

Introducing Disaster Preparedness through Water and Sanitation

Project coordinator: Abhinav Kumar

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Background

Flooding is a recurrent problem in the remote villages of north Bihar, and in some places residents can be almost completely cut off for up to eight months of the year. Besides the loss of crops and other assets, the lack of water and sanitation facilities installed on ground high enough to withstand flooding is the most serious problem. When villagers are compelled to adopt unhygienic practices in the wake of floods, waterborne diseases spread quickly as a result. At the initiative of the Bihar government's minister of disaster management, WaterAid India partnered with IDF to develop an innovative plan to address this problem by introducing disaster preparedness measures.

Scope of the Project

After a successful six-month pilot project, a three-year intervention was designed to target more than 6,000 people living in 61 villages in five blocks of the following five districts of north Bihar: Muzaffarpur-Aurai, Madhubani-Jhanjarpur, Darbhanga-Kewoti, Samastipur-Kalyanpur, and Sitamarhi-Belsand. The activities described in the remainder of this report refer to one year of the intervention.

Goal

The goal of the project was to provide access to safe water and sanitation for especially remote and deprived communities, suitable for use during flooding as well as throughout the year.

Objectives

- To build community toilets and install hand pumps with raised platforms on high ground in all the target villages.
- To develop information, education, and communication (IEC) materials for the state government to promote on a large scale.
- To set up models of flood preparedness in 25 villages in the five districts, as formulated by the government and other agencies.
- To establish an emergency system for addressing issues related to water and sanitation during floods.
- To ensure that residents understand and are able to maintain health and hygiene practices during floods.
- To create a directory of all government contacts available to flood-stricken communities.

Integrated Development Foundation

Maurya Path, Khajpura, Patna - 800014, India

Phone: +91 (0)612 258-8682 / 258-1553, 326-4089 • Email: idfpatna@idfngo.org

Activities

After an initial period devoted to building rapport with community members, the project moved on to introducing concrete interventions.

Site selection and community toilet construction

The choice of location for the community toilets depended on a number of factors, especially high ground and a central position. All decisions were arrived at by consensus following open community discussion. The final decision was made in the presence of Panchayat Raj Institution (PRI) members at a community meeting, at which user groups were also formed with specific roles and responsibilities. In the first year a number of toilet designs were used, and the project staff were able to learn which design could achieve the required standard with the fewest bricks, and thus at the lowest cost. By the second year the installations were standardized to use the most cost-effective design.

Raised hand pump installation

Raised hand pumps were installed to ensure the availability of clean drinking water even during floods, when other hand pumps become submerged and unusable. These raised hand pumps were located in proximity to, but at a safe distance from, the community toilets.

Maintenance and repair training

Maintenance and repair capabilities are required for the smooth functioning of any asset, and the community toilets and raised hand pumps were therefore closely monitored on an ongoing basis as an integral part of the intervention. Local community members were trained to carry out repairs and maintain needed supplies.

Volunteer mobilization

Community members were mobilized to identify suitable volunteers from different villages to support the ongoing disaster preparedness activities; these were often functionally literate young people with past volunteer experience and good interpersonal skills.

Training sessions . In a series of training sessions, volunteers learned about the importance of community-based preparedness, the concept of volunteerism, volunteers' specific roles and responsibilities, the strategies developed by the Bihar government to cope with disasters, mapping and resource analysis, and how to operate a village water and sanitation committee. In addition, volunteers were briefed on and carried out mock drills. Perhaps most important, they were trained to function independently once the intervention was over, ensuring that the projects benefits would be sustainable. Rescue teams were formed, including swimmers.

Rescue bag preparation. As part of the volunteer training, rescue bags were prepared containing up to 32 practical items such as tools, antivenom, first aid items, sanitary pads, and so on.

Village-level meetings

Project staff held village-level meetings regularly before the monsoon season to increase awareness of the importance of flood preparedness, explain how to act once floods occurred, and emphasize the benefits of a collective response. The meetings also provided information on services provided by the government and helped establish better coordination with government line departments.

Wall writing

Community members created wall paintings and writings and placed them at strategic locations in order to draw maximum attention and reinforce the message communicated at the village-level meetings, namely, the importance of access to and use of clean water and sanitation facilities and other basic information relating to flood preparedness.

Orientation for community and schools on use of water tanks and filters

As part of the emergency preparedness measures, water tanks and filters were provided and placed in strategic locations, mainly school buildings, which are generally the safest places during flooding. Community members and teachers underwent orientation sessions to make them aware of the proper use of these tanks and filters.

Orientation of project field workers

To ensure that they developed the necessary skills and attitudes to implement the intervention successfully, the project's field workers also received in-depth orientations covering the concept of the program, issues relating to the design and cost of community toilets, procedures for organizing community-level meetings, and sustainability.

Asset handover

A key component of the project was the formal handover of the new community toilets and raised hand pumps, as well as other critical supplies provided by the intervention, from the project staff to the community. This process was critical to creating a sense of ownership of these assets on the part of the community, without which the benefits could not be sustained.

Outcomes

Following is a selected list of outcomes of the intervention in one year:

- Assets were handed over in 51 villages.
- Community members created 72 wall paintings and writings in 48 villages.
- A total of 44 village-level meetings were held.
- Project staff held 24 community and school orientation sessions.
- 24 toilets were installed.
- 25 raised hand pumps were installed.
- 24 water filters were supplied.
- Volunteers prepared 96 rescue kits.

- Schools received 9 water tanks.
- A total of 80 tarpaulins were distributed in the different villages.
- 40 life jackets were supplied.
- 90 volunteers received training.

Achievements and Challenges

As a result of this sustained intervention, the physical situation of villagers in these remote and marginalized communities has significantly improved, both during flooding and in normal conditions. In addition, PRI members are now better educated about the government services to which they are entitled and feel empowered to insist on their right to, for example, raised hand pumps. Each village is now equipped with four trained volunteers who coordinate with their counterparts in other villages and government line departments. Although initially very few community members attended the open meetings, the proportion gradually increased as rapport with project staff grew and eventually reached 60 percent .

Thanks to the success of the meetings and IEC materials, awareness of the importance of health and hygiene practices increased, and community members gradually adopted them both during and after floods. The official handover of the new assets caused community members to develop a strong feeling of ownership of their new facilities. Among the remaining challenges are the difficulty of operating in such remote terrain, where lines of communication are overextended, and insufficient project staff on the ground. In addition, raw material costs rose unexpectedly, adversely affecting the budget.

Case Studies

A life saved

Following a recent flood, 35-year-old Ajay Das of the village of Joki in the Aurai block of the Muzaffarpur district, became aware of something contacting his left foot as he entered his home. He realized immediately that he had in fact been bitten by a snake, and his family members luckily knew that the IDF worker in a nearby village had an antivenom kit. They were able to get Ajay there without delay, and the prompt treatment he received undoubtedly saved his life. Now it is clear to everyone in his village and beyond that laying in critical supplies before the floods and knowing where to go in an emergency can make the difference between life and death.

Community leadership initiative pays off

A community toilet was constructed in the village of Khaira in the district of Madhubani as part of the IDF intervention. After it was partially damaged during routine maintenance, the *mukhiya* (village head), Mr. Subana Das, was invited to participate in a community meeting. Seeing the need for PRI participation, community members and IDF volunteers asked Mr. Das to provide 20 man days' soil near the toilet pits and convergence service. The *panchayat mukhiya* provided this amount under the Mahatma Gandhi National Rural Employment Guarantee Act.

Seeing the positive results of this action, the community was inspired to participate actively in the IDF program.