IPMobile: Localized Data for Pest Management

Idea

There is an urgent need for better information and service delivery for pest management in Nepal. **IPMobile delivers reliable information on integrated pest management (IPM) practices to smallholder farmers and connects them with local sales agents to buy essential inputs. IPMobile uses SMS notifications to ensure that farmers have access to reliable information on IPM technologies and practices, including direct links to help them purchase the necessary inputs within their rural communities.** iDE has partnered with CIMMYT to increase access to data and information that can further assist with pest management for cereal crops. CIMMYT in Nepal has a broad body of research and knowledge that can be incorporated into the IPMobile system. As new practices and knowledge are gained, the IPMobile service will have the ability to push information out to farmers in a simple, fast, and direct way. IPMobile is designed for local collection centers to reach their large networks of member/supplier farmers, as well as for agrovets whose agents reach even remote, marginal farmers with essential packages of bio-pesticides, botanical pesticides, and other technologies for vegetable and staple crops.

An Unconventional and Creative Approach

What sets IPMobile apart is the local nature of the data that is being collected and the business that surrounds the ICT solution that will make the data and the delivery of the data effective. By mobilizing rural collection centers that were established through USAID IPM funding as well as other donors, the data that is being aggregated and disseminated is timely and localized information about immediate threats in the area. This intervention combines more standard methods of data collection together with an ICT solution to create a localized, contextualized solution that basic mobile phones can use.

Hypothesis

Small farmers in remote rural areas of Nepal lack access to essential data and inputs that can revolutionize their production methods, yields, and incomes. iDE has developed a large network of private sales agents to distribute IPM products throughout the target region in coordination with several recent and ongoing multisectoral projects. iDE's IPMobile service will allow large numbers of otherwise inaccessible farmers to receive sustainable, affordable delivery of private-sector extension services for effective pest management, while connecting them to agricultural input suppliers ("Agrovets") and supply chains for proven IPM technologies.

Implementation Plan

We will pilot the program with the DFID funded Anukulan project thru the BRACED climate change initiative in Kailali District in the Nepal farwest which has both hill and plain environments. Anukulan has developed over 50 rural collection centers, 150 last mile supply chain agents based in communities linked to agro companies, serving over 100,000 smallholder farmers. iDE and CIMMYT are partners in Anukulan with iDE focused on the vegetable subsector and CIMMYT focusing on cereal crops.

This easily accessible technology service is combined with data collection at the local level (pest monitoring by trained farmers) that is then channeled up to produce collection centers, where it is translated into specific, actionable recommendations for pest management that is then distributed via SMS to smallholder farmers, input suppliers (Agrovets), and last-mile service and sales agents contracted by the agrovets (Community Business Facilitators, or CBFs).

The key technology behind IPMobile is low-cost, data driven SMS, which is easily accessible even to poor rural smallholders. Mobile penetration in Nepal is high even in rural areas, and the positive results of prototype testing show that disadvantaged farmers have the capacity to receive and understand the information being transmitted. The core intervention of using collection centers to distribute real-time data via SMS has been piloted successfully by iDE in multiple USAID-funded projects. The proposed intervention will develop a sustainable business model allowing collection centers and other local private sector actors to finance and implement the SMS system.

Budget and Timeframe

Description	Estimated Budget ($)	%
CIMMYT-research and guidance	$30,000	30%
iDE-implementation	$60,000	60%
Mobile Solution	$10,000	10%

iDE is currently working on a pilot of this solution with very small seed funding from USAID's Data Driven Farming Prize. The basic text-driven mobile technology has been developed for a pilot audience. With funding from INSPIRE, we will be able to scale up the pilot to reach more households, cover more crops, as well as refine the technology and truly test the system and technology at scale.

IPMobile is designed to achieve the following results with a budget of $100,000 and 12 months:

- 1200 farmers will receive IPM information via SMS
- 70% of farmers receiving SMS messages directly will be purchasing IPM products for their crops
- 50% increase in monthly value of transactions by CBF at endline

Essential Data

SMS notifications will include contact information for CBFs along with the recommended packages for pest intervention. The IPM best practice packages increase financial returns by about 30% for farmers while reducing risk and improving community health. The packages are available online at (http://www.idenepal.org/what/ipm.html). The economic thresholds were developed with experts from the IPM Innovation Lab from Virginia Tech, Penn State, and Ohio State. There is also vast potential for IPMobile to expand to other aspects of data driven agriculture including price/market information, weather forecasting, and new crop variety/technology information. A key approach is the role of the rural collection center as the mechanism for reaching their smallholder members with the information. The rural collection center will endorse the information going to its members. The sending SMS/ICT messages will be assisted and facilitated by the local Chamber of Commerce with the Agro-Enterprise Council (AEC).

Next Steps

As part of our commitment to the values behind the Inspire Challenge and The Platform for Big Data in Agriculture, we will produce a lessons learnt document and a user guide to allow other implementers and CGIAR centers to continue the study of effective IPM methods. Additionally, our partner AEC is in a good position to take on a coordinating role for the private sector and integrate solutions in their SMS/ICT platforms recovering costs. The USAID Feed the Future Initiative has worked with nearly 100,000 vegetable farmers and will be starting a next phase this year utilizing the collection center approach and development of last mile supply chains. Over the next 5 years the potential exists to reach over 500,000 households in such systems.