Award No. AID-OAA-F-13-00014

Increasing rural incomes by expanding access to agricultural price information

Milestone Number 1

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Project Implementation Plan

Problem Statement

For many of India‟s 850 million rural inhabitants, 40 per cent of whom live in poverty, accessing agricultural output in a timely manner is a challenge. Poor infrastructure, lack of scale economies (70 per cent of landholdings are less than one hectare, or 2.5 acres), and costly transportation mean smallholders routinely sell their output to traders. However, this potentially efficient division of labor suffers from limited competition among these middlemen, who are able to exploit their bargaining power to extract surplus. Farmers who instead sell their produce directly to end consumers face difficult timing and/ or locational decisions, uncertain about prevailing market prices and unable to visit every market every day.

Research Objective

The study intends to rigorously evaluate the "success or failure" of Fasal (a cell-phone based service that provides current price information on a variety of agricultural outputs at a range of markets on demand) within the context of an RCT with an encouragement design.

Methodology

Sample: The study will be conducted in three districts of Indian state of Karnataka: Gulbarga, Bidar and Bijapur. 180 villages will be identified from these three districts and a random sample of 15 farmers from each of these villages will be administered the study with, i.e. a total of 2,700 farmers will participate in the study, half of them will form the control and the other half the treatment. The districts chosen have very limited penetration of Fasal as of now and the farmers here grow mostly the crops that are non-perishable and whose prices are moderately volatile (like Cotton, Maize and Pulses).

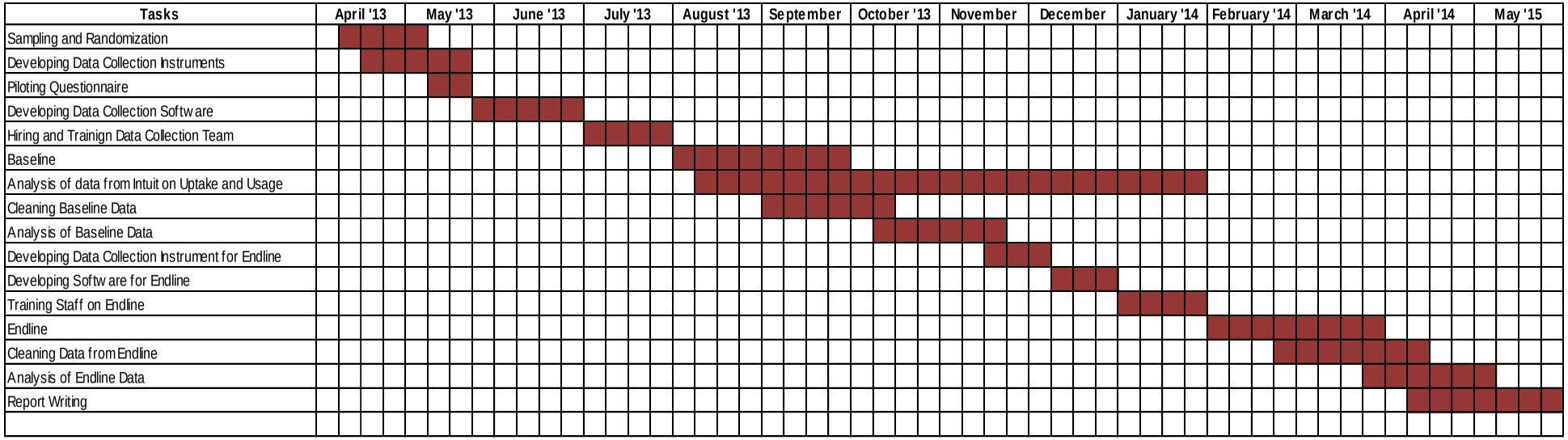
Treatment: The study proposes to evaluate the effects of an innovative service in India that relaxes the information constraint at minimal cost. Fasal is a cell phone-based service that provides current price information on a variety of agricultural outputsat a range of markets on demand. Targetted at smallholder farmers, it allows registered users to request price information via a simple SMS. Given the ubiquity of mobile phones across the developing world, and the plummeting cost of communications, the intervention has the potential to be both scalable and sustainable. It has the potential to improve farmers‟ incomes directly by allowing them to time their harvests and sales better, and to bargain more effectively. But it could also increase the return to farming in general, and to certain crops in particular, enough to alter the size and composition of plantings in ways that further expand incomes.

