



Approaches

icipe's approach is based on the premise that crop productivity will increase through IPM. The project addresses IPM-related production, processing, storage and marketing to improve livelihoods of smallholders. This requires, a public-private partnership/participatory approach involving farmers and other stakeholders in each and every steps of research process including problem identification and prioritization, testing, evaluating and up-scaling of best technologies and practices.

The objectives of participatory approach is to develop pest management alternatives for priority crops, pests and diseases, to raise knowledge and awareness of fundamental concepts of IPM.



PROJECT BRIEF



Where we work?

The project is implemented in three East African countries; Ethiopia (maize and chickpea-in north Shewa zones, Bako, Ambo and Hawassa areas), Tanzania (maize and rice-in Kilombero and Morogoro districts) and Kenya (maize- in Embu, Katumani and Nakuru counties).



PROJECT BRIEF

icipe – Working in Africa for Africa...

icipe – African Insect Science for Food and Health – was established in 1970 in direct response to the need for alternative and environmentally-friendly pest and vector management strategies. Headquartered in Nairobi, Kenya, *icipe* is mandated to conduct research and develop methods that are effective, selective, non-polluting, non-resistance inducing, and which are affordable to resource-limited rural and urban communities. *icipe*'s mandate further extends to conserving and utilising the rich insect biodiversity found in Africa.

icipe contributes to sustainable food security in Africa through establishment of insect-based enterprises, such as sericulture, that are sustainable, eco-friendly and synergistic, and that provide quick economic rewards to communities living in these forest areas. The underlying principle is to assist rural resource-poor communities to improve their livelihood, and to protect the natural environment, thus increasing the productivity and resilience of their farming systems and the natural resources, through uptake of these techniques.

Top left: woman farmer, Tigist Melke in Lume district, Ethiopia.

Top right: Farmer in Jima explaining how his Maize affected by Fall Armyworm.

Bottom left: Woman Farmer explain her excitement with improved Rice variety in Bungoma village, Tanzania.

Bottom right: IPM Rice trial site in Mbogo village in Tanzania.

Project partners: The project is funded by USAID through the Feed the Future Integrated Pest Management Innovation Lab at Virginia Tech (USA) and implemented by ICIPE in collaboration with the University of Minnesota (USA), CIMMYT, Real IPM, Debre Zeit Research and Bako Research Centres (Ethiopia), Embu and Katumani Research Centres (Kenya), Dakawa Research Centre and National Biological Control Program (Tanzania), Hawasa University, University of Nairobi and University of Dar Es Salam.

Photos: *icipe*



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Rice, Maize and Chickpea Integrated Pest Management (IPM) for East Africa

Sustainable Approaches to Pest Management in East Africa





The challenge

Rice, maize and chickpea are staple food crops in Ethiopia, Kenya and Tanzania. However, the national yield average is low compared to other regions of the world due to biotic (such as insect pests, diseases, weeds and rodents) and abiotic factors. Maize Lethal Necrosis (MLN) alone causes about 100% yield loss in Maize in the region. Similarly, rice in Tanzania and chickpea in Ethiopia are suffering from damages caused by diseases. All these affect the livelihoods of millions of people in East Africa.

Farmers in these countries rely heavily on cultural practices or insecticides to minimize crop losses; however, this is not going to be sustainable and will also have adverse impacts on non-target and beneficial arthropods and accumulation of pesticide residues in the environment. The International Centre of Insect Physiology and Ecology (ICIPE) recognizes the significance of collective action within the farming community to overcome these challenges and thus, as part of a project through the Feed the Future Innovation Lab for Integrated Pest Management, are using an integrated pest management (IPM) approach to enhance crop productivity through sustainable intensification.



PROJECT BRIEF

Aims

This four-year (2015-2019) project titled ***'IPM for Rice, Maize and Chickpea in East Africa: A public-private partnership for developing and delivering innovation IPM packages to improving livelihoods of smallholders'*** aims to address research needs of IPM, barriers to the adoption of IPM and strategies to overcome them such as capacity building, knowledge sharing and outreach activities. This includes developing and implementing proven, robust and locally adapted IPM options that will help:

- to reduce crop losses due to pest
- to improve natural eco-systems and improve human and environmental health
- to enhance biodiversity, and increase the productivity of soil and crops value chains

The goal is to improve livelihoods of smallholder farmers through a public-private partnership for developing and delivering innovative IPM package.



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Objectives

The objectives of this project is to increase production and productivity along maize, rice and chickpea value chains by reducing crop losses through dissemination of effective IPM technologies. This will result in improving food and nutrition security, enhancing of health and environment, increasing income of the smallholders.

Expected outcomes

Research Outcomes

The following are expected outcomes of the project.

- Developing and testing IPM technologies under sustainable intensification systems
- Developing and delivering pragmatic pest diagnostic toolkits
- Improving IPM communication and education
- Provision of information and capacity building to reform and strengthen policies that influence integrated pest management.



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Development Outcomes

- IPM packages compatible with sustainable intensification systems will be developed, tested and transferred to the end users along value chains.
- Improves the livelihoods at least 500,000 households, of which 200,000 will be women.
- Improves the implementation of existing pest management policies.
- Establishes joint efforts between government, NGOs, research institutions and communities to address the IPM challenges in the region.
- Builds the capacity of community, researchers and institutions.



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