

## Oral presentation Session II

### Defining functional groups of tree species according to rural stakeholder perceptions in Central-Mali

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#### Abstract

In the Tiby area (Segou region, Mali), the intensive exploitation of timber resources and the lack of tree regeneration lead to a degradation of agroforestry parklands for years. In 2010, a study was conducted concerning local knowledge and uses of tree species in a same territory, depending on different kind of stakeholders. Qualitative surveys have been carried out to identify farmer's perceptions of tree functions and corresponding functional traits. The results show that most of woody species have a significant multifunctionality. Only few species are unifunctional. The most multifunctional species cover all types of production and service functions but not all the uses, particularly for medicinal uses. Some specific uses are fulfilled by only one species. Correspondence analysis with tree functions data show the possibility of grouping species in relevant functional groups. Socio-economic analyses emphasize the fact that a same species does not fulfill the same functions depending on user groups (cultivators, livestock farmers, women, etc.) and depending on agri-environmental and socio-economical contexts (activities, knowledge, means and practices). The surveys reveal common perceptions between farmers of certain functional traits linked to strategic functions, and specific knowledge depending on farmer activities. But data on functional traits were tricky to analyze because of their sparse character and a number of interviews too low. Nevertheless, comparisons between traits quoted by farmers and some functional traits known in scientific literature will be helpful in the aim of trying to build functional groups of tree species. Finally, it seems that each user group seeks for satisfying a given need (maintain of soil fertility in cropped fields, fodder, fruits, fences, timber, firewood, medicines, etc.) by targeting a group of species among available woody species, on the base of functional traits as they discern them, and by mobilizing their knowledge and their means. It means that scientific databases composed of lists of functions and traits for a given species have low generic value and must be valued depending on the context. The notion of functional group gathering substitutable species for a same function takes thus all sense. These results aimed to emphasize the functions and specific uses of tree species that must be taken into account in perspective of improving the management of agroforestry systems.