



Summary Assessment

Sanitation Assessment, Rajshahi, Bangladesh

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Introduction

This summary is one in a series of summaries written by the Wastewater Agriculture and Sanitation for Poverty Alleviation in Asia (WASPA Asia) project. The project aims to develop and test solutions for sanitation and wastewater management, to reduce the risks from wastewater use in agriculture. The approach involves the development of stakeholder coalitions at town and national level, called Learning Alliances, which will bring together the main stakeholders into a participatory process through which actions will be planned and implemented.

The WASPA Asia project is funded primarily under the EU Asia Pro Eco II Programme of the European Commission. It is being undertaken in Sri Lanka and Bangladesh by the International Water Management Institute (IWMI) and COSI in Sri Lanka; the International Water and Sanitation Centre in the Netherlands; NGO Forum for Drinking Water Supply and Sanitation in Bangladesh; and the Stockholm Environment Institute (SEI) in Sweden.

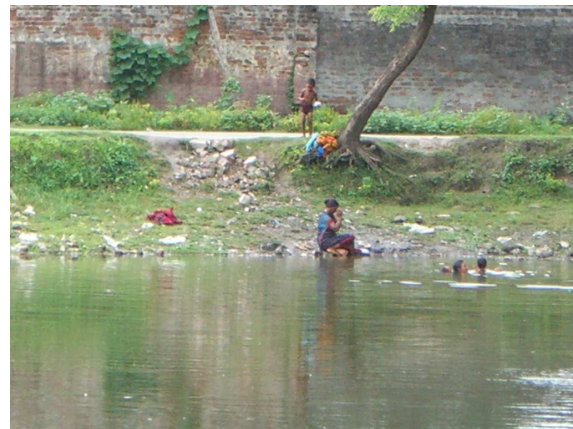
As part of the project's activity, the Sanitation Assessment was undertaken to capture the extent of the problem, identify the knowledge gaps, and help outline and put in place activities that minimize or mitigate the impacts of wastewater.

The specific objectives of this study were:

- To identify the (major) polluters;

- To identify the communities affected by urban wastewater; and
- To assess the sanitation and hygiene behavior of communities that depend on wastewater for their livelihoods, one way or another.

The assessment area relates to Rajshahi City Corporation area which covers 97 km² and has a population of 383655; and Paba Upazila with a population of 2133790. Detailed data collection took place in Bashuar Village where people use drain water. It is located on the edge of Rajshahi City and Paba Upazila. Data were collected from structured questionnaires, in depth interviews, key informant interviews, transect walks, direct observation of daily lives and stakeholder analysis.



Conclusions and Recommendations

Drinking water was exclusively obtained from tube wells and 90% were well maintained, however many people bathed in local ponds which received tube well drainage. This may result in health problems and should be monitored. The *beel* also receives drainage water and some overflow from latrines.

All households interviewed had access to latrines but their quality and cleanliness varied. Likewise hygiene practices of hand washing varied and although most people said that they washed their hands, observations suggest that this was less frequent. Sanitary practices could be improved through hygiene awareness activities.

Health problems were not readily reported by households and they did not perceive major health problems in the village. The main complaint was of fever (40% of the 87 households) with very few reporting diarrhea or vector borne diseases. Those who did have medical problems visited Rajshahi Medical College Hospital (45%) or sought help locally at the doctor or pharmacy (43%).

Results and Discussion

The Bashuar Village is located in Horogram Union of Paba Upazila in Rajshahi District and borders Bashuar Beel (13 acre) around which farming is carried out on 98 ha of land. Agricultural activities appeared to dominate as a livelihood but other income generating activities included livestock rearing for meat and dairy products, daily paid labor, service, owning shops, teaching, driving, welding, rickshaw pulling, and skilled work, since the village was on the edge of the city.

The population in the village was approximately 4500 in 650 households but the project focused on the 382 households located closest to the beel. Of these households 87 were randomly selected for interviews, and of these 25 were found to be female headed households. The average household comprised of 4.3 members, and 83% of households had 3-6 members per family. The male:female ratio was 52:48.

Access to water

Ground water is the only source of drinking water in the village. Most households interviewed had deep tube wells (250-300 m) (68%) and 23% had shallow tube wells (60-70 m); 9% were not specified as the ownership was unclear. Most tube wells had concrete platforms and the general cleanliness was acceptable. The excess water at the tube well sites was usually diverted to a pond or Bashuar Beel, but many had it collecting at the site. Around 10% of the tube wells did not have a concrete platform and maintenance was poor; in these the surroundings were not clean.

The system of ponds appeared to be popular for bathing and washing clothes, although they also collected the drainage water from tube well sites.

Where there were houses close by, even the grey water discharges were directed to these ponds but the community did not perceive this as an unhygienic practice.

The survey showed that tube wells were by far the preferred source of water. At in-depth interviews it was mentioned that often the last wash for clothes and utensils was also done with the tube well water. It was perceived that most villages are keen to have the ground water tapped for their needs, and with time this could lead to a depletion of water in the water table.

