



locations

China, Lao PDR, Myanmar

dates

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CABI project team

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improving the livelihoods of smallholder maize farmers

After rice, maize is the most important crop in Myanmar, the Lao People's Democratic Republic (Lao PDR) and Yunnan, China. Produced by around 19 million farmers in the region, these crops are used for both animal feed and human consumption.

so what's the problem?

Average maize production is almost half that of other Asian countries, such as Bangladesh. Insects including the Asian corn borer and other lepidopteran pests are a major factor, causing annual yield losses of up to 15%.

Farmers have little knowledge of sustainable pest management and biological control methods to protect their crops; the majority of maize growers in Southeast Asia use plant protection products that are broad-spectrum insecticides, but lack of appropriate machinery prevents their safe and efficient use. These synthetic insecticides are readily available in China and Myanmar, where fear of crop losses results in overuse. As well as destabilizing the agro-ecosystem, this approach poses significant health risks to both smallholder farmers and consumers.

In contrast, farmers in the project implementation area of Lao PDR have virtually no access to commercial plant protection products and are therefore at high risk of suffering from pest outbreaks. Throughout the region, smallholder farmers lack resources and support to benefit from agricultural research, and are often unable to control serious crop pests that threaten food security.

what is this project doing?

The project aims to improve smallholder farmers' livelihoods and market access by providing them with relevant plant protection technology, while supporting relevant on-the-ground advisory organizations and helping to develop new business opportunities.

The tiny parasitic wasps (*Trichogramma spp.*) can reduce maize pest populations, such as the Asian corn borer, without harming beneficial insects. Building on Chinese technology (Tianyi Biological Control Company Ltd), rearing facilities will be established in 21 villages to produce sufficiently large wasp populations to enable adequate control. Local capacity building – including training personnel, extension officers and smallholders both to produce and apply the wasps and in integrated pest management (IPM) practices – will ensure the project's long-term sustainability.

Ownership of the production facilities will be passed on to grassroots organizations, making local production sustainable while improving smallholder farmers' access to *Trichogramma*. The increase in agricultural productivity will create new markets and business opportunities.

results so far

In each country, information has been established about target groups, pest occurrence and awareness, the importance and range of maize production, partners and opportunities. National partners have been trained to conduct participatory rural appraisals with the farming communities involved in the project. This baseline information gained from these assessments has allowed us to develop a yearly action plan. Developing this plan has encouraged networking between stakeholders, strengthening partnerships through communication and information sharing.

The partners were able to observe commercial *Trichogramma* facilities and the impact of biologically based plant protection during a study tour to DPR Korea. This gave them a greater understanding of biological control and of the project's potential benefits and challenges. Ultimately, the project will create local experts, and the process will identify the best locally adapted production design, implementation villages and pilot facilities.

www.cabi.org/mekongmaize



Manfred Grossrieder, Project Manager

partners

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