More specifically, the study intends to implement a two-arm study (one treatment, one control) randomizing at the village level, with 90 villages in each arm. Intensive marketing of Fasal will take place in the treatment villages, while marketing activities will be withheld in control villages. These villages will be sufficiently separated geographically to minimize inter-village spillovers.

Data Collection Plan: To begin with, after the sowing season ends in the chosen districts of Karnataka, baseline will begin with all the 2,700 farmers along with the marketing of Fasal in the treatment villages. Data will be collected electronically (using mini laptops) with a team of 27 field personnel. This round of data collection and marketing is expected to approximately 3 months of time. It can, however, be noted that the data collected over this period will not be affected by the timing of the interviews in this duration. All the time specific questions like income etc. will be asked for a certain period of time (like, in last 12 months). Also, because most of the earning is agricultural income, all the respondents would have completed the same crop cycles resulting in not much deviation in the sources of income. Over the remaining period of the study (November to February), the research team will obtain administrative data on take-up rates and utilization from Intuit on a regular basis. This data will be gathered for both the treatment and control farmers. Second round of data collection i.e. Endline, will begin after harvesting is done in the month of January. This will be conducted over phone calls with the entire sample. This phase will be completed in 2 months. The surveys administered, detailed information will be collected on agricultural planting, production, input use (including labour), sales and prices, along with household demographics, consumption and assets.

Timeline

The study will begin in April 2013 and will finish by the end of May 2014. Before the data collection starts in the month of August, ground work will be done in terms of identifying the villages in the three districts based on the information Intuit already has and some preliminary field vists. After the villages have been identified, they will be randomly assigned to treatment and control depending on their geographic location. After sampling and randomization is done, considerable amount of time will be spent in designing data collection instruments, developing software for the same and piloting. Hiring and training of field team will also take approximately 3 weeks of time. Detailed timeline is mapped below:


Tasks
April '13
May '13
June '13
July '13
August '13
September
October '13
November
December
January '14
February '14
March '14
April '14
May '15
Sampling and Randomization
Developing Data Collection Instruments
Piloting Questionnaire
Developing Data Collection Software
Hiring and Trainign Data Collection Team
Baseline
Analysis of data from Intuit on Uptake and Usage
Cleaning Baseline Data
Analysis of Baseline Data
Developing Data Collection Instrument for Endline
Developing Software for Endline
Training Staff on Endline
Endline
Cleaning Data from Endline
Analysis of Endline Data
Report Writing

List of Indicators to be tracked

The availability of Fasal could have a number of effects on farmer behaviour, including:

(i) Utilization of the service
(ii) Knowledge of Prices
(iii) Location of Sales
(iv) Timing of Harvests (particularly of crops with flexible harvest times)
(v) Prices Received
(vi) Current Incomes
(vii) Planting Decisions (including types and varieties of crops, and acreage planted)
(viii) Future Incomes

Since this is a short term study aimed primarily at assessing the viability of the service, some of these effects will not be observable within the timeline of the project. In particular, (vii) and (viii) are longer term impacts that could conceivably represent the largest returns to this innovation, but will take longer to materialize and assess. On the other hand, some of the shorter-term effects (i)-(vi) are likely to be more easily measured. Majority of the information required to capture the listed indicators will be collected during the Baseline (to be administered face-to-face) and the Endline (to be conducted over a phone call) by asking farmers about the details of their cropping pattern and related decisions. A list of questions would determine each of the above stated indicators. For instance, operational and marketing details of the last cropping season would give data on (iii), (iv) and (v). Data on „Utilization of Service" will, however, be collected through the web interface at Intuit. All the sample farmers will be flagged differently in Intuit"s database so that they are easy to identify and track. Once flagged, researchers will get complete information on the date of registration (take-up) and date and frequency inquiry for each farmer (usage).

Since the provision of price information is demand driven, usage of the service will give an indication of whether farmers find the product useful. Usage patterns will help assess the viability of the product before further research on impact is conducted. Researchers will also be able to evaluate the usage of price information across crops, which will provide an insight into the differences in price setting practices and price competition between crops. Farmers, during baseline and endline, will be asked about their sources of price and market information and the source that they use most frequently and rely on the most. This will allow Intuit to tailor their service to the crops and markets that can be pressured by a service such as this. Data on agricultural practices and the timing of harvests will also be collected, with a hope to see the farmers in the treatment group making better sowing, harvesting and storage decisions.