



# Bangladesh Environmental Technology Verification – Support to Arsenic Mitigation

[www.betv-sam.org](http://www.betv-sam.org)

[www.bcsir.gov.bd/](http://www.bcsir.gov.bd/)

## Capacity Building in Verification

22<sup>nd</sup> November 2009

# Outline

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- Need for capacity building in verification
- Technology verification institutional model
- BCSIR roles and responsibilities
- Capacity Building in Verification
- VU Scientific Officer Job Description
- ARD VU Training Plan Process
- VU Scientific Officer Practice Experience

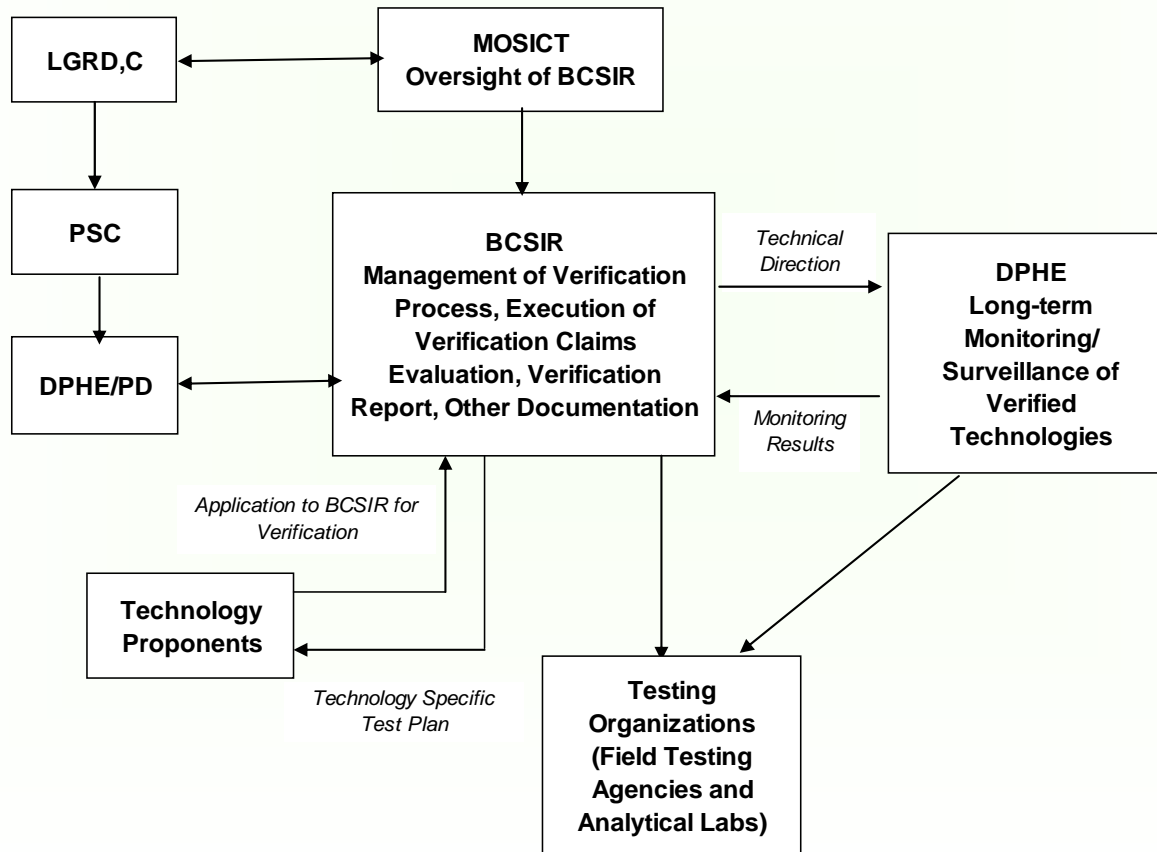
# Why Was Capacity Building for Technology Verification Needed?

