

SEDIMENT COLOR TOOL: EMPOWERING LOCAL DRILLERS FOR SAFE WATER PROVISION

Access to safe drinking water is a basic human right and an important component for effective public health protection. The widespread occurrence of natural arsenic (As) in groundwater in Bangladesh has drastically reduced the safe water access in Bangladesh. Keeping in view the magnitude of the human health impacts and the outcomes of the mitigation programs, the main challenge is to develop a sustainable mitigation option for scaling up safe water access. Tubewells are most widely accepted safe drinking water option, and ~90% of the tubewells are installed by the community based local tubewell drillers.

Distinct relationships of sediment color and corresponding As concentrations in water have been documented through a number of recent studies. Using the local drillers' perception of sediment color and experience of tubewell installation, a Sediment Color Tool has been developed together with local driller's to identify As-safe aquifers in regions with high arsenic risk. The use of the tool will minimize the risk for high arsenic concentrations in the drinking-water bringing significant change to reduce As exposure and scale-up access to safe drinking water in rural Bangladesh and thus enabling to meet the target of the SDG 6 in drinking water sector.

Based on the visual color attributes of the shallow sediments as perceived by the local drillers and their distinct relationship with arsenic concentrations in water, a Sediment Color Tool is developed to facilitate the local drillers to install community tube wells at targeted safe depths to scale-up safe water access in rural Bangladesh.

For more information contact:

KTH-SEED: Prof. Prosun Bhattacharya, prosun@kth.se

Ramböll Sweden AB: Dr. Mattias von Brömssen, mattias.brömssen@ramboll.se

KTH Water Centre: Dr. David Nilsson, watercentre@kth.se