

Panchayat manages its own safe water supply in fluoride affected village in Bihar

Khaira villagers support PHED to set up two mini water supply plants and a Water Vending Machine (also called as water ATM) to avoid consumption of fluoride contaminated groundwater.

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KHAIRA is a small village located in the Kharagpur Block of Munger District, one of the districts of Central Bihar enlisted as both arsenic and fluoride contaminated. The other districts are Lakhisarai, Jamui and Banka. In its attempt to get rid of fluoride and arsenic-rich water, the Panchayat launched a water purification plant which would be collectively owned by the village. The ground water of Khaira village and its adjoining areas do not contain arsenic but has fluoride above tolerance limit.

The Bihar Technical Assistance Support Team (BTAST) in collaboration with the Sector Wide Approach to Strengthening Health (SWASTH) programme, which is an initiative of the Government of Bihar, supported by Department for International Development (DFID-UK), has been trying to support the provision of safe water supply in several areas of Bihar. In Khaira,

BTAST conducted a study titled 'Integrated Approach to Fluoride Management in Khaira Village' between October 2012 and April 2013, which found that out of a total of 272 hand pumps, 213 revealed fluoride content more than the permissible limit. Another joint study by Kalpvriksh Sewa Sansthan and BTAST conducted on 143 school children in the age group of 8 – 16 years in the village found that 20% of the children were affected by mild fluorosis, 20% by moderate fluorosis, and 15% by severe fluorosis. Another 15% of those surveyed were also categorised as suspected cases who in later years could develop symptoms of dental fluorosis.

Sanjay Patel, a Khaira villager, says that the water in the village is unfit for both bathing and drinking. According to him, the problem of fluoride is so acute in Khaira that it has been found in foodgrains and

Sanjay Patel, a villager, flashes a project report on integrated approach to fluoride management in Khaira village in Munger district of Bihar.



cow milk, too. "While the ideal fluoride content is 0.6 or less than 1 parts per million (ppm), in our village the fluoride level is about 10 ppm," he says.



Consumption of fluoride contaminated water renders 55-year-old Satyam Devi with a hunchback in Khaira village in Munger.

The fact that the village groundwater was unfit for drinking was revealed more than 26 years ago, in 1989, when a villager - Ramnaresh Sharma - visited a hospital in New Delhi to get treated for his disability. He says, "When I visited AIIMS, I was told that my disability was due to fluoride contaminated water and they wrote to the local administration about the water contamination which caused the ailments related to disability, deformity and premature ageing."

There are several others in the village who are afflicted due to the water contamination and have deformed bodies, unable to lead a normal life. This includes people of all ages, from teenagers to octogenarians, who are bearing the impact of bad quality water. If 80-year-old Sukhni Devi and 55-year-old Satyam Devi are hunchbacked and suffering from joint pains and weakening of bones, 12-year-old boy has dental cavities.

It's a little wonder then that the Khaira Gram Panchayat has proactively supported the Public Health Engineering Department (PHED) to install two mini water supply plants (water purification plants) and a water ATM with reverse osmosis (RO) system for providing safe water to the village. Although this may not be a permanent solution to the problem of water contamination, it is encouraging to see the cumulative efforts by the state government, development partners, and local Panchayat leaders in setting-up these facilities.

The three facilities have the capacity to meet the needs of 500 households. Out of the three facilities,

one water purification plant has been commissioned with the support of BTAST. While the plant has been handed over to the local Panchayat, BTAST is looking after the plant's annual maintenance till December 2016. The water plant provides villagers 20 litres of water for Rs 4. BTAST has employed caretakers and purchased containers for ensuring proper water supplies. The caretakers distribute water and collect revenue from the users.

The BTAST-supported plant has the capacity of filtering 1,000 litres in an hour. The stocking capacity of raw water is up to 5,000 litres, and the tank for filtered water has the capacity to stock up to 2,000 litres of purified water.

Prabhakar Sinha, Director, WASH, BTAST, says that BTAST is committed to bring safe drinking water to the deprived population in this remote Naxalite affected Khaira village. He says, "Realising the fact that people were suffering due to non-availability of safe drinking water, BTAST took upon itself to support this small yet critical intervention. The water treatment plant caters to the poorest of the poor families in the village."

Emphasising that the water treatment plant is the first community-driven plant in the state, Sinha adds, "The village Panchayat runs the plant with the support of a local partner Nawalty Welfare for installation and maintenance to ensure proper functioning and quality standards."

Alok Kumar, District Programme Manager, BTAST, adds: "We have also supported the formation of a neutral Village Water Committee level to ensure fair representation to all communities including dalits. Local teachers are being involved to identify needy families through the children enrolled at the school."



Fluoride contaminated water in Khaira village leaves 80-year-old Sukhni Devi incapacitated with a hunchback and joint pains.



Gauri Devi, Block Head-cum-Panchayat Samiti member, Khaira, believes that Panchayat with the help of villagers plays a crucial role in filter plant management.

Gauri Devi, Block Head-cum-Panchayat Samiti member, Khaira, says that people of village are the biggest stakeholders in the filter plant. "There is a Village Water Committee of 12 people elected by Gram Sabha. This committee works for the maintenance of the plant and earns money by selling water at nominal rates," she says.

Ajit Kumar, Assistant Engineer, PHED, Munger, who is also Sub Divisional Officer of Khargagpur, says that the filtered water quality through the plant is regularly monitored by the local officials of PHED. Saying that PHED also conducts motivational campaigns to inspire people to use the filtered waters, he adds, "The Panchayat has played a very crucial role in many areas like land procurement for the plants, which is the most important thing."

The plant management provides free water supply to the local school and the Anganwadi Centre. BTAST also approached the local administration for providing cheap electricity in the interest of public welfare.

Ashok Kumar, Superintending Engineer, Munger, says that the existing mini water supply plants along with an ATM have addressed the immediate need of water supply. "Apart from these facilities, more water ATMs are in the process of being set up.

The permanent solution to this problem is the Khaira Rural Pipe Water Scheme that was launched four years back and is now being revived," he says. Once the permanent solution is ready, these mini water plants are expected to act as stand-by or emergency facilities in future. The success of Khaira water treatment plant is doubly important because, if it proves to be a viable option, it has the potential of being replicated in other needy areas of Bihar and elsewhere in the country. □

Footnote

The SWASTH programme aims to improve the health and nutritional status of people of Bihar by increasing access to better quality health, nutrition, and water and sanitation services particularly for the underserved groups. The focus of this programme is to strengthen the systems through better planning, organizational strengthening & human resource management, decentralization and convergence among key departments. The programme also uses community level processes to manage, demand and monitor services.

This report about Panchayat owned and managed water treatment plant in Khaira village having effectively limited the hazards due to fluoride contaminated water captures a success story under this programme.

This story was written by Ashok Kumar at OneWorld Foundation India.

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