

কৃষিবিদ ইন্সটিটিউশন বাংলাদেশ, ঢাকা



Making Rivers Potable: Ecological Surface water Treatment to achieve SDG 6 by 2030

Sharmeen S Murshid Managing Director and Innovator December 6, 2017 SDG Citizen's Platform MAKE RIVERS IN BANGLADESH POTABLE To achieve SDG 6 by 2030 and leave no one behind Universal and equitable access to safe and affordable drinking water for all (SDG target 6.1)

1. Freshwater on the planet is not inexhaustible. By 2025 and a pop. of 181 million in BD, there will be a deficit of 6306 MCM of freshwater

2. Add to that arsenic, ground water depletion, salinity, climate change and desertification and diversion of water from the 57 trans-boundary Rivers, the prospects of this water rich land seem bleak.

ECOLOGICAL SURFACE WATER TREATMENT

Seek solutions not problems Make rivers and canals potable

- In 1890s (with disease outbreaks cholera & typhoid) Germany, USA, in1977 India, in 1989 in UK on Thames river, use of SSF systems first began
- ✤ In 2004 WHO recommends SWTP to control pathogens in surface water
- In 2005 in Bangladesh, BROTEE introduces ESWTP on the river Mahananda and through 4 years of applied research, test-run a unique system based on local skills, local knowledge and local resources were found – The Brotee SW Filter
- by 2010 she was providing safe drinking water to 3 arsenic affected villages in Chama gram, Chapainawabganj

BROTEE SURFACE WATER FILTER IN B'DESH: At a glance

Source of raw water: Mohananda River.

Pilot area: **3** villages in Chapai Nawabgonj district (Chamagram – Laharpur - Laxmipur)

Potential production capacity: 7,00,000 liters of safe drinking water per day that can provide for 7 villages

Present average daily demand: 3,00,000 liters for 3 villages

Payment: Monthly tariff, average Tk. 300. Default rare.

Distribution network: 6.6 Kilometers pipeline network for HH connection

Drinking water quality: Meets Bangladesh and WHO standards

ESWTP efficacy: Very efficient in removing bacteria, organics, cysts, ova and viruses. Can remove heavy metals by more than 47% (Prof. AH Khan, DU & PP) Health impact: improvement in sanitation, hygiene, Gastritis, diarrhea and other diseases recorded

Water Quality: WQC uncompromised over the 5 years

QC partner: Plasma Plus Application Laboratory

Water test: at DPHE lab (national), ICDDRB (international) and Plasma Plus Application Laboratory (only ISO 17025 accredited lab for water in the country)

Acceptance level of the water by the people very high and demand is increasing

Pilot leaves no one behind - special subsidy policy to reach the poorest;

SIGNIFICANCE & PERFORMANCE

For National Arsenic Mitigation Policy (NAMP) of GOB. NAMP policy emphasize use of surface water in areas having arsenic. SDG 6 is enormous. It gives access to large communities at once

Performance

"The pilot could only be proved by *several seasonal testing of water quality and flow rate over the years.* Brotee Filter had achieved that.

(Says Prof. AH Khan, after an evaluation of the system)

BROTEE SURFACE WATER FILTER Implications for universal drinking water - SDG 6

1. That rivers can be made potable in Bangladesh through simple natural and cost effective process.

2. There is no harmful side affect and easy to maintain.

3. All the villages along Mahananda can have access to potable water within a year, without leaving anyone behind

4. Brotee filter can treat every river in Bangladesh that has water parameters similar to Mahanada. Chemical free rivers can all be potable!

5. We do research and find solutions, build models & validate the pilot, governments MUST replicate and scale these up in partnership with the innovators!

THIS IS READY FOR REPLICATION NATIONALLY!

CITIZEN'S PLATFORM WILL FACILITATE COLLABORATION WITH GOVERNMENT – THE ONLY PATH TO ACHIEVE SDG 2030 – IS FOR STATE AND NON STATE ACTORS TO JOIN HANDS

5. Water for all needs subsidy as energy for all has needed. It is a constitutional obligation and every opportunity must be utilized by Governments and CSOs to reach water to the unreached!

6. A river that is potable is river that will be protected by the community!

7. The Citizen's Platform can will have data on good practice and facilitate a process of keeping governments informed !

THANK YOU