Innovative Approaches to Collecting Agricultural Technology Adoption Data

A Pilot Study in India

Background by Mywish Maredia

Rationale

- Conventional wisdom: When it comes to adoption of farm practices, information elicited from the farmers is more accurate than any other method
- But the cost of collecting this information from a representative sample of farmers is much higher than other methods
- Thus, these surveys are carried out less frequently than they should be, leading to out of date information on agricultural technology diffusion

Questions

1. Why representative farm surveys are expensive?

- Statistical power: Large numbers of farmers need to be sampled from a large spatial dimension to get estimates that have high confidence level (reliability) and low confidence interval (uncertainty)
- Logistics:
  - Enumerators
  - Training
  - Transportation
  - Supervision
  - Coordination and management

Questions

2. Ceteris paribus, are there options that are both low cost and provide accurate results?

3. Does a research center have to do the surveys themselves (logistical costs) or can they outsource this to private sector?

4. Is there a market for ‘information goods’ such as adoption data where the demand and supply curve intersects?

   Can research centers focus on doing research and rely on tracking adoption of research outputs at the farm level by accessing such data at a price from the private sector?

   Is private sector willing to collect data routinely and make it available for sale and still earn profits? (marginal cost for informational goods)

SIAC Activity 1.3

- Motivated by these types of questions
- A pilot study was implemented in India to address some of these questions
- RFP issued in early 2015
  - To seek innovative ideas / approaches for tracking and documenting technology adoption data that are both low cost and provide accurate results
  - In collaboration with CIMMYT and ICRISAT, 3 technologies for wheat-rice system in Punjab, Haryana and Bihar, and several NRM practices in the groundnut system in AP were selected for this pilot

Attributes of innovative methods we were looking for…

- **Low cost and effective**: Approach that can demonstrate that the marginal cost of collecting the data per unit of data point is lower than the traditional approach of a one-time contract based approach
- **Versatile, efficient and commercially scalable**: Approach that can be rapidly mobilized to carry out surveys for a wide range of agricultural data demanded by users on a fee basis.
- **Rigorous sampling method**: Representative picture

An example of an innovative method based on ‘local enumerator approach’ was proposed as an example in the RFP

Outcome of the RFP

- Three firms were selected – each focusing on two of the 5 districts selected for the rice-wheat system (Ludhiana, Karnal and Vaishali) and the groundnut system (Anantapur and Kurnool)
- Validation surveys in all 5 districts were conducted by MSU by contracting another local firm where MSU had substantial role in the design and implementation of the surveys