

**Environmental Technology  
Verification – Arsenic  
Mitigation: Bangladesh  
perspective**

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# Introduction

(a) Sources of Environmental Contamination-

1) Natural 2) Man-made

(b) Regional Context, e.g. Bangladesh, India- Hydrogeological origin

(c) About 29% of 5 million tubewells has arsenic contamination exceeding acceptable level

(d) A total of 38,340 cases of arsenicosis have been preliminarily identified

(e) Formulation of National Policy for Arsenic Mitigation, 2004 & Implementation plan for Arsenic mitigation in Bangladesh

# Mode of remedial measures

- (a) Surface water treatment
- (b) Alternate safe sources, e.g. PSF/RSF, Dug well, etc.
- (c) Rain water harvesting
- (d) Treatment for contamination – Removal of Arsenic

# Purpose of Verification

- (a) to establish the claim of the proponent e.g. arsenic removal capability below 50 ppb
- (b) Limiting conditions/quality parameters of deployment of the technology e.g. Fe, PO<sub>4</sub>, pH, SO<sub>4</sub> etc.
- (c) to ensure production rate
- (d) to ascertain life span of the technology
- (e) whether the technology releases any harmful process chemical into the treatment water
- (f) whether it produces any hazardous waste
- (g) to ensure disposal protocol

# Independent Verification

- (a) Independent verification of technology without any biasness regarding technology or methodology
- (b) A transparent verification protocol should be there to conduct the verification program
- (c) A technical expert opinion on verification data, etc.

# Purchase of Arsenic Removal Technologies

- (a) Arsenic removal technologies are not purchased by any Government agencies
- (b) Technologies are purchased and distributed through National and International NGO's

# Reporting and Documentation

- (a) A verification report on the basis of field data and on experts opinion
- (b) Data to be circulated through on website
- (c) Verification certificate to be issued to the proponent

# Benefits of independent verification

- (a) Deployment of appropriate technology
- (b) Upheld social values and morals
- (c) Protect public health and interest

# **Present status of Bangladesh Environmental Technology Verification - Support to Arsenic Mitigation (BETV-SAM) Project**

- (a) Selection of Arsenic Removal Technology for field verification
- (b) Selection of sites for field testing
- (c) Selection of laboratories for water parameter testing
- (d) Collection of water samples from the field
- (e) Data compilation and presentation of results

# Water parameters testing laboratories in Bangladesh

- (a) Bangladesh Council of Scientific and Industrial Research (BCSIR), Bangladesh University of Engineering and Technology (BUET), Bangladesh Atomic Energy Commission (BAEC) and International Centre for Diarrhoeal Disease Research Bangladesh (ICDDR,B)
- (b) BCSIR Laboratories, Dhaka is working as a reference laboratory
- (c) Atomic Absorption Spectrophotometer is being used for Arsenic testing

**Thank you**