



Engaging youth for promoting Safe Drinking Water in selected villages of Bihar

Study Undertaken by:
India Water Partnership (GWP-India)

With Support of:
SM Sehgal Foundation

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Lalit Mohan Sharma
Director (Adaptive Technologies)
SM Sehgal Foundation

Executive Summary

At a household level, lack of safe drinking water contributes toward poor household economy and also leads to health hazards. Microbes, iron, arsenic and turbidity are encountered in drinking water across numerous states in India. Especially North and North East States of India cripples with the problem of arsenic and high amount of iron in groundwater which is a major source of drinking water. Prolonged consumption of arsenic and iron contaminated water has adverse impacts on the health of human beings.

Different forms of contamination viz. physical, chemical, biological make the water unfit for dinking and has adverse health impacts on human beings specially children and women. Diarrheal and other water borne diseases is found to be the foremost causal link behind inequalities in child mortality, and poor nutritional status. Excess of iron in the body leads to health hazards like hemochromatosis. The Arsenic contamination above permissible limits is found across alluvial planes of Ganges, and more recently is being detected in north eastern region of India. Evidence suggests that prolonged consumption of water contaminated with arsenic is associated with development of cancer particularly skin, lung and bladder. Because of lack of awareness communities particularly in rural areas keep suffering from the waterborne diseases. Even the organizations working in these areas do not have the update knowledge on the issue.

In view of above, this project of running a campaign of building awareness among the communities of selected villages of Bihar with prime objective **to stimulate behavioral change towards safe drinking water** was designed and training programs were conducted from July to December, 2016. Methodology adopted for this was to select 37 villages having arsenic, iron and biological contamination in water and aware the villagers about the issue of safe drinking water through India Water Partnership (GWP India) Youth ambassadors. Five youths were trained on the household water treatment, water cycle and water resources, multi-barrier approach etc.

As a result, 2595 villagers out of the 37 villages were made aware about the safe drinking water issues and solutions were provided in the form of bio-sand filters which are low cost and easy to maintain. This project resulted in making behavioral change towards safe drinking water by the community.

Background and Rationale:

Globally, consumption of contaminated water causes 4 billion cases of diarrhoea and results in 1.8 million deaths, predominantly of children under the age of five. It is estimated that more than 37.7 million Indians get infected with water borne diseases annually. Studies show that repeated exposure to diarrhoea results in severe weight loss, stunted growth and vitamin deficiency in children affecting cognitive abilities. Prolonged consumption of water contaminated with arsenic is associated with development of cancer particularly skin, lung and bladder (WHO 2004). Globally, safe drinking water and improved sanitation and hygiene conditions can reduce up to 1.4 million child deaths caused due to diarrheal diseases. Bio-sand filter (known as Jalkalp filters) was adopted by SM Sehgal Foundation (a network partner of India Water Partnership) is precast concrete, which removes 98.5 percent of the biological contaminants, iron, and turbidity from water. Sehgal Foundation further re-designed the model to suit Indian conditions by integrating the germicidal properties of copper to remove 100 percent of the biological impurities and zerovalent iron technology to remove arsenic from water. The stainless steel model, being light in weight, makes it more portable on village roads and hilly locations.

With the above background, India Water Partnership (GWP-India) commissioned a project to SM Sehgal Foundation which is a leading NGO of India in water quality monitoring and for providing solutions for using safe drinking water.

Objective:

To stimulate behavior change of communities towards safe drinking water

Trainings /Workshops for Capacity Building

(i) In 37 selected villages of Samastipur and East Champaran Districts of Bihar

Through various training programs and workshops for capacity building, India Water Partnership in collaboration with its network partner Sehgal Foundation created mass awareness to **stimulate behavioral change towards safe drinking water** among the local communities in 37 selected villages of two districts of Bihar viz; **Samastipur and East Champaran** which are the most affected districts with arsenic and iron contamination. A campaign was run from the past 5 months with the support of local vibrant youths. Before reaching to the community, the youths were trained to influence the local community. Several capacity building sessions were conducted in the villages to sensitize the village communities about the importance of safe drinking water. These trainings were conducted in lecture and discussion mode using printed charts as IEC material. In both the districts, awareness generation campaigns on importance of safe drinking water were organized for 37 selected villages. 84 training Sessions on water quality testing for arsenic and iron using field kits were conducted for **1,752 males** and **843 females** over a span of 5 months. Capacity Building Initiatives focused on stimulating behaviour change towards safe drinking water.

