

Pipeline Water Supply

The Urban Facility at Rural Difficult Zones

The recurrent challenges in the field of water supply have put a major set-back to the apparent success in the safe water supply coverage. The most alarming reality is the occurrence of arsenic contamination alongside gradual declination and salinity in groundwater. NGO Forum has been promoting alternative technological options to provide pollution-free safe water in different geo-hydrological areas. In doing so, it is a major concern of the Forum to make a harmonious combination between the safety, cost effectiveness, social acceptance, user friendliness, reliability and so on.



The Pipe-water Supply Scheme is such an innovative option being currently promoted in different geophysical areas. The Rain-water Harvesting System, Deep Tubewell, Dug-well and pond water is used as the source water. While installed to cover a whole community with optimal geophysical, technical and socio-economic situation, the Schemes have been proved effective in terms of its total cost.

The overall objective of the Pipe-water Supply Scheme is to provide a suitable, safe, socially acceptable, affordable, community-managed sustainable alternative source of water for drinking, cooking and domestic use in rural Bangladesh.

Technological Advantages

- Initial investment is high but can cover more beneficiaries;
- Community managed and monthly tariff collection system for O&M can be operated;
- Risk of contamination is less and after disaster, reclamation can be done easily;
- Alternative power arrangement such as solar power connection, etc could reduce the production cost.
- Serves with good number of stand posts for supplying water;
- Reduces the threat of arsenic & other contamination in drinking water;
- Offers users with easy access to fetch water from close proximity;
- Volume of supplied water can be controlled;
- Enhances collaboration among LGIs and respective communities;
- Holds the potential for serving long-term in a sustainable manner.



Pipeline Water Supply Systems using groundwater source for freshwater have been installed in Haoli and Karpashdanga unions of Damurhuda upazila under Chuadanga district where the shallow aquifer is highly arsenic contaminated. Feasibility for the technical assessment and investigation was carried out in collaboration with DPHE and UPs to identify freshwater zones in the region. Pipeline water supply service has also been introduced in drought-prone Kasba union under Nachole upazila of Chapai Nawabganj district. In the urban areas of Mymensingh, NGO Forum supported diversification and access to safe water supply for urban poor especially in slum areas through providing piped water supply in total 40 HHs of 36 Bari slum and total 60 HHs of two slums- Abashon and Maloncho from 4 different water points in collaboration with the Mymensingh Municipality.



Massive Relief to Arsenicosis Patients in Chuadanga

A Pipeline Water Supply has been installed in severely arsenic-affected Baropatila village under Haoli union of Damurhuda upazila of Chudanga district- one of the country's worst arsenic-affected districts. Almost 3,000 people of the village are now within safe water coverage. The Pipe-water Supply Scheme worth Tk. 4,042,700 installed with the financial support from European Union along with contribution from Damurhuda Upazila Parishad, Haoli Union Parishad, and the Baropatila community covers the entire village through 63 community stand posts and serves 30,000 litres of arsenic-free water per day. According to the Lab report, the presence of arsenic in the Pipeline-supplied water is 0.025 mg per litre which is safe level. This has brought a massive relief in this village that has experienced the death of 27 people due to arsenicosis. 80% of the Tubewells of this village is arsenic-contaminated. The Pipeline has come



Hazi Ali Azgar Tagor, MP, Chuadanga-2
inaugurating the Pipeline Water Supply Scheme

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as a savior for the villagers who were even thinking of evacuating the village to save the future generation from this gradual exposure to death from arsenicosis. The women in particular were facing social consequences besides physical maladies. A year after their access to safe water from the pipeline water supply service, physical signs of arsenic exposure has become visibly less. As says Phuljaan Khatun, an arsenicosis survivor of the village, "Earlier I had black spots all over my body. These spots used to burn and itch. After taking this water along with medicine, the spots are a lot fewer now." Msst. Momehar Khatun, Female UP Member of Haoli union (ward no. 4, 5 7 6) mentioned, "There are about 300 female patients presently who are greatly benefitted from this water supply service. There has been no more deaths recorded from arsenicosis." Md. Abdul Hannan, another arsenicosis patient himself has lost his mother and elder brother to the disease. He is also engaged as the Cashier of Pipeline Water Supply Committee. His breath of relief was manifested by his words, "I don't trust the medicines without the water. After all these years I am now living a panic-free life."



A team of EU Delegation to Bangladesh visited NGO Forum's arsenic mitigation programmes carried out in Chuadanga on 6 June 2014

Golabari VDC Runs O&M of Pipeline Water Supply System

Water is a scarce resource for the residents of Golabari village of Kasba union, Nachole, Chapai Nawabganj. The Tubewells fail to extract water let alone safe water. Water has to be extracted from almost 100 feet beneath the surface. A Pipe-water Supply Scheme worth Tk. 1,600,000 covering 578 households has been set up in the village with community contributing Tk. 85,000 and the Kasba Union Parishad contributing Tk. 50,000. The Village Development Committee (VDC) has taken the responsibility in managing this gigantic project in such a hard-to-reach village. The VDC is collecting an amount of Tk. 4,000 per month for electricity bill purpose and Tk. 500 for repairing and maintenance purpose while the total O&M cost is maintained by the Water Point Management Committee (WPMC). The Kasba Union Parishad has adopted the WPMC working under its direct supervision. The Golabari Pipeline Water Supply System is registered in the Kasba Union Parishad as a rural asset. The coordinated initiative among the VDC, WPMC & the Kasba Union Parishad has ensured the smooth functioning of the Pipe-water Supply Scheme. The success has also been turned into additional demand from the neighboring community. But considering community demand the VDC, WWPC and Kasba UP together took initiative to set 12 more stand posts in addition to the initial setting of 26 stand posts.



Golabari VDC members with the Pipeline Water Supply System at the backdrop

We Are Enjoying City's Facility at this Remote

The everyday quest for safe water is long and agonizing for the village's women. There is hardly any source of sweet water in the Dakkhin Haldibuniya village as the ponds have contaminated with excessive level of salinity. A Pipe-water Supply Scheme has been installed in Dakkhin Haldibuniya village in collaboration with Chila Union Parishad in 2013. It has brought safe and sweet water at the doorsteps of the remote coastal village living adjacent to the Sundarbans. Rebecca Begum, a young girl of the village exclaims delightfully, "Sweet water is there just as you turn the tap; so near. It feels as if a city facility has come to the village. I do not have to walk distant path to collect a pitcher of water. The pipeline supplied water is clear, sweet and safe; we are saved."



A common picture of purchasing pitchers of drinking water in the south-west coast



Solar power-run Pipeline Water Supply reduced the burden and health risks of women especially



Scalability-from Locality's Point of View

"The Local DPHE can provide with Tubewells worth Tk. forty to fifty thousand only. It does not serve the purpose in our context i.e. addressing arsenic mitigation. For the first time in our area, this pipeline scheme traced the safe layers of aquifer; boring has been done at a depth of 450 feet breaking through the layers of stones. Apart from funding crisis, this kind of technical equipments is also not available locally. This Pipe-water Supply Scheme is surely feasible in rural context. Its utility is very high as it can cover an entire locality. And already many arsenicosis-affected men and women are in the process of recovering from the disease. Now every family in the village is sharing Tk. 30 monthly from which the electricity bill is paid. I believe, this is not much of a burden for the families. The people realize their responsibility in sustaining the facility."

- Md. Asaduzzaman
Ex-Secondary School Teacher, Darshana Girls School, Chuadanga and
Chairman, Baropatila Pipeline Water Supply Committee