

West Bengal Drinking Water Sector Improvement Project



Sahnaz Sultana, a Grade XI student filling her water bottle from the school's hand pump in Haroa village of 24 Pargana district of West Bengal. She suffers from water-borne disease complaining of chronic pain in feet due to consumption of contaminated water.

16-year-old, Sahnaz Sultana walks with obvious discomfort and complains of chronic pain in her feet. Another teenager, 15-year old Prerna Das, suffers from regular stomach ache which is so severe at times that she has to miss her school. Drinking contaminated water from handpumps in their villages, located in West Bengal's Purba Medinipur and North24 Parganas districts, is the common cause of the girls' ill-health. Moreover, accessibility of water is also a major challenge in the arid region of the State including Bankura district.

Sultana and Prerna are among an estimated 27 million people at risk from groundwater contamination which is emerging as one of the biggest public health threats in India. The country is the largest user of groundwater in the world. The problem is particularly severe in the rural areas where 85% of drinking water supplies rely on groundwater contaminated with arsenic and fluoride- two major groundwater pollutants.

Excessive reliance on groundwater is exposing people to a variety of health risks including skin diseases, gastrointestinal diseases, cancer, damaged joints, bone deformities and fluorosis.

Among states, West Bengal is the worst impacted making up 72% of the country's total population at risk from arsenic contamination. The reasons are obvious: (a) 91% of the state's rural population and 41% of its urban population relies on groundwater; (b) access to piped water supply is rare and limited to shared public stand-posts, without household connections. Majority drink from contaminated on-premises sources such as hand-pumps and wells.

Project Features:

Safe and Sustainable Drinking Water: The project will provide safe and sustainable piped continuous drinking water through individual household connections to over 1.65 million people in 3 districts of West Bengal affected with arsenic, fluoride, and salinity.

Water Infrastructure: Climate resilient drinking water infrastructure will be constructed to provide household metered connections on a district metering area basis through 4,800 kilometers of water distribution network.

3 treatment plants and 110 storage reservoirs will be built – all equipped with smart water management devices and connected to a central SCADA based monitoring system.

Institutional framework and support: The Project has institutionalized an innovative, inclusive and sustainable service delivery model, where the bulk water delivery facilities will be managed by the state-level body, the PHED, and distribution network and services within the villages by the respective Gram Panchayats.

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INDIA

Project Brief

Innovation & ADB value-add

The Project will help create a model for rural drinking water services in West Bengal and in India through following interventions:

Efficient use of surface water through piped supply to preserve groundwater, and reduce disease burden from arsenic and fluoride

Provision of individual household connections and district metering area (DMA) based water supply

Use of high-technology based smart water management system to efficiently manage water services

Innovative and sustainable framework for asset management and service delivery to ensure sustainability of service

Including women in service delivery, and empowering them through employment, inclusion in decision making, water-related livelihood skills, and increased awareness

PROJECT AT A GLANCE

Cost and Financing:

ADB ordinary capital resources, \$240 million, Counterpart \$106 million; Japan Fund For Poverty Reduction (grant) \$3 million, Technical Assistance from ADB's Urban Climate Change Resilience Trust Fund, \$2million

Project approval date:

August 2018

Status of project implementation:

Ongoing

Executing agency:

Public Health Engineering Department, Government of West Bengal

An ADB study on groundwater contamination in the state in 2017 confirmed that piped water from surface sources offered the best option to deal with the situation. The study findings helped the state government prepare district level action plans on water quality improvement with high groundwater contamination.

Shifting people's reliance from groundwater to safer and sustainable surface water-based piped schemes and ensuring drinking water security were the focus of these action plans and the government's Vision 2020.

To support this shift, ADB approved \$240 million (plus grant and TA) funding package for the West Bengal Drinking Water Sector Improvement Project in 2018 that would provide potable and sustainable piped water supply to over 1.65 million people in the arsenic, fluoride and salinity-affected areas of North 24 Parganas, Bankura and Purba Medinipur districts.

Water will be provided through bulk water systems, consisting of intakes, water treatment plants, and transmission mains that will be connected to a grid with existing and new systems in the project districts. The project will use high technology based smart water management system to efficiently manage services and provide 24x7 water supply – a first for a large-scale rural water scheme in India.

The project institutionalizes an innovative asset management and service delivery framework, which has been implemented through a government order in West Bengal. The project will build capacities and skills of all concerned stakeholders, including Public Health Engineering Department (PHED), village governing bodies, the Gram Panchayats, and the local communities through skill development and employment, on operation and maintenance; and will also support public awareness on water, sanitation, and hygiene, among other aspects



Rajan Ari aged 12, fetching water on his bicycle in his village Kalicharanpur, in Purba Medinipur district of West Bengal.



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