NETSEED

STRENGTHENING MANAGEMENT OF AGROBIODIVERSITY THROUGH SOCIAL NETWORKS. A CROSS-DISCIPLINARY* METHOD FOR ANALYZING HOW LOCAL SEED SYSTEMS IMPACT THE DIVERSITY OF DOMESTICATED PLANTS

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CESAB
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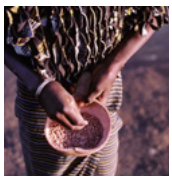
2010 projects

Plant biodiversity within agricultural ecosystems is a central asset for food security, dietary diversity, and ecologically and socially sustainable farming. A key question is how the diversity of seeds and the access to them can be maintained. As human activities have fragmented natural habitats, altered agricultural environments, and facilitated global-scale connections, understanding the diffusion of genetic resources within and among locations has become particularly important.

Farmers use, produce, select and conserve biodiversity through their management of seeds, which depends on the ecological and evolutionary processes operating in their fields as well as the flow of seeds among farmers through social exchange. Seed exchange networks thus mediate the diffusion of genetic resources, and integrate natural and social dynamics into the dynamics of agricultural biodiversity.

Network analysis can reveal new relationships between society and biodiversity, and provides a tool that can help support farmers in the maintenance and management of seed flow networks, enabling human communities to adapt to the changing cultural, economic and environmental conditions that characterize our world today.



CESAB'S ADVANCES

The CESAB offers a unique structure to integrate data collected from many different sociocultural and ecological contexts and to treat them within a single analytical framework. The post-doctoral fellow hired through the project will apply his competence in network modelling and analysis to questions about seed exchange networks, and will coordinate a large consortium of research groups for the long time period necessary to complete the project.

STEPS

Through meta-analyses and modelling within the framework of social network theory, we will study seed exchange networks structure and :

- Ecological and sociocultural determinants
- Current plant biodiversity in agricultural ecosystems
- Resilience of human/environment interactions.

Focus

*Cross-disciplinarity

Integrating the social and biological processes that determine seed exchange networks structure requires a highly cross-disciplinary research team such as the consortium we have formed with the help of CESAB. Our data have been collected by anthropologists, ethnobiologists, geographers, and ecologists, and will be analyzed by specialists in bioinformatics, ecological modeling and agronomy. We aim to achieve a path-breaking synthesis of a domain in which patterns of biodiversity are conditioned by both social and biological processes.

FRB
FONDATION POUR LA RECHERCHE SUR LA BIODIVERSITÉ

The FRB was launched in 2008 at the initiative of the ministry of research and the ministry for the environment of France, and was founded by 8 public research institutions (BRGM, CIRAD, CNRS, IFREMER, INRA, IRD, IRSTEA, MNHN). The FRB is a science-society platform and it supports and promotes scientific projects and expertise on biodiversity.

The CESAB is a centre for the synthesis and analysis of biodiversity created and developed by the FRB to foster knowledge on biodiversity through data and theoretical synthesis activities. CESAB provides researchers with the means to conduct these activities in a dedicated place over sustained periods of time.