:** Agyei-Ohemeng, James ✉ james.agyei-ohemeng@uenr.edu.gh

Introduction

Proper water availability and sanitation facilities are extremely important for promoting better health by reducing incidence of water bound diseases in every population. A healthy population physiologically is in a better state of health and hygiene, Venkataramanan, V. (2012). Empowering communities through the concept of community management of water and sanitation facilities equips them with managerial responsibilities on beneficiary communities. The appropriate knowledge and skills to be discharged are channeled through the members of community water and sanitation (WATSAN) committees.

In Africa, women are the sole insurers of family hygiene and sanitation practices. If the females in a family suffer from various diseases or bear germs, it will be transmitted to the food they cook, the clothes they touch and also to the children of the family who are the future generation Venkataramanan, V. (2012). Lack or deficit of water and proper sanitation facilities can transfer water bound diseases among the family. The effects of the diseases are farfetched because it slows down the economic engine of the household, and reduce family income through time spent at clinics and payment for drugs which are not always part of the family budget.

The per capita water availability in Ghana is about 780 cubic meters against the minimum requirement of 1000 cubic meter. It is feared that the availability of water would fall below 450 cubic meter by year 2050 which is considered as absolute water scarcity as per international accepted norms, Ahmed, S.A (2008) and Venkataramanan, V (2012). The direct impact of the water crisis falls upon women and children. They have to provide water for drinking, cooking, bathing and washing of the entire house and in the process, often their personal sanitary needs are not met. Clean drinking water is a quintessential requirement to keep away diseases, especially for women/children. Women/children spend most of the time fetching water for use inside the house in our rural setting, Ahmed, S.A (2008). They have a role in every household task, hence they usually touch all the

objects around. If they are suffering from water bound diseases, the house is automatically infected. In most rural areas in Ghana, many people still do open defecation and urination Agyei-Ohemeng, J, *et al.* (2017). Not only men, but women/children also have to follow this as because there are no proper toilets in the house. Having toilet practices in the open air, attract flies and other insects which infect the entire locality and spread diseases through food and drinking water.

Moreover, drinking unclean water and going for toilet in the open, also tampers the dignity and respect of a population. Hence it is the Government's primordial role to ensure women/children's health by providing proper water facilities. Many international organizations have come up for the redress of the issue where United Nation Development Program's (UNDP) Millennium Development Goal (MDG) is one such. The Government of Ghana and the Agence Francaise de Development (AFD) signed a Credit Facility Agreement to finance the Peri-urban, Rural and Small Town and Sanitation Project in the Brong Ahafo Region. Community Water and Sanitation Agency (CSWA) is tasked to implement the National Community Water and Sanitation Program (NCWSP) by assisting rural communities to plan, construct, own and operate water supply and sanitation facilities to reduce incidence of water bound diseases. As such this paper examined the impact of Information, Education and Communication (IE&C) services for rural water supply and sanitation in five districts of Brong Ahafo Region, namely, Asutifi, Tano South, Tano North, Sunyani West and Sunyani Municipal Districts, by monitoring water bound diseases in the communities where the IE&C were conducted. It reports on diseases incidences from health facilities available within the catchment areas and recommends good practices and lessons for future implementation of Rural Urban Water and Sanitation Projects.

The objective of the monitoring was to assess the impact of the Information, Education and Communication (IE&C) Services for rural water supply and sanitation and to see how the education,

before the facilities were constructed, has helped build the capacity of rural communities to reduce the incidence of water bound diseases to promote hygiene and sanitation in the selected ninety-eight communities in Brong Ahafo Region of Ghana.

The specific objectives were to:

- Monitor the incidence of the five water bound diseases, (Bilharzia, Guinea worm, Diarrhea, Round worm and Malaria) spelt out in the WATSAN HANDBOOK.
- Promote the empowerment of women in the decision-making process for the management of water and sanitation facilities and household/environmental hygiene education.

Materials and methods

A survey was conducted in all the ninety eight communities in the five Districts in Brong Ahafo Region between June and August 2017. Information on diseases incidences on the five water bound diseases, (Bilharzia, Guinea worm, Diarrhea, Round worm and Malaria) spelt out in the WATSAN HANDBOOK were collected from the Health posts in the communities or the nearest one not more than five kilometers away. Incidences of the diseases and health education were also found out from the WATSAN members' records, where they were available.

Results and discussions

The outputs of the assignment were

1. WATSAN Committees were encouraged and motivated to work using their handbook and record incidence of diseases in their communities.
2. Available data on the five diseases were collected from the health facilities.

