Arsenic Water Contamination in Comilla, Bangladesh

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Problem

The shallow tube wells of Comilla Bangladesh contain a high concentration of arsenic which has many detrimental health effects.

A woman collecting water from a traditional tube well in Comilla, Bangladesh

Arsenic is naturally occurring in soil

Colorless, tasteless, & odorless in water

Health Impacts

Cardiovascular, cerebrovascular and kidney diseases

Development issues in children

Painful skin lesions resulting from arsenic-induced skin cancer

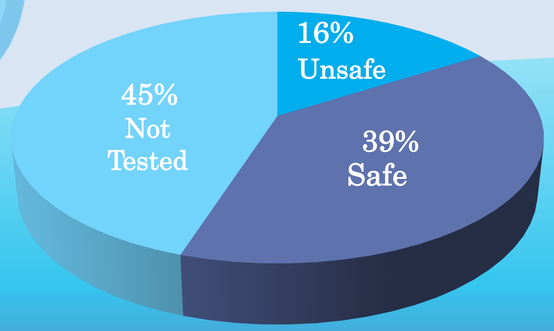
Miscarriage
Premature birth
Infant mortality

A man suffering from skin lesions.

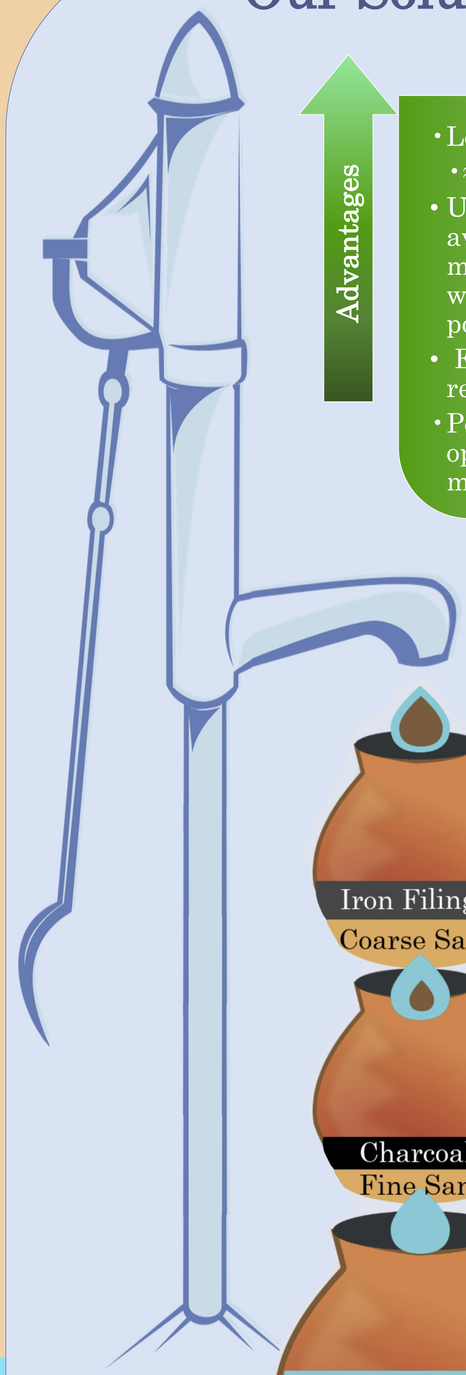
WHO Guideline
10 µg/L

Bangladesh National Guideline
50 µg/L

Tube Well Testing in Bangladesh



Our Solution: Clay Pot Filters



Advantages

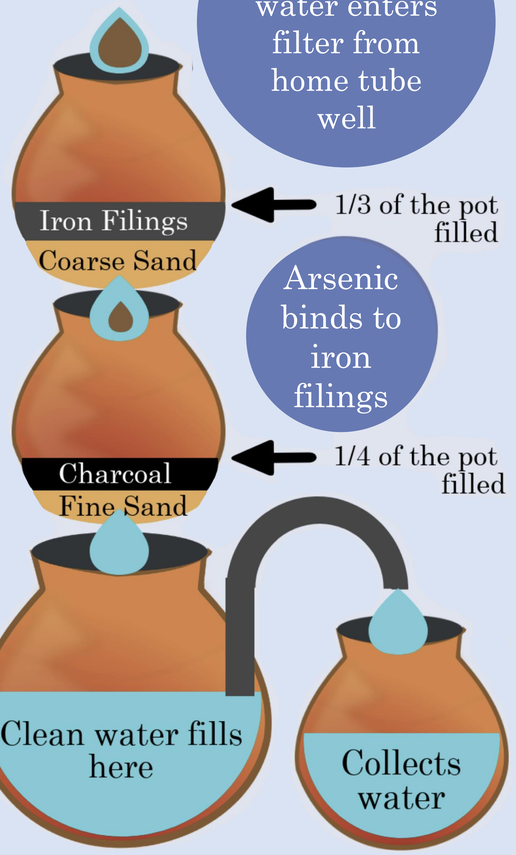
- Low cost
  - ≈ 6 USD
- Uses readily available materials (tube wells and clay pots)
- Effectively removes arsenic
- Possible opportunity for microfinance

Disadvantages

- Need to change filter materials
- People must be informed on how to use system
- Access and disposal of materials may cause difficulties

Arsenic contaminated water enters filter from home tube well

A clay pot from Bangladesh



Arsenic binds to iron filings

People bring pots to collect water

★ Removes 95-99% of Arsenic! ★

Implementation

Outsource project to World Health Organization

Locate local facilities supplying required materials

Determine test locations

Educate population on use and maintenance of filter system

Assess success of solution by testing filtered water for arsenic content

References

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