

Improving water and sanitation in schools and communities

Successes and lessons learned from Nasirnagar, Bangladesh, March 2009

BACKGROUND

Water and sanitation-related diseases remain one of the most significant child health problems worldwide. In some cases, these diseases cause premature death, but more frequently they cause non-fatal chronic conditions such as diarrhea, worm infections, cholera, malaria, trachoma, and schistosomiasis. Children who suffer constant water-related illness are at a disadvantage in school, as poor health directly reduces cognitive potential and indirectly undermines schooling through absenteeism, attention deficits and early dropout.¹ Additionally, the lack of adequate, segregated sanitation facilities for boys and girls at school discourages girls from attending full time, affecting their academic performance and perpetuating gender inequity.

Bangladesh faces many challenges related to water, sanitation, and hygiene because it is densely populated and prone to flooding. High levels of naturally-occurring arsenic pollute shallow groundwater, putting an estimated 35 million people at risk of chronic arsenic poisoning, which can cause cancer and affect cognitive development in children.² Frequent and recurring natural disasters, such as floods and cyclones, also trigger outbreaks of waterborne diseases, destroy existing sanitation facilities and compromise safe water supplies, compounding existing health issues.³



Eight-year-old boy washes his hands outside a new latrine at his primary school

In 2003, a nationwide baseline survey conducted by the Ministry of Local Government, Rural Development, and Cooperatives, indicated that only 33 percent of households had a hygienic latrine (latrines with water seals to prevent contamination).⁴ In response, the Government of Bangladesh launched a major initiative to improve sanitation and declared an ambitious target of achieving 100 percent sanitation coverage by 2010. High-level political commitment and resource mobilization has led to increased awareness around sanitation issues, but the target remains ambitious.³

Through its School Health and Nutrition (SHN) program in Nasirnagar, Save the Children helped provide safe, affordable, and sustainable water, sanitation, and hygiene facilities, by:

- Raising awareness of the importance of safe water, sanitation, and hygiene behaviors at school and community level using a variety of approaches.
- Ensuring that all schools have a safe water supply and building the capacity of Village Development Committees to maintain the facilities
- Increasing coverage of separate sanitation facilities for girls and boys, which are child-friendly and accessible at all times.
- Improving support from government organizations and NGO counterparts to implement a uniform policy on water and sanitation and maintain facilities in schools when needed.⁵

In 2006, the SHN program integrated PHASE (Personal Health and Sanitation Education program) into its approach. PHASE, a hand-washing program targeting school-aged children, was pioneered and funded by research-based pharmaceutical company GlaxoSmithKline. With the addition of PHASE, Save the Children was able to not only strengthen the program



especially in the area of behavior change, but also increase the program coverage—including water and sanitation facilities—to all 13 unions of Nasirnagar, 127 schools in total, reaching over 33,500 children.

When Save the Children launched its School Health and Nutrition program in six unions of Nasirnagar in 2002, the water and sanitation situation at schools was grim (see table below). Most schools did not have functional tube wells and just over half had functional toilet facilities. Working toilets were often locked and the key kept in a location that was inaccessible to children. Due to limited water availability, most toilets were not cleaned regularly, so when children needed a toilet, they usually returned home or went in the bushes, beside a road, or in fields or ditches. Very few schools had hand-washing facilities.⁶

In 2006, as the SHN program expanded to seven new unions, a community baseline survey conducted by NGO Forum⁷ and a qualitative hygiene behavior survey conducted by Save the Children⁸ revealed the following:

- Almost all households reported using tube wells as their main source of drinking water. However very few wells were safe from arsenic and most homes used hanging or open latrines which are unhygienic (see graph, page four). From a behavioral point of view, most family members did not wash their hands appropriately and few wore sandals in the latrines.
- Many children did not use latrines because facilities were locked during school hours, broken, or unclean. Students also said that the toilets were frightening places. Latrines were dark with nothing for children to hold onto while squatting, and students reported fears of falling into the hole or getting locked in.
- Due to a lack of separate latrines at school, girls are more likely to miss school when menstruating.
- Men and boys often did not use sanitation facilities because they consider latrines to be primarily for women and girls, who require more privacy.

Water and sanitation situation in schools (6 unions, 2002)

Schools with tube wells	94%
Schools with working tube wells	46%
Schools with toilet facilities	77%
Schools with working toilet facilities	45%



Children reading posters on safe hygiene produced by Save the Children and NGO Forum

“My husband is very much responsible for my boys not using the latrines. He usually doesn’t use latrines and that’s a good excuse for my sons. They just follow their father. It does not help how many times I try to teach them about defecating in the latrines. They will just imitate their father and uncles.” —A mother of five children

“We all get together and clean the classroom, courtyards, and latrines. We feel proud because we work for the school and for the other students.”

- Community members reported not using latrines because they didn’t perceive any health risks posed by improper disposal of feces (47 percent) and lacked money to construct sanitation facilities (42 percent).
- Community members said they rarely disposed of human waste (especially that of infants and young children) in a fixed location, but mostly at random (70 percent) or in various bodies of water (19 percent).
- Students were aware of the harmful effects of arsenic and understood that unsafe water could cause diarrhea but the majority were unaware of the link with other water-borne diseases.