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The Project was required to:

- Verify selected ARTs
- Build capacity in local labs and other institutions to carry out verification
- Carry out other tasks for development of sustainable capacity to verify and monitor ARTs

FIGURE 2 - Current Arsenic Removal Technology Verification Model, Bangladesh



# BCSIR Roles & Responsibilities

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- Defines the field test program and verification procedure
- Contracts and trains the testing agency and contracts analytical labs
- Reviews field test results from testing agency and analytical labs
- Compile and analyses results and prepares verification report for senior management consideration

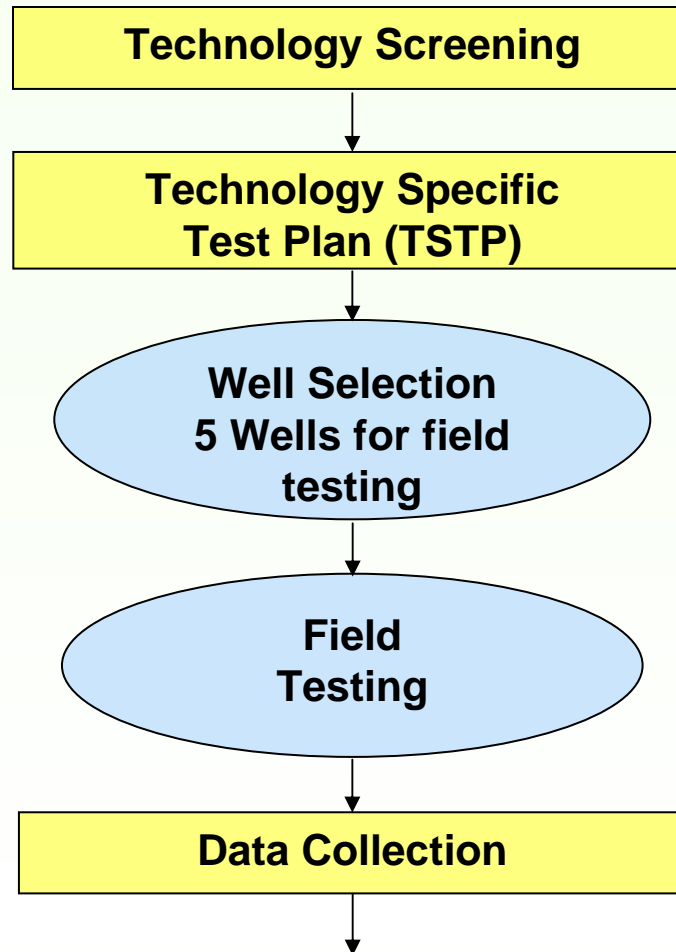
# Capacity Building in Verification

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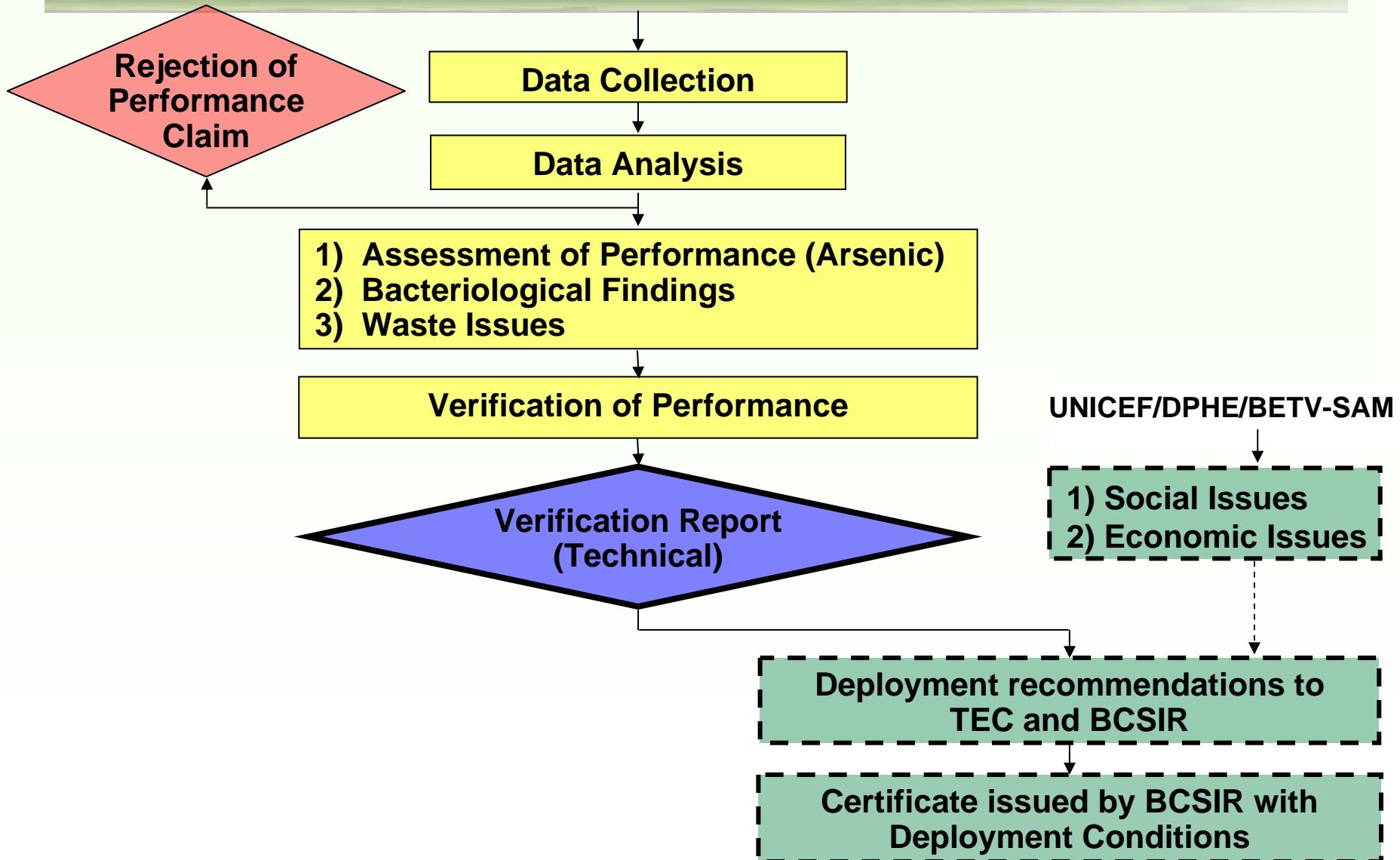
- Project trained field testing & monitoring agencies' technical teams, BCSIR field supervisors and DPHE SAEs in field testing methods;
- BCSIR established **ARD Verification Unit** in May 2007
- Project developed capacity building framework for ARD Verification Unit

# Verification Unit Operational Guideline

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# Verification Unit Operational Guideline



# VU Scientific Officer Job Description

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## Key Duties:

- Participate in quality management systems' capacity building activities in ARD laboratory
- Review applications submitted by ART proponents for performance verification
- Prepare Technology Specific Test Plans
- Train field technicians and field supervisors to ensure the QA/QC of the data being collected.
- Implement the field test
- Review field test data
- Assess the performance of the technology in the field test

# ARD VU Capacity Building Process

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- Planning:**
- Job analysis
  - Trainee Analysis
  - Training Needs Assessment
