

# Agroforestry innovation methods

## Capitalization and Capacity building on method to assess and develop agroforestry innovation in humid tropics (Africa and Mesoamerica)

### ABSTRACT

Hosting postPhD for 12 months for the development of research on the dynamics of Agroforestry systems

Thematic School on Social sciences Methods applied to agroforestry

Two won projects EU 2008 FUNICTREE and ANR 2010 INTSEN& FIX

2 publications in reviews with impact factors

Missions reports. Research reports (1 produced by the School participants in French and in English + 1 produced by 2 teachers and 2 participants) + Oral feed-back to local stakeholders + evaluations + press release

### SCIENTIFIC RESULTS

Research on agroforests in Africa

A combined agronomic and geographic approach has helped to explain forest agrosystem spatio-temporal dynamics in the agroforestry systems in Africa. The important expansion of cropping systems associating various perennial crops (coffee, kola, cocoa, fruit trees) and native spontaneous forest species – called “agroforests” can be considered as the renewing of an ecosystem dominated in the past by forest. During the same period of 25 years, the area of food crops on hills based on upland rice after slash and burn has increased slightly. In this case soil fertility decrease. On the contrary, agroforests provide environmental services such as maintaining biodiversity and soil fertility, and reducing runoff and erosion. Still, they could also jeopardize food security for rural societies by reducing annual food crop areas, especially in times of an increase in food prices. The challenge is to combine these various cropping systems at the village and farm scale

In order to reach both farmer and societal objectives in terms of sustainable development.

Research on link between agroforestry and environment

Our research aimed to identify the contradictions between the political emergency of the biodiversity conservation effort and local development needs. Conservationists in Madagascar focused their attention on the endemic baobab tree, *Adansonia grandidieri*. Malagasy conservationists believed the area's protected status would benefit the local economy through eco-tourism. However, the conservation actions undertaken there display limited understanding of local dynamics and conflict with farmers' needs. To protect the baobabs, the government has prohibited rice cultivation without providing compensation. We show that the multifunctional baobab tree is integrated into an agroforestry system and protected by farmers. Based on these results, we address the issue of how to combine conservation and local development objectives through the involvement of farmers and the recognition of local knowledge in tree management. We also demonstrate that an emergency approach to conservation is not conducive to a successful integration of conservation and development.

**Keywords :** Society, agroforestry, Innovation, Method/tool/technic, Participatory, 1. Exclu de la photothèque

**Year :** 2007

**Project number :** 07044

**Type of funding :** AAP

**Project type :** AAP

**Research units in the network :** AGAP SYSTEM

**Start date :** 2008-01-02

**End date :** 2010-11-30

**Flagship project :** no

**Project leader :** Nicole Sibelet

**Project leader's institution :** CIRAD

**Project leader's RU :** INNOVATION

**Budget allocated :** 123032.85 €

**Total budget allocated ( including co-financing ) :** 123032.85 €

**Funding :** RTRA

## PERSPECTIVES

1) An elearning on "Social Sciences Methods applied to Agroforestry" was elaborated built with funds of UVED/CIRAD and IAMM based on 2009 Thematic School. A pilot version of two modules was tested. French version available in june 2011 (<https://enquetes-cirad.iamm.fr/>); English and Spanish version available in september 2011. Developments are scheduled: over the translations in English and Spanish, adaptations and creations; new case studies and construction of other modules This elearning could be used in particular as bases of methodological support in multidisciplinary projects and pluripartnerships. That is already the case within the framework of INTENS&FIX project.

2) From january 2011, CIRAD and CATIE will build a duo through Nicole Sibelet and Isabel Gutiérrez to strengthen sociology on environmental issues. Both are specialised in Stakeholders' perceptions, local knowledge, practices and strategies facing environmental risks applied to agroforestry systems

3) Perspectives in Central America

There is a discontinuity between the objectives of environmental development programs, their activities, and their results. On one hand, new incentive tools – such as payments for environmental services (PES) – aim to compensate for the provision of these services. On the other, the relevance of local practices and knowledge is increasingly recognized to improve the management of natural resources.

Nevertheless, the will to associate local stakeholders with environmental management does not always take a concrete form: it remains at the level of a vague desire or simple consultation. The result is a gap between intentions and results: policies are applied without taking local realities into account. This is evident in the definition of new rules and mechanisms, proposed or imposed on stakeholders, in relation to the local reality. Those responsible for projects, central government and local authorities who desire local participation, nevertheless continue to pursue top-down approaches through rules and outside techniques without actually involving local people in the design, implementation, or evaluation of technical and organizational innovations. "What innovation processes are developed by local stakeholders managing agroforestry and forestry systems to cope with local and global environmental risks ?" is one of the main research questions we will inform.