



In the western state of Rajasthan, community hand pumps are the main source of drinking water in rural villages. After a persistent five-year drought in this state, groundwater has dipped to dangerously low levels requiring water mining. This process has led to a serious groundwater quality problem, specifically high levels of fluoride concentration (3-4 ppm) in all 32 districts of Rajasthan. The optimum level of fluoride in drinking water is 1-1.5 ppm. Although the government has installed filters on some hand pumps, these filters need to be recharged via a regeneration process; a procedure that only takes place if they are monitored and supported by government or other agencies. Compounding this scenario, the amount of fluoride deposited in bone is influenced by factors such as age, nutritional status, renal function, and calcium intake.

Questions:

1. What health problems (direct and indirect) may arise from this water situation?
2. What sustainable activities/interventions could take place in order to improve this situation?
3. In addition to the presence of excess fluoride, what other problems may arise from the use of these hand pumps in Rajasthan?
4. What further questions would need to be asked in order to present a plausible intervention?
5. What stakeholders would need to be involved in order for these interventions to be successful?
6. What kind of management support would be needed for your suggested intervention (i.e monitoring and accountability)?

