

Making Low-Cost Technologies Work for Farmers

Facilitating private sector- led dissemination of quality inputs

Integrating Smallholder into Expanding Markets (ISEM) (2011- 2012)

Increasing Productivity is Critical for Smallholders

Smallholders in Bangladesh are increasingly recognising the need to adopt productive technologies in order to transform traditional rural livelihoods into small-scale agri-businesses. **Pheromone traps; micro irrigation technologies (MITs); agro processing and composting and soil testing** all represent low-cost, environmentally sustainable agricultural technologies and practices that can substantially increase productivity and incomes of poor rural producers.

Improving the performance of the agricultural sector is central to alleviating poverty in north-western Bangladesh where;

- 90% smallholders involved in agriculture
- 4% of smallholders apply modern production technologies
- Average land size is 1.4 acres

Although smallholders are increasing the range of crops cultivated, expanding into maize, wheat, potato and vegetables; productivity and income of most smallholders remains low. Smallholders remain hindered by **limited access to quality inputs, market information and reliable technical advice** along with a limited ability to **negotiate** with traders.

Low-Cost Technologies Can Increase Productivity

There are a number of promising productive and income generating technologies available for various levels and modes of smallholder production, these include:

- **Pheromone trap:** Robust pest management technology that diminishes the need of costly insecticides, lowering production costs.
- **Micro Irrigation Technologies (MITs):** Enables high-value off-season production, improves efficiency of water usage and increases productivity.



- **Agro-processing:** Turning primary agricultural products into commodities for the market can add significant value at the point of production, with the benefits felt at the farmer level.
- **Commercial Composting:** Re-cycling organic waste as fertilizer reducing the need and costs associated with chemical fertilizer whilst extending farmers access to organic markets.

Yet, innovative technologies alone are not enough. Increasing smallholders' productivity and incomes on a long term basis requires the sustainable delivery of quality inputs and services through market-based supply chains.

ISEM is an international effort in Bangladesh supported by the **Arab Gulf Fund for Development (AGFUND)** to facilitate the availability and adoption of productive agricultural technologies by smallholder farmers through private-sector service providers. ISEM is being led by **International Development Enterprise (iDE)**, an international non-profit with a mission to enable poor rural households to participate effectively in high-value agriculture market systems and to progress from subsistence to small-scale commercial farming

To these ends, iDE devised the AGFUND funded 'Integrating Smallholder into Expanding Markets' (ISEM) project (2011- 2012). Working with all value chain actors in Dinajpur, Nilphamari and Rangpur, ISEM is facilitating the availability and adoption of productive technologies for poor households as- well as establishing linkage with output markets where smallholders can obtain a competitive price for their produce.

Making Inputs Markets Work for Smallholders

iDE Bangladesh has significant experience harnessing the power of the private sector to achieve high scalability for low-cost agricultural technologies. From treadle pumps in the 1980s to pheromone traps today, iDE employs a market systems approach to economic and social development focused on engaging the private sector to maximize the sustainability of its results.

To make ISEM a reality in Bangladesh, iDE is leading the project with sole responsibility for the implementation and management process.

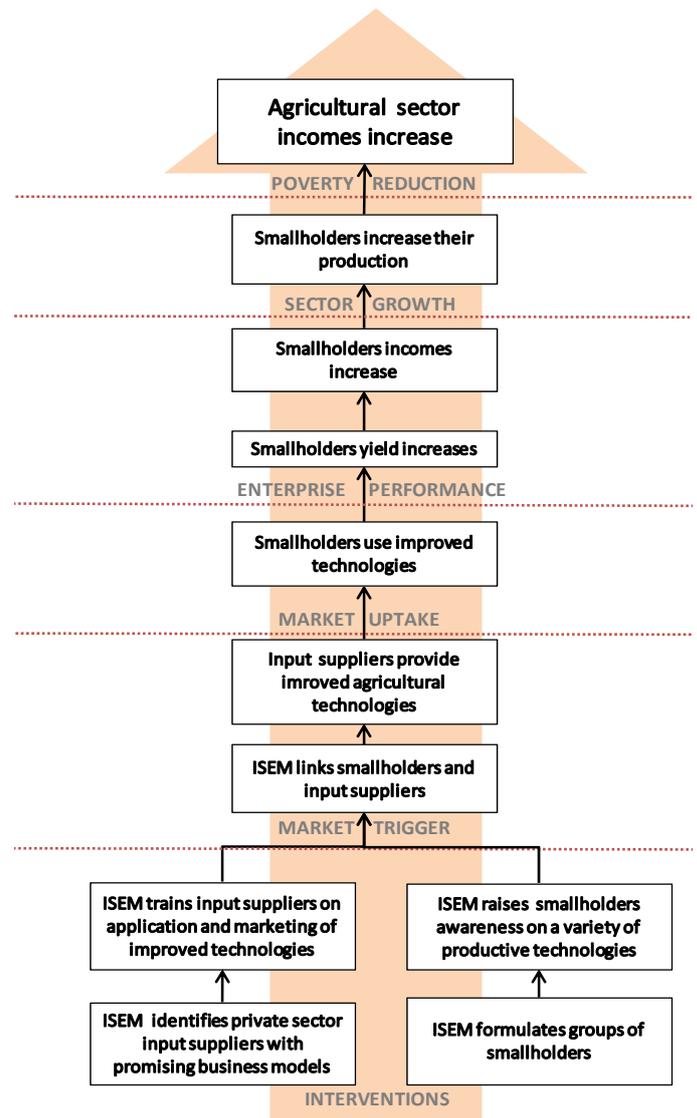
The Challenge: How will Smallholders Access Productive Technologies?

ISEM aims to introduce productive technologies to smallholders by leveraging the existing capabilities and relationships of local level markets actors to develop channels for both delivery of products and services and sale of produce. This strategy relies on the following key steps;

- 1. Group Formation:** A total of 41 groups have been formed with 1,202 farmers in 30 villages who received awareness raising training on different production technologies, quality inputs, pest and disease management; post- harvest management and marketing. Input retailers were also present, establishing a link between input retailers and farmers groups;
- 2. Training:** 1723 farmers and 238 Input retailers trained on composting and pheromone trapping technologies by private companies and DAE;

What will ISEM deliver?

- Annual income of 1,200 smallholders increased by \$200 USD within two years
- Strong supply chain developed to sustainably disseminate agricultural technologies
- Increased knowledge of suppliers, traders and smallholders on selected technologies and market demand
- Distribution network of retailers strengthened
- Improved access of farmers to technologies, quality inputs and technical information
- Branding and quality improvement for these technologies promoted.



- 3. Farmer Field Days:** Private sector led demonstrations of technologies including ways in which they can increase production; minimize production costs and limit negative environmental impacts;
- 4. Collection Points:** Established 14 collection points for selling smallholders produce and 7 farmers groups have been transformed into crop management committees.

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