APPROACH

To increase access to and use of safe water and sanitation facilities, Save the Children, in partnership with communities, schools, local NGOs, and government organizations, constructed and rehabilitated tube wells,

latrines, and hand-washing facilities at both school and community levels, and provided training to teachers, students, and communities on safe hygiene practices and maintenance of facilities. Save the Children introduced activities within the context of its comprehensive SHN program, and in line with the internationally-recognized FRESH framework* to ensure that all schools in the program area had access to health services, a safe school environment, and health education supported by strong communities and school health-related policies.

Working in partnership with a local water and sanitation organization, NGO Forum for Drinking Water Supply and Sanitation, Save the Children focused on:

Provision of safe drinking water

Save the Children conducted an initial assessment to identify schools without safe drinking water. Based on the results of the assessment, local school management committees selected sites for new tube wells. NGO Forum provided hardware support, installed the wells, and tested the water to confirm it was arsenic-free. In accordance with a national initiative, arsenic-free tube wells were painted green and contaminated wells painted red (see photo, below). Although arsenic is not a significant problem in Nasirnagar, all school children are taught to recognize the meaning of the painted pumps. As a ten-year-old girl from Nasirnagar Government Primary School explained, “We know not to drink water with arsenic and that arsenic causes cancer.”

Save the Children trained school management committees to maintain and repair school tube wells, while village development committees were responsible for wells in the community. Save the Children provided funding to NGO Forum to rehabilitate non-functioning tube wells to ensure that all communities had safe, working water points. As part of their health education classes, children learned to avoid drinking from ponds, rivers, or lakes and to store water in clean, covered vessels. Each classroom received a jug of water and a drinking glass and students assumed responsibility for filling and cleaning the jug and glass on a rotating basis.

*FRESH (Focusing Resources on Effective School Health) is a common framework for School Health and Nutrition launched by international agencies at the World Education Forum in Dakar in 2000.

Provision of latrines and hand-washing facilities

Initial program review meetings identified schools that lacked hand-washing facilities or latrines and schools with inadequate facilities for their student populations. Save the Children and NGO Forum rehabilitated existing facilities or, where needed, installed new ventilated latrines and hand-washing facilities. To encourage student use, the project selected child-friendly latrines (with smaller pans, simple locks and a handle on the wall) and installed separate latrines for girls and boys. Save the Children mobilized and trained school management committees to support facility maintenance. Student brigades, comprised of student volunteers from the higher grades, assumed responsibility for the daily care and cleaning of the latrines. Students felt a sense of ownership and accomplishment for their role in keeping their school environments clean. “We all get together and clean the classrooms, courtyards, and latrines,” said a ten-year-old girl at Nasirnagar Primary School. “We feel proud because we work for the school and for the other students.”

COVERAGE

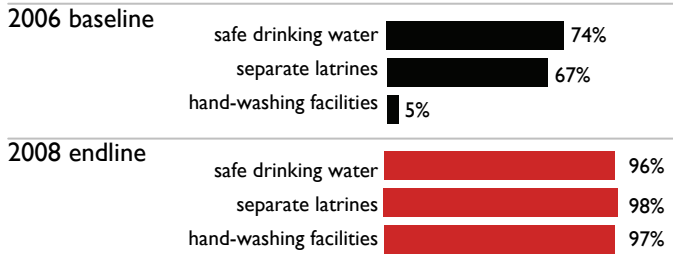
Between program start-up in 2004 and phase-out in 2008, Save the Children and NGO Forum constructed 175 safe water points in Nasirnagar: 85 in villages and 90 in



Tube wells contaminated by arsenic are painted red.

Portion of schools with adequate sanitation⁶

Before and after SHN project:



schools. Additionally, the project constructed 200 sets of hand-washing facilities in 100 schools and 48 latrines in 48 schools. At the community level, the project supported construction of 1,915 latrines in the poorest households.

SUCCESSSES

Quantitative and qualitative surveys conducted in Nasirnagar between 2004 and 2008 show that children's knowledge and reported practice around safe water and sanitation practices improved substantially.

