

# Conservation agriculture in rice cropping ABSYSs in Madagascar (CARIM)

## Conservation agriculture in rice cropping systems in Madagascar: sustainability and adoption

### ABSTRACT

The increase of Malagasy population leads to an increasing use of low fertile soils. Traditional cropping systems result to nutrient depletion and soil degradation, and low crop productivity. Conservation agriculture (CA) is a way to reduce soil degradation and to provide ecosystem services through a better management of biomasses and soil organisms.

**Keywords :** Agroecosystem, Society, Cultivation technique, Land use, Conservation, Cropping systems, Soil, Rice, Madagascar

**Year :** 2012

**Project number :** 1202-030

**Type of funding :** AAP OS

**Project type :** AAP

**Research units in the network :** AIDA INNOVATION

**Start date :** 2013-04-01

**End date :** 2016-04-30

**Flagship project :** no

**Project leader :** Thierry Becquer

**Project leader's institution :** IRD

**Project leader's RU :** ECO&SOLS

**Budget allocated :** 150000 €

**Total budget allocated ( including co-financing ) :** 150000 €

**Funding :** Labex

### GOAL

The aim was to improve the sustainability of production systems, by the implementation of conservation farming systems and the analysis of the socio-economic constraints to the adoption of CA at the farm level. In addition, the project focuses on the capacity building of Southern partners, through the training of high-level students (Masters, PhD students and post-doctoral fellows) and the support to the Doctoral School A2E - "Agriculture, Ecosystèmes, Environnement".

### RESULTS

- Grants for two Masters students (16 months), five PhD students (29 months) and one post-doctoral student (5 months) to study in Montpellier ;
- Participation of French researchers and teachers in training (Doctoral School A2E - "Agriculture, Ecosystèmes, Environnement"; Summer School "Les services écosystémiques rendus par les sols");
- Organization of an International Conference (Agroecology for Africa - AfA 2014)
- Support for research activities of various partners of the Research Partnership "Systèmes de Production d'Altitude et Durabilité à Madagascar" (DP SPAD), interinstitutional scientific platform on highland agricultural systems and sustainability.
- Production of podcast videos on agroecology.

## PERSPECTIVES

A better knowledge on bio-functioning of soils to increase their fertility and on socio-economic analysis of farmer systems to promote the most adapted CA systems is still a subject of concern. Studies on soil ecological processes (i.e. soil functions) and on the belowground biodiversity were initiated during the CARIM Project. Other studies were already initiated by other Agropolis Fondation projects in Madagascar, i.e. INDICE and SECuRE, to increase both agronomic, socio-economic and agroecological performances of agrosystems.