

Water and dirt – matters of life and death

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Poor hygiene and sanitation are responsible for much of the disease burden in two rural communities in the Volta Region of Ghana. A study produced recommendations for educational activities on personal and public hygiene and the creation of improved water supply and sanitation facilities through community participation and the use of local resources. These steps are now being taken.

In Ghana's Volta Region more than 60% of morbidity is caused by malaria, diarrhoea and intestinal worm infections, conditions associated with deficiencies in hygiene and environmental sanitation. In many communities there are no latrines and refuse disposal is unsatisfactory.

In 1993, following an agreement between Denmark and Ghana, the Volta Rural Water Supply and Sanitation Project became responsible for the provision of water supply and sanitation facilities in the Region. An investigation into people's behaviour, perceptions and willingness and ability to pay for improved water supply and sanitation was undertaken in the villages of Avega and Avevi, the worst affected by dracunculiasis in Akatsi District, which had populations of 619 and 549 respectively. Neither village has a health facility but both benefit from outreach services. The people are mainly crop farmers and charcoal-burners. Educational, housing and sanitation conditions are of a low standard. The main source of

water for domestic services in each community is a reservoir.

Knowledge, habits and amenities

With the aid of a structured questionnaire, 217 heads of household and 49 other reliable informants were interviewed. Three focus group discussions, involving 10 schoolchildren, 10 adult males and 10 adult females of average age 12, 48 and 35 years respectively, were held in each village.

The average monthly cash income was very low and only 37% of the people interviewed had received any formal education. Only 9% of the interviewees claimed to have access to latrines. The others said they defecated anywhere in the vicinity of the villages. Refuse collection bins or boxes were available to 29% of the interviewees, and 28% had access to a bathroom with a soakaway.

The only communal latrines were temporary shallow holes that were filled fairly often. In one of the communities a large log was used as a public latrine. The use of urinals is infrequent, as is hand-washing after defecation or urination. In many households the bathroom, a temporary

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structure, is used for both urinating and washing.

There are no proper waste storage facilities and no designated refuse disposal sites. Instead, waste is deposited indiscriminately behind houses, providing a breeding habitat for mosquitos. The people are unaware of the health hazards associated with this practice.

Bathrooms with soakaways are scarce, and the soakaways that exist are inefficient. In houses with no soakaways, wastewater escapes to the surrounding area. If a bathroom is in the centre of a compound and is used by many people the wastewater may run into nearby houses.

The interviewees appeared to have a substantial knowledge of good hygiene habits. Without prompting, some mentioned the need to keep their surroundings clean, to use latrines, to dispose of children's faeces properly, and to wash their hands with soap and water after urinating or defecating. After prompting, more than 88% mentioned some good hygiene practices. Unfortunately, the application of such knowledge is very limited:

- most people have indiscriminate defecation habits, causing pollution of water sources;
- children's faeces are not properly disposed of;
- some houses have animal pens but they are often dilapidated, and domestic animals are allowed to wander about the villages;
- crude waste-dumping practices are widespread.

Education and construction

Such behaviour can, of course, be changed through education (1). Following the study an intensified health education programme was recommended in order to heighten awareness of the importance of correcting unhygienic practices, using clean utensils, maintaining a clean environment, and filling soakaways with stones. Another recommendation was that the communities should receive help in identifying sites suitable for the dumping of all refuse where it could be regularly burned.

The Volta Rural Water Supply and Sanitation Project has collaborated with the Ghana Education Service and the Ministry of Health to make curriculum guidelines on hygiene education in schools. All schools have been encouraged to form health committees consisting of teachers, students and community representatives. The committees that have been established have received orientation on hygiene and have been given responsibility for planning school health programmes. Ten such committees have started constructing improved pit latrines using local resources,

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and hand-washing facilities consisting of taps attached to water pots have been financed by the schools development fund.

The Project has a hygiene education component that covers hand-washing, the use of latrines, and the suitable disposal of children's faeces. Among the Project's objectives are the following.

- After four years, 80% of the population in each target community should be able to recognize and describe health hazards associated with water supply and sanitation. This is to be assessed in terms of new knowledge acquired on the disposal of refuse and human excreta, the penning of animals, the cleaning of water sources, and other matters.
- After four years the members of the target communities should be regularly washing their hands and also doing so thoroughly at critical times. For instance, mothers and children should be washing their hands before eating or feeding, and after urinating or defecating. Hand-washing facilities should be available near latrines.

"We are just not being serious about latrines in this community because we think we can just go to the bush and do anything that pleases us. It's all laziness."

– Male participant in a focus group discussion.

"Many people don't know the importance of latrines and the problems their absence brings on the community, so they choose to defecate anywhere. Most of us go to the farm very early so we find it convenient to do it there."

– Female participant in a focus group discussion.

Latrine artisans are being trained in marketing skills so that they can promote household latrines. The communities are acquiring sanplat, Mozambique slab and other types of latrine. Community awareness of the importance of environmental sanitation is being reinforced, and training is being provided for committees charged with water and sanitation management and

with encouraging people to participate in promoting good hygiene practices. User education, conducted by environmental health officers, concentrates on excreta-related diseases, latrine operation and maintenance, the disposal of cleaning materials, and hand-washing.

Unfortunately, the incomes of the people in the villages do not match their expressed willingness to pay for a good permanent latrine in every house. Nevertheless, there is scope for encouraging the communities to provide themselves with improved household latrines constructed with locally available materials. Most participants in focus group discussions said they would not be able to pay token fees for the use of new latrines. Latrines would evidently not be properly managed in the absence of maintenance funds from sources outside the communities. Any attempt to impose user fees would probably lead to limited use of the facilities and a consequent deterioration of sanitation and health status.

It is expected that education and the provision of resources will lead to improved hygiene and that the prevalence of some diseases associated with shortcomings in these areas will consequently decline. ■

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Reference

1. **Esrey SA et al.** Effects of improved water supply and sanitation on ascariasis, diarrhoea, dracunculiasis, hookworm infection, schistosomiasis and trachoma. *Bulletin of the World Health Organization*, 1991, **69**(5): 605-621.