The monitoring indicated that in all communities where the facilities were working, (64%), use clean water for drinking; in communities where the facilities are broken down, (36%), manage to transport drinking water from other communities whose pumps were working for a fee. In all, among the five water bound diseases, Bilharzia, Guinea worm, Diarrhea, Round worm and Malaria, that the

IE & C services provided, the incidence of Bilharzia and Guinea worm were completely absent in all the communities visited and there were no records of their incidence in the health facilities visited in the five districts monitored.

However, an overall relative incidence of diarrhea (30%), round worm (20%) and malaria (44%) were recorded in all the ninety eight communities from their health facilities contacted, Fig. 1.

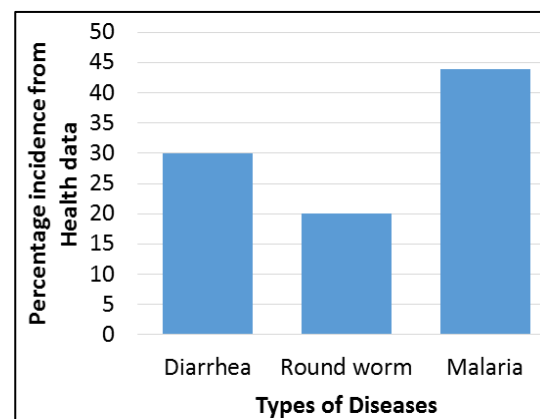


Fig. 1. Percentage incidence of three diseases in all the ninety-eight communities.

The high incidence of malaria was explained as coming from lack of environmental cleanliness due to weedy surroundings and inadequate disposal of household wastes. It was observed that most of the surroundings of communities were weedy and stagnant water found behind their bath houses.

The incidence of diarrhea was attributed to the communal latrines which was a replica of open defecation. The toilets did not have covers and the houseflies could easily transport faeces on to their food, especially among the children.

It could also be transmitted from mothers to the family because they fetch water for household chores. Hand washing after defecation was not practiced in most of the communities.

The concomitant use of open ground for playing among children also is a contributing factor to the incidence of round worms in the communities.

The incidences of diarrhea among children were high (45%) across the sampled communities and women (35%) and males (20%), Fig. 2.

Children and women were more vulnerable because of close contact; however, it is possible the transmission to the males could be from associated water in the house and other household equipment used such as drinking cups.

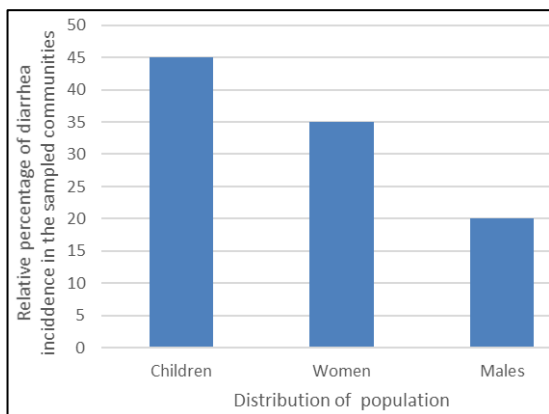


Fig. 2. Percentage incidence of diarrhea in all ninety-eight communities.

Recorded round worm infection among children were higher at the health facilities (60%), Females or women (30%) and males (10%) Fig. 3. These were reported incidence where the facility provided dewormers; however, it is possible that some families use local treatments. Malaria also recorded high incidences among children (55%), women (30%) and (15%) among the males Fig. 4.

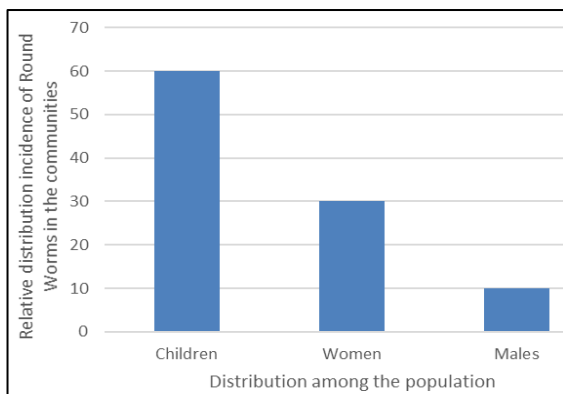


Fig. 3. Percentage incidence of diarrhea in all ninety-eight communities.

