IMPROVING THE LIVELIHOODS OF SMALLHOLDER MAIZE FARMERS AROUND THE MEKONG

Locations China, Lao People's Democratic Republic, Myanmar

Dates 01/04/2012 - 01/04/2015

Summary

After rice, maize is the most important crop in the Mekong Delta. Insects including the Asian corn borer are a major threat to production. Fear of crop losses, together with a lack of alternative measures, can result in overuse of pesticides – posing health risks to farmers, consumers and the agro-ecosystem. This project will establish local production of an affordable biological control agent, the parasitic wasp trichogramma, which kills the eggs of maize pests.

The problem

After rice, maize is the most important crop in the Mekong Delta, bordering Myanmar, the Lao People’s Democratic Republic (Lao PDR) and Yunnan, China. Produced by around 19 million farmers, it is a staple for both animal feed and human consumption.

Insects including the Asian corn borer and other lepidopteran pests are a major threat to maize production, causing yield losses of up to 15% each year. Throughout the region, smallholder maize farmers lack the resources to benefit from agricultural research, and are often helpless against serious crop pests that threaten food security. Fear of crop losses in combination with a lack of alternative measures can easily result in overuse of pesticides, readily available for those farmers who can afford it. This approach poses significant health risks to farmers, consumers, and the agro-ecosystem.
In contrast, farmers in the project implementation area of Lao PDR and Myanmar are usually engaged in contract farming, and under high pressure to avoid crop losses. This too can result in pesticide overuse, especially if products are easily accessible through their contractors. There is an urgent need for alternative

solutions to help farmers protect their maize from pest outbreaks without pesticide overuse.
The Integrated Pest Management (IPM) approach is a beneficial alternative for farming communities. AlthoughIPM is not new in the target countries, many farmers are unable to fully adopt the approach because they lack information and the biologically-based plant protection tools. There is therefore a great opportunity for a sustainable increase in maize yields through the transfer and dissemination of new affordable technology, which will at the same time strengthen farmers' links to markets for income growth.

What we are doing

The aim of the project is to improve the livelihoods of smallholder maize farmers in the Mekong region and their access to markets. This will be achieved by establishing locally-led production of a biological control agent, successfully transferring and alternative plant protection technology, and nurturing grassroots organisations to enable development of new business opportunities.

The project will provide smallholder farmers with an affordable pest management tool, the beneficial parasitic wasp, Trichogramma. The tiny Trichogramma wasps kill the eggs of maize pests like Asian corn borer without harming other beneficial insects. Building on validated Chinese technology (Tianyi Biological Control Company Ltd), facilities to mass produce these wasps will be established in 21 villages through a collaborative process between national and local stakeholders. Local capacity building – including the training of personnel, extension officers and smallholders to both produce and apply the wasps as part of a greater IPM approach – will ensure the project's long-term sustainability.

Ownership of the production facilities will be passed on to grassroots organisations, laying the ground for long-term sustainable production and improving smallholder farmers' access to Trichogramma. This will also result in the creation of new markets and business opportunities that will be jointly explored and developed.
This action is funded 90% (EUR2.5 million) by the European Commission through the DG DEVCO EuropeAid. The main project applicant, the Institute of Plant Protection of the Chinese Academy of Agricultural Sciences is co-funding the additional 10%.

Results so far

The project has had a successful start with fact finding missions carried out in each of the partner countries, involving national partners, the Institute of Plant Protection-Chinese Academy of Agricultural Sciences (IPP-CAAS) and CABI. Participatory Rural Appraisal (PRA) methods were used to involve key stakeholders from all levels and create an accurate understanding of the current situation in the implementation areas. The baseline information gathered was highly valuable for needs-based project planning at an inception workshop hosted by the IIP-CAAS.

A study tour to DPR Korea was conducted to give the partners the opportunity to observe commercial Trichogramma facilities, established in partnership with CABI in the country. This experience generated a deeper understanding of biologically-based plant protection, its benefits and challenges. Pilot facilities with locally-adapted rearing designs have thereafter been established in the three countries. Local staff has received training in rearing of beneficial insects as well as application and evaluation and are now ready to start mass production of the beneficial insect.

The next steps of the project will be to further foster local experts in IPM and biological control and to expand facilities to 18 more villages considering lessons learnt from the pilot. The project will continue to work actively with the local communities to identify and strengthen grassroots actors, build on market linkages, and develop new business opportunities for sustainable IPM in the future.

Donors

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Partners	Plant Protection Division, Myanmar Agriculture Service, Ministry of Agricultue and Irrigation, Myanmar, Plant Protection and Quarantine Station (PPQS) Dehong Prefecture Agricultural Bureau,Yunnan Province, Plant Protection Centre, Department of Agriculture of Ministry of Agriculture and Forestry, PDR Laos, Institute of Plant Protection, CAAS (project applicant), DG DEVCO Europe Aid, Chinese Academy of Agricultural Sciences (CAAS)
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