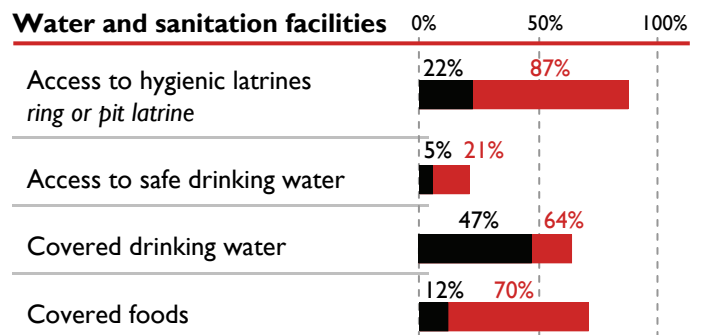
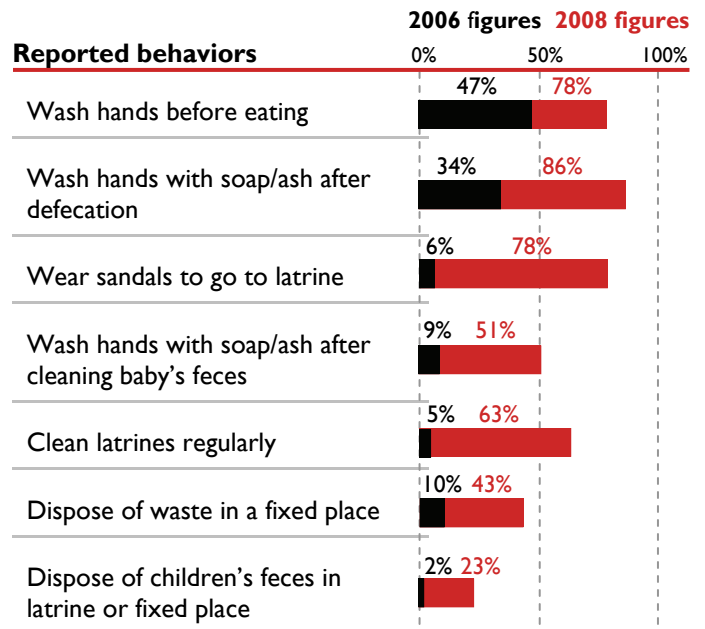
Over 95 percent of schools in Nasirnagar now have safe drinking water that is free from arsenic, functional child friendly latrines for girls and boys, and hand-washing facilities. This represents a huge improvement from conditions in 2004⁹ (see chart, above left).



A hygienic latrine with hand-washing facilities.

Comparison of household-level conditions

(2006: n=2948 households. 2008: n=330 households)



Findings also suggest huge improvement in access to and use of water and sanitation facilities in homes (see chart, above right)⁸. Save the Children conducted two large, community-level surveys in the seven expansion unions, one in 2006, before SHN interventions began and again in 2008 after the SHN program expanded to these unions. Although the sample sizes were different, the questionnaires and methodology used for both surveys were the same.

CHALLENGES AND LESSONS LEARNED

Despite these important achievements, the project encountered a number of challenges at both the school and community-level:

- Although the project achieved major improvement in reported use of latrines, 13 percent of households continue to practice open defecation due to lack of funds for a latrine, lack of space for construction, or lack of knowledge.
- Hand-washing habits were more difficult to change at the household-level than at the school-level. By the end of the project, only 40 percent of households reported washing hands before food preparation, 41 percent before serving food, 33 percent before feeding small children and 51 percent after cleaning the feces of infants and young children. This inconsistency increases the likelihood children will be exposed to illnesses at home.
- Improper disposal of waste continues to be a problem; 57 percent of households still do not use a fixed hole or designated area, but dispose of waste either in a body of water or at random. Community resistance to changing waste disposal practices stems partially from a lack of facilities away from households and the belief that infant and young children’s fecal material is less harmful than that of adults. As one community member explained, “Children are innocent; therefore their feces are not as dangerous as ours [adults].”



Schoolchildren in a crowded classroom in Nasirnagar



Global Hand-Washing Day in Meherpur, October 2008

- Community members sometimes vandalized hand-washing facilities, removing parts—often the iron pump handle—to sell as scrap metal, thus rendering the pump ineffective. Replacement parts and repairs are costly and rely on external support, which is an ongoing challenge to achieve long term sustainability.

NEXT STEPS

After more than 30 years of programming in Nasirnagar, including six years implementing School Health and Nutrition, Save the Children gradually reduced its support for programs in Nasirnagar. In September 2008, the agency moved its programs to Meherpur, a district on the western border of Bangladesh. Although some activities may discontinue in Nasirnagar, Save the Children is leaving behind stronger communities and partners, who understand the importance of safe water and sanitation and healthy hygiene behaviors, are committed to continuing the activities introduced by Save the Children and have the capacity to do so. The government’s commitment to total sanitation by 2010—a promising effort led by the Ministry of Local Government, Rural Development, and Cooperatives—will support local efforts to improve the water and sanitation situation. However, more effort must be made to ensure that safe drinking water and child-friendly, accessible sanitation facilities and information are available in all schools in Bangladesh.³

A School Administrator's Perspective

Shamima Rouf is the Headmistress of Fandauk Primary School in Nasirnagar. She has 18 years teaching experience. She describes the School Health and Nutrition program at the school:

“The School Health and Nutrition program covers so many areas: iron tablets, vitamin A, health, sanitation, and the wearing of school uniforms and slippers. The teachers here support and follow the program, and the students like the cleaning portion so much.

“The best part of the SHN program is the hygiene practice and cleaning because it has a strong impact on the children and they can practice what they learn in their homes. The children ask their parents to wash their hands before preparing food and to cover the food—otherwise the children won't eat! And parents are open to suggestions and information. The children ask their parents for soap to wash their hands.

“Five years ago the children came to school with unclean clothes, but now they are clean and organized and know the importance of health education.”

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Photos by Michael Bisceglie & Natalie Roschnik

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