Bashuar Beel receives water from the city drainage channels, after a degree of sedimentation at a shallow pond that is situated before the beel. This may be acting as a filter thus periodic cleaning of this pond is also required. The extent of pollution in this pond was not studied. The beel also receives wastewater directly from latrines which has major implications for its uses, which were observed to include bathing and washing of household items.

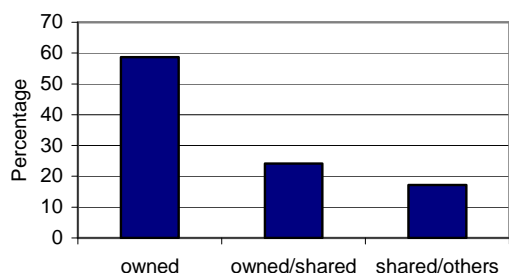


Access to latrines

The survey showed that the majority of households used sanitary latrines (62%), the rest were pit latrines (37%) and hanging latrines (1%). The interview was linked with direct observation and the project team noted 50 households with access to sanitary latrines, which tallied fairly well with the responses given by the household members. It was observed that the sanitary latrines had septic

tanks but a few had ring pits with overflow pipes connected to Bashuar Beel. Similarly, the hanging latrine and a few pit latrines were also connected to the Bashuar Beel.

Households with access to latrines



Observations revealed that 47% of toilets were badly maintained, smelled foul and had many flies. Some of the sanitary latrines (9%) were clean but had flies in them. There were no public latrines in this area. The study shows that overall the latrine maintenance was not satisfactory. This was in part because of sharing and the large number of persons using a single toilet.

The distance between the latrines and tube wells ranged from 1 to 20 m for 89% of households; and 63% of households used a tube well that was 1-5 meters away from a toilet. This could potentially effect the water quality in shallow tubewells but without testing this it is difficult to comment on the relative quality of the shallow and deep tube wells.

Nearly 40% of latrines were close to a pond, and this distance ranged from 1-10 m. This could be a potential health hazard, but a more in-depth study is required to asses the real impact. Only 8 households had no water body close to a latrine. The rest were 10-60 m away from a water body. Nearly 36% of households were were located near the *beel*, these people were observed to use the *beel* for a number of domestic purposes including bathing and washing household items.

Hygiene practices

The habit of washing hands was common among the adults and children and also after the adults disposed of the feces of children. Soap and water

were the popular choice for all categories, with fewer than 10% using only water or a mixture of water and ash. However, observations contradict the statements made by the interviewees as it was found that 56% of the households did not have any soap or ash near the toilets; 24% had soap but it did not appear to have been used. Only 11% of households had signs of soap being used. Six households had soil and water near the toilets, but none of the households mentioned that they used this for washing their hands.

In general, the disposal of feces by parents occurred when the children were less than 4 years of age (40% of households) and only a quarter of these disposed of it into latrines. Most people buried it, threw it into bushes or onto rubbish heaps, which are not hygienic practices.



Health status

The people interviewed were not very aware of the health problems that afflicted the community. Many of the major vector borne diseases (Malaria, Dengue and Kala Azar) reported for the District were not reported from the village. When asked through a set of structured questions, only 4% of household reported that any of the adults and 6% reported that the children had suffered an episode of diarrhea within the last two weeks. Of the 87 households interviewed 38% reported that the community did not have a special health problem. However 48% reported fever to be a particular problem for the community, 20% diarrhea and 29%

coughs. A few households also reported skin diseases (5%), measles (2%) and pneumonia (2%) as problems.

The majority (45%) of the households visited the Rajshahi Medical College Hospital (RMCH) for treatment, as the treatment was provided for a nominal fee. However, this was difficult to trace at the hospital as no records were kept on a day to day basis at the outpatient department. The RMCH has the capacity to treat approximately 1200 patients per day with 530 beds available.

A similar percentage of respondents (43%) went to a local doctor or took treatment from the pharmacy, and only a small number (6%) sought treatment at private clinics or in more than one treatment facility (5%). Although the community is provided with a government lady health worker, from the responses given by the community it was evident that this person was not regarded as an important person who could advise them on their health status. The government health care system has deployed these health workers for the purposes of health education and giving the first line of care for combating diarrheal diseases at home, until such time as medical advice is sought.

Implications for WASPA

- Many of the domestic activities in Bashuar village impact on the surface water bodies within the village and on the water flowing to the agricultural area. Ponds and the *beel* receive drainage water and to a limited extent toilet water.

- There is scope to have a program for cleaning and monitoring the ponds for water quality and disposal of community generated garbage. A plan to “keep the ponds clean” could be launched with community participation, especially targeting school children and the teachers.
- Cleanliness of latrines could be improved and could form part of an education campaign.
- These observations need to be discussed with the community members, to heighten their awareness of the environment, hygiene and sanitation and to teach them methods to safeguard their natural resources.

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