

Year of CfP: 2007

Project No 07035 Completed

Project title: International Thematic School: "Agrobiodiversity: people and plants. Tools and analytical methods"
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Unit managing the project: DIADE (Diversity, Adaptation and development of Plants) (IRD, UMII)

Project leader: Jean-Louis Pham (pham(a)ird.fr)

Countries involved in the project: Marocco, Canada, Brazil

Research units from the Foundation's scientific network involved: AGAP, GREEN, RPB

Subthematic axes: IPB-1 (Integrative Plant Biology 1: *Genetics and genomics, plant breeding, ecophysiology*), STDI-1 (Socio-Technical Dynamics of Innovation 1: *Agri-environmental innovations, agri-ecosystems, resources management*), STDI-3 (Socio-Technical Dynamics of Innovation 3: *Innovation processes, social management of innovations*)

Objectives:

Farming systems in the centres of diversity of cultivated plants—mainly in countries in the South—are still based on broad genetic diversity generated since domestication by farmers' know-how in terms of breeding varieties, and maintained for generations by seed management practices.

It is necessary to conserve this diversity *in situ* because not all germplasm resources can be conserved *ex situ* in gene banks and the latter cannot maintain evolutionary processes. The importance of local human populations for the conservation of agrobiodiversity and of access for small farmers in the South to genetic resources have been highlighted by important international conventions (Convention on Biological Diversity, The Global Plan of Action for The Conservation and Sustainable Utilization of Plant Genetic Resources) to promote the development of *in situ* agrobiodiversity conservation strategies.

In comparison with the conservation and study of *ex situ* collections and with conventional varietal improvement, *in situ* conservation does not benefit from the same structuring effort made by the international community in terms of research, implementation and training. The comparatively recent emergence of this approach, its naturally decentralised nature and the fact that it is set intrinsically in open and hence complex environments all contribute to explaining this.

However, there is a strong demand for training by professionals (scientists, NGOs and decision-makers) in the South who are involved for reasons of interest or political necessity in the conservation and use of the *in situ* diversity of phylogenetic resources. Unfortunately, opportunity for training is seriously lacking (courses, written and web material). Although there is training (at Wageningen for example) on the general and political aspects of the *in situ* conservation of cultivated plants, nothing is to be found on recent tools and methods adapted to the study of agrobiodiversity or on the ways of combining these methods in order to develop multidisciplinary approaches.

The project has a twin aim:

- development of the availability of training in the multidisciplinary study of the agrobiodiversity of cultivated plants in ecosystems in the South with a view to sustained conservation and use;
- training students and professionals in the South in methods and tools for the multidisciplinary analysis of diversity at various levels (plants, agrosystems, practices), to learn the limits and to set their projects in the complex scientific and political context of the conservation and use of biodiversity.

An international multidisciplinary theme school on the analysis of the diversity of cultivated plants and associated farming practices in agrosystems has been organised for doctoral students, researchers and other professionals in the South. This was the occasion for defining and producing the content and teaching material needed to repeat this school at other times and places.

Action carried-out and results obtained:

Of the 283 applications from various regions of the world, a total of 24 students and professionals from the South (14 countries) were selected to participate in the international training course « Agrobiodiversity: Men and Plants. Analytical tools and methods » being held in Montpellier-Carnon in November 2008.

Jointly organized by IRD and Cirad in partnership with several national and international institutions (e.g., Agropolis International, Bioversity international), the international training course was funded by Agropolis Fondation. Trainers were mostly scientists from the Montpellieran scientific community, but some of them came from NARS (Guinea), international organizations (Bioversity, FAO) and from other French labs (AgroParistech, CNRS, etc).

Given in French, the training course aimed to assist students and professionals from the South to:

- Discover methods and tools for a multidisciplinary approach of diversity at different levels (plants, agrosystems, societies, knowledge, and practices)
- Understand its advantages and limitations
- Locate their projects in the complex scientific and political context of biodiversity utilisation and preservation

After a series of introductory conferences on the first day, four days were mostly dedicated to population genetics, combining lectures and hands-on. This first week was spent on the Lavalette campus. The second week focused on social and cultural components of agrobiodiversity research, during a stay in Carnon.

Numerous contacts were developed during this course, between trainers and trainees, but also among trainees and among trainers. The evaluation survey was very positive. It led to organize the 2nd Agrobiodiversity course in 2010, as a training activity supported by the ARCAD flagship project. It was held in Rabat, Morocco, thanks to the kind invitation of colleagues from the Institut Agronomique et Vétérinaire Hassan II.

Prospect for the future:

Funding was requested for the establishment of new editions of the thematic school.

Total Agropolis Fondation funding: € 83,200 (short term contract, travel expenses, accomodation costs, conference room rental fee, equipment costs)

Funding categorie(s): Agropolis Fondation support award for international training courses

Project duration: December 1 2007 – June 30 2011

Keywords: agrobiodiversity – *in situ* conservation – genetic resources – formation – training course