



Ministry of Agriculture, Forestry and Fisheries General Directorate of Agriculture (GDA)

Ecological Intensification and Soil Ecosystem Functioning (EISOFUN)

Project Factsheet 2016

Grant for Climate Change Research and Innovation



BACKGROUND

Intensive mono-cropping mainly for cassava and maize productions, based on tillage and herbicide use has resulted in significant soil fertility depletion and land degradation. Productivity and profitability decreased since several years and land use intensification in the uplands is also characterized by increasing debts as a result of the high capital requirement of intensive cropping practices. Climate change is expected to increase the frequency of drought and floods with dramatic consequences on annual cash crops that are crucial for smallholders' livelihoods in the uplands. In a general context of labor scarcity, resources-rich farmers cope with these risks by shifting from annual crops to perennial crops. Poorest farmers who cannot afford such strategies may further fall into the poverty trap by selling out their land to the other farmer groups to become wage-earners on their former land.

OVERALL OBJECTIVE

Promote Sustainable Management of Agricultural Land Resources

SPECIFIC OBJECTIVES

- ▶ Smallholders and development stakeholders are aware about the negative environmental impacts of conventional agriculture, the limitations it imposes on rural development, and the need for alternatives
- ▶ Partners' knowledge about soil ecosystem services assessment has been improved and leads to further research
- ▶ Strategic elements are provided to national policy makers to address soil fertility depletion

APPROACH

EISOFUN will work with and through Cambodian institutions to increase national capacity to assess the impacts of land use changes on soil fertility and productivity.

Key ecosystem services will be assessed on two main agro-ecosystems (Oxisol and Mollisol) comparing conventional plough-based tillage and Conservation Agriculture Production Systems (CAPS) in the Bos Khnor Station, Kampong Cham and in Rattanak Mondoul district, Battambang. The indicators will be recorded: (i) on two experiments in the Bos Khnor Station and on at least 3 cropping systems (i.e. conventional plough-based and two CAPS), (ii) on one demonstration field in Rattanak Mondoul (i.e. comparison Conventional Tillage vs. Conservation Agriculture), and (iii) on-farm through a network of 30 fields in Rattanak Mondoul district. The project will provide strategic elements to national policy makers on alternative land use management to address the question of soil fertility through sensitization activities (policy briefs, leaflet) and workshop.

OUTPUTS AND KEY ACTIVITIES

Results	Key Activities
Exchanges with smallholders on the changes in soil properties between land use are organized	Exchanges with rural communities and smallholders
	Training of the partners through seminar and working sessions
Changes in soil properties and productivity are described for contrasted agro-ecoregions (Oxisol, Mollisol), conventional tillage and CAPS (experiments and farmer network)	Training of the partners on the assessment of key ecosystem services
	Assessing soil ecosystem services
	Soil sampling in Bos Khnor Station and Battambang
Policy and research papers published	<i>Policy briefs, publications, leaflet, and posters developed</i>
Policy dialogue established on the depletion of the soil fertility and the need for alternatives	Policy dialogue: final workshop with policy-makers, GSSD and CCCA

KNOWLEDGE PRODUCTS

- ▶ Policy briefs
- ▶ Leaflets
- ▶ Posters
- ▶ Research publications

PROJECT INFORMATION

Timeframe:	July 2016 - March 2019	Current Partners:	Royal University of Agriculture (RUA), Institute of Technology of Cambodia (ITC), Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)
Total Budget:	USD 158,350 (From CCCA US\$91,000)	Location:	Kampong Cham and Battambang
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Funded by:



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