

## **Investigating Unequal Access to Clean Water in Bangladesh**

**Faculty Member:** [Mushfiq Mobarak](#)

### **Proposal Description:**

Arsenic poisoning of ground water is a problem in parts of Bangladesh. Shallow wells dug by local villagers are especially susceptible to arsenic poisoning. As a result, the government will often organize the construction of deeper wells that are free from arsenic.

We would like to better understand how locations for the new deep wells are decided. To this end we have collected data on wells in Arai hazar, a district of Bangladesh. We have also collected GPS data on where politicians or other influential people live. We would like to determine whether deep wells tend to be constructed closer to certain kinds of influential people (eg: district level politicians) or if they are in locations that maximize access to the general population.

We would also like to measure the cost of imperfect well allocation in terms of how many people have access to water. Say there are  $N$  deep wells currently in Arai hazar. We plan to first determine an optimal placement for these  $N$  wells. Then we will compare the number of people accessing clean water under the actual placement of the  $N$  wells to those accessing clean water under the optimal placement. Determining the optimal placements of wells may require some mathematical models and data algorithms not commonly used in economic analyses.

Most work on this project will involve data analysis in STATA and translating analysis into clear and ordered graphs, tables, etc. RAs are also likely to use ArcGIS and possibly Matlab.

RAs demonstrating superior skill and motivation are encouraged to continue expanding their work with Professor Mobarak in the fall and beyond.

### **Requisite Skills and Qualifications:**

The ideal summer candidate will be skilled in STATA. However, we will also consider applicants with experience in a similar statistical language such as R or MATLAB. RAs with a quantitative background, especially in statistics or data analysis will be strongly preferred. Although learning from and collaborating with more senior researchers is an important part of the job, RAs should also be motivated and independent problem solvers.

Also copy your application to Tomer Mangoubi ([tomer.mangoubi@yale.edu](mailto:tomer.mangoubi@yale.edu))

**Award:** Jaclyn Schess '18

**Tobin Application Link:** [Tobin Application](#)

**Project Type:** Tobin RA

**Project Year:** 2017

**Term:** Fall 2017

**Source URL:** <https://economics.yale.edu/undergraduate/tobin-ra/fall-2017/investigating-unequal-access-clean-water-bangladesh>