In addition other platforms like farmer’s meetings, governance meetings were also used for discussions around safe drinking water and related issues.

Overall status of capacity building sessions carried out during the project is given in the table below:

Month	Number of sessions	Participants		
		Males	Females	Total
August	10	135	85	220
September	15	290	134	424
October	25	542	265	807
November	16	370	90	460
December	18	415	269	684
Total	84	1752	843	2595

Outcome

Communities appreciated awareness building sessions on importance of safe drinking water and came forward to seek the advice on solutions. It contributed in building a perspective of communities towards hygiene and sanitation. Awareness generated through training sessions led to early adoption of Jalkalp filters by several households. Post adoption of Jalkalp filters, several households reported reduction in water borne disease. Adoption of filters by several households influenced neighbouring households and villagers to be more vigilant about drinking water contamination. Villagers were keen to bear partial cost of filter to mitigate the health effects of consuming non-potable drinking water.

List of Intervention Villages

Promotion of safe drinking water through GWP-India Youth Ambassadors was undertaken in following 37 selected villages of 2 districts of Bihar:

1.	Samastipur	Kalyanpur	BelbhadrapurKhajuri, Akbarpur, Birshingpur, Basudevpur, Bakipur, Jakhara, Ajana, Madhuwan, Gopalpur, Jhahuri
	-do-	Samastipur	Bidulia, Raghunathpur, Jagdishpur rami, Rupnarayanpur, Jagatsinghpur, Punas, Ratanpura

2.	East Champaran	Mehssy	Motnaje
		Madhuban	Gurmiya, Rupani, Machahha, Inerwa, Bhagwanpur, Domaghat
		Pakaridyal	Aamwa, Madhuban, Ramban-II, Ramban-I, DevirayTola, Chaita
		Turkoliya	Motnaje Rampur, Balahi, Hardiya, Persuna
		Chakiya	GhanshyamPakari, Madhuban, Sitakund

(ii) In Gurgaon, Haryana

Further, a Two day seminar-cum-training program on Household Water Treatment and Safe Storage was organized in Gurgaon (Haryana) on 23rd-24th August, 2016 with participation of 18 persons. During the seminar-cum-training program, followings points were emphasized:

- Qualities of safe drinking water.
- Physical, chemical and biological impurities in water.
- Sources of contamination and how the water gets contaminated.
- Link between human health and water contamination.
- Different ways to remove frequent contaminations.
- JalKalp water filter: a sustainable solution to treat water and its operation and maintenance.

Brief details are given below:

The seminar was designed for initiating and strengthening household water treatment and safe storage (HWTS). It provided an introduction to water sources and contamination, the water treatment process, household water treatment and safe storage options, and selection criteria for

choosing between options. Participants also discussed criteria to practice selecting locally appropriate treatment options using the multi-barrier approach for safe water.

Among the participants were decision makers who are planning or considering HWTS projects, Non-governmental organizations (NGO), international NGOs, government agencies, India Water Partnership network partners, individuals considering how best to provide safe water for a community and community leaders and community health promoters who inform and educate households on their options for safe water.

The method of instruction was participatory that included theory, classroom exercises, open discussion, case studies, demonstrations, and hands-on practice.

Implementation Strategies discussed in the seminar were: Creating demand, ensuring supply and services and, monitoring for improvement were identified as three goals of the implementation strategy along with capacity building for increasing its effectiveness.

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