  - Determine Training Objectives

- Preparation:**
- Select & Organize Content
  - Select Training Techniques & Methods
  - Prepare Lesson Plans
  - Plan Evaluation

- Presentation:**
- Conduct Training
  - Evaluate Training
  - Review & Revise

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**Mr. Shajahan Siraj**

Scientific officer

BCSIR Analytical Research Division

Verification Unit

# VU Scientific Officer Practical Experience

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## Field Test Planning & Preparation

- VU scientific officers dealt with 13 ART applications in recent round of field testing
- 5 ARTs were selected for field testing
- Prepared Technology Specific Test Plan in consultation with proponents
- Trained testing agency field technicians to ensure QA/QC, COC and EHS procedures
- Supervised testing agency in all aspects of field testing

# VU Scientific Officer Practical Experience

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## Implementation of Field Testing

- Supervised Testing Agencies in 5 different sites
- Ensure sampling schedules implemented in accordance with test plan; track field and lab water sample results
- Resolve technology problems during field testing

# VU Scientific Officer Practical Experience

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## Data Management

- Data generated during field testing are transferred into formatted input sheets and then imported into the database
- Reviewed data as it came in to assess the technology's performance progress

# VU Scientific Officer Practical Experience

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## Analysis and Reporting

- Analyzed and interpreted data using statistical software
- Determined technologies' capabilities for the removal of other chemicals present in groundwater
- Interpreted results, draft verification/rejection report
- Submit draft verification report to BCSIR senior management

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**THANK YOU**