

CANSEA a R&D Network on Agroecology Transition in South East Asia

Agroecological Crop Protection (ACP)

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Photo1: Researchers during a field tour exchanging about ACP implementation in a fruit orchard



Key results and lessons learned from the Action

1. A phytosanitary status in SEA showing a strong increase of both legal and illegal importations of synthetic pesticides (insecticides/fungicides/herbicides) combined with an anarchic utilization due to a lack of knowledge and extension service while an aggressive business from sellers conducting to an excessive use of chemicals with effects on product quality (residues /shelf-life), environment and health.

2. The beginning of awareness of the governments to reduce the negative impacts of pesticides and the strong needs to find alternatives to keep productivity as well as improving the quality of products.

3. The limits of IPM as using chemical pesticides always affects the beneficials and doesn't allow any improvement for an efficient biological control and for a sustainable functioning of agroecosystems.

4. The need for improving knowledge on crop protection from farmers to institutionals (vocational as well as academic training).

5. A traditional use of weaver ants in Vietnam for the biological control of pests in fruit orchards (mainly Citrus) which represents an efficient alternative against the use of insecticides and which knows at present a renewed interest.

6. The development by research institutes and universities and the production at small scale of bioproducts as an alternative to chemicals.

7. A global approach applying the principles of agroecology to crop protection based on soil health and biodiversity and the necessity of a concrete multidisciplinary and participatory approach

8. A clear will of the researcher to contribute to the development of alternatives to reduce and stop the use of synthetic pesticides.

9. National institutions and Cirad now ready for further and concrete collaborations with concept notes available for up-coming ACP projects.



Photo 2: Weaver ants carrying a worm to their nest

Context of the Action

Intensive agriculture, based on 'green revolution' practices such as monocultures, agro-chemical inputs and intensive tillage with high level of fuel consumption, has helped to meet the rapidly-growing needs of global populations and markets. Yet, agricultural intensification also has devastating effects on the environment, affects farm profitability and impacts human health, of farmers and consumers. Especially the non-guided use of chemically-synthesized pesticides now poses real social problems that occur in South-East Asia and more globally across the globe, and is having devastating consequences for wildlife and world's biodiversity, as well on human health. Such a situation can only be remediated by a paradigm shift, an increased attention to applied (on-farm) research and grower education, and a deliberate promotion of practices that safeguard nature and the environment.

ACP is a crop protection concept based on ecological practices and principles. It results from a systematic implementation of agricultural practices through systemic and participatory approaches, gives priority to preventative measures instead of curative approaches and places emphasis on the protection and encouragement of beneficial organisms. It aims to promote the ecological function within farming systems by directly or indirectly optimizing interactions between plants, animals and microbial communities. Soil health and biodiversity are the two main pillars of ACP.

Objectives of the Action

In the framework of an opening to a new approach of agroecological practices in SEA, the first activities focused on i) sharing the same level of information on ACP (concerns, exchanging information, writing collectively, training, identifying axis of a MT project in partnership, ...); ii) setting up strong relationships between soil and plant protection scientists to strengthen interface between agroecological soil management (soil health) and agroecological biodiversity management and iii) the implementation of basic technical and scientific activities.

Partnership

This project allowed to bring together some 90 scientists / teachers / extension officers / farmers coming from 41 institutions (Vietnam, Myanmar, Laos, Cambodia, France, China), in the framework of a multidisciplinary and global approach (Soil sciences, Entomology, Plant pathology, Microbiology, socio-economy) for research, vocational and academic education, extension and farmers.

Location and description of the Action

Workshops and Scientist School: two national (Hanoi / Vietnam, 25-26 April 2017 and Nay Pyi Taw / Myanmar, 3-5 May 2017) and one regional (My Tho / Vietnam, 29-31 August 2017) workshops and one International Scientist School (Can Tho / Vietnam, 11-16 March 2018) were dedicated to gathering partners on the same level of information and training, both on the current working research axes in Crop Protection and on the knowledge of ACP and its ins and outs : What is ACP? What are the experiences available? What are the keys of the agroecological transition?, exchange of information on the status of Crop Protection regional priorities and local research axis, and contribution to the identification of future orientations and area of work for further collaboration.

Brochures, flyers and reports: 21 communication supports and 4 reports were elaborated (some of them in English + 4 national languages) and 31 video sequences (ISS presentations and weaver ants) are available on line.

Websites and YouTube channel: see the links below

Scientific visits and exchanges: 2 Vietnamese researchers got the opportunity of a scientific visit at Cirad-PVBMT in Reunion Island to share the concrete results on applying ACP and to identify future axes of collaborations.



Photo3: Participants at the Regional Workshop on ACP at SOFRI – My tho, Vietnam (29-31 August 2017)

Expected impacts and prospects

After training, sharing information and promoting the potential and efficiency of ACP, the project was able to build a strong partnership between researchers/university teachers from various countries and disciplines to elaborate a medium-term project proposal and run lobbying at the level of the policy makers to direct funds and resources (national and international) on this agroecological approach to reduce drastically the use of chemicals in agriculture and their negative impacts. Concept notes are available for further collaborations between national institutions and Cirad: Agroecological Fruit Fly management, Weaver ants as biocontrol agents,

Useful links and contacts

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<http://www.agriculture-biodiversite-oi.org/en/ACP-ACTAE/>

<http://cansea.org.vn>

https://www.youtube.com/channel/UCBhvlseSc2neAQpg7nb-w7iQ/videos?view_as=subscriber