

## **Growing Wheat in the Desert: Farmer Adaptation to Water and Power Scarcity in Rajasthan**

**Faculty Member:** [Nicholas Ryan](#)

### **Proposal Description:**

India uses more groundwater than the United States and China combined. Farming with groundwater yields higher profit at lower risk for Indian farmers, but groundwater is growing scarce over time, in a classic “tragedy of the commons,” as farmers use cheap electricity to pump ever more water out of the ground. This project studies how both farmers and the government respond to water scarcity using survey data on agricultural production and geographic data on water scarcity. Farmers may shift to more water-hardy crops and change their agricultural inputs. The government, meanwhile, imposes electricity rationing to slow the pace of groundwater extraction with irrigation pumps. The RA(s) will use survey data to measure these responses in agricultural production and GIS data to relate farmer production decisions to groundwater conditions in their area.

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

Proficiency in Stata (and careful, well-documented code) expected. Proficiency in GIS (e.g. ArcGIS, GIS with R) strongly preferred but not required. Please include with your application a transcript of courses, an example .do or other program file you have written and a description of statistical and GIS programming experience.

**Award:** Hasan Tuhtamishev

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

**Project Type:** Tobin RA

**Project Year:** 2018

**Term:** Fall 2018

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