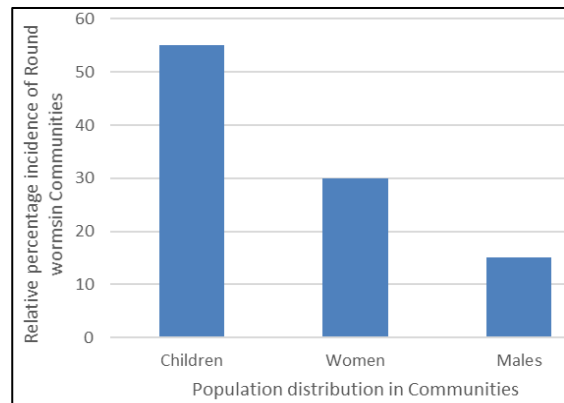


Fig. 4. Percentage incidence of diarrhea in all ninety-eight communities.

Lack of environmental cleanliness due to weedy surroundings and inadequate disposal of household wastes in these communities and the absence of mosquito proof facilities in the households was the cause. It was observed that most of the surroundings of communities were weedy and stagnant water behind their bath houses, creating pools for the breeding of mosquitoes.

Conclusion

The monitoring indicated that in all communities where the facilities are working, (54%), use clean water for drinking; in communities where the facilities are broken down, (46%), manage to transport drinking water from other communities whose pumps are working for a fee. It was reported that the five water bound diseases (Bilharzia, Guinea worm, Diarrhea, Round worm and Malaria) that the IE&C services provided in the WATSAN handbook, the incidence of Bilharzia, Guinea worm were completely absent in the communities and not recorded at any nearby health facility. However, incidences of diarrhea (30%), round worm (20%) and malaria (44%) were recorded in communities from their health facilities. The incidences of diarrhea among children were high (45%) across the sampled communities and women (35%) and males (20%). Recorded round worm infection among children were higher at the health facilities (60%), Females or women (30%) and males (10%). Malaria also recorded high incidences among children (55%), women (30%) and (15%) among the males.

The monitoring has proved that availability of clean water facilities in communities can help to reduce incidence of water bound diseases in communities with functioning WATSANs.

Recommendation

In recognition of these, all District Assemblies should incorporate CLTS into a more comprehensive approach as part of the Sustainable Sanitation and Hygiene for all programs which includes a focus on the supply chain development, governance and behavior change of communities. Women should be encouraged to take up responsible roles in the community water and sanitation issues; this will enable communities to utilize the acquired knowledge sufficiently to ensure sustainability. Proper education among school children should be emphasized on cleanliness and hygiene to reduce disease transmission among children.

Acknowledgement

This work was made possible through the support of the entire communities visited during the period, and the various CHIP compound staff, their patience to wait for the teams and their willingness to cooperate in all discussions were appreciated. The long hours of travelling across the region to meet our clients was exciting to us and we say thank you all who made this work possible. All the team from University of Energy and Natural Resources, from data collection to data analysis. We appreciate your contribution to this paper.

References

Agyei-Ohemeng J, Mabel, Taylor and Aziiz Issifu A. 2017. "Water and Sanitation in Rural Communities: The role of women in the Brong Ahafo Region, Ghana". International Journal of Innovative Research, Millennium Development Goals, target 7: Ensuring environmental sustainability; halving the proportion of people without sustainable access to safe drinking water from <http://www.undp.org/mdg/goal7.shtml>.

Ahmed, SA. 2008. "Community Led Total Sanitation in Bangladesh: Chronicles of a People's Movement" Archived 27 February 2015 at the Way Back Machine. IDS Conference Paper Accessed 2015-02-27 "The CLTS approach". Community-Led Total Sanitation. 2011. Retrieved 12 March 2015.

Kamal Kar's Trainers' Training Guide on Community-Led Total Sanitation CLTS. 2010. published by the Water Supply and Sanitation Collaborative Council (WSSCC). Partner organization information, education and communication services for rural water supply and sanitation in Brong Ahafo Region reports by Social Development and Improvement Agency (SODIA) (2010-2012) to Community Water and Sanitation Agency (CWSA) contract number-CWSA/BAR/AFD/PO/2010/02-LOT2.

Watsan Hand Book. 2011. Community Water and Sanitation Agency (CWSA) (Ghana). World Bank: Water, Sanitation and Gender equality: Gender and Development Briefing Notes: <http://siteresources.worldbank.org/INTGENDER/Resources/watersan>.