Preferences of arsenic mitigation options in Bangladesh: Stakeholder and end user perspectives

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ABSTRACT

Despite access to arsenic mitigation options millions of people drink arsenic-contaminated water.
Discrepancies between stakeholders’ and end users’ preferences of mitigation options may be a reason for slow mitigation progress.
We aimed at identifying the most preferred options by comparing both stakeholders’ and end users’ preferences.
Results suggest installing the most preferred options - deep tubewells, well-sharing and piped water supply - with greater priority.

INTRODUCTION

Artsenic as a public health threat

- Arsenic contamination of drinking water is a global public health crisis (Najyajan et al., 2015).
- Bangladesh: >20 million people are at risk of drinking arsenic-contaminated water (Flanagan et al., 2012).
- Health effects: arsenicosis

Artsenic mitigation in Bangladesh

- Tubewell screening program (2000-06) tested over half (app. 5 millions) of the wells (Sarkar and Sarker, 2007).
- National policy and implementation plan (2004): Developed variety of arsenic mitigation options
- 2000-09: >160’000 arsenic mitigation options were installed (Najyajan et al., 2015).

Most available arsenic mitigation options

- still many installed mitigation options are not maintained or used regularly (Najyajan et al., 2015).

METHODS

Stakeholder interviews

- Qualitative interviews:
  - August 2008
- Total sample size: 396 stakeholders
- Study locations:
  - Khulna and Rajshahi in Bangladesh
- Selection of stakeholders:
  - purposely from different levels by their importance, agreement and availability
- Interviews:
  - Semi-structured personal interviews
- End users surveys
  - Two cross-sectional surveys:
    - Study 1: November 2009
    - Study 2: December 2010
  - Total sample size: 1268 householders
  - Study locations:
    - six arsenic-affected districts of Bangladesh
  - Study participants:
    - randomly-selected households
  - Risk of drinking arsenic-contaminated water
  - Access to arsenic-safe water options
  - Face-to-face interviews:
    - Structured questionnaire, qualitative questions

RESULTS

Preferences of arsenic mitigation options

Most preferred mitigation options:
- Deep tubewells
- Piped water supply
- Well-sharing (only by end users, not by stakeholders)

To advance arsenic mitigation efforts:
- Most preferred options: install and promote with greater emphasis
- Poorly preferred options: technological improvement and promote with behavior change interventions
- Collaboration between stakeholders and prioritize peoples’ preferences is urgently needed

REFERENCES

For more information: