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Introduction of the MITMIOMBO Project

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Project Title

MITMIOMBO – Management of Indigenous Tree Species for Ecosystem Restoration and Wood Production in Semi-arid Miombo Woodlands in Eastern Africa
(A EU FP6 INCO/SSA project)

Background

Management of native woodlands with indigenous tree species for the restoration of ecosystems, management of the water balance, provision of resources for rural livelihood, and sustainable production of wood are of great importance in semi-arid East and South Africa. Woodlands can provide a multitude of wood and non-wood products like timber, firewood, charcoal, beekeeping, fruit, grazing, shading, ecosystem protection, cultural values etc. For instance, about 90% of the energy consumption in Tanzania is derived from wood, mostly from overexploited indigenous woodlands.

Despite the very large extent of the semiarid miombo woodlands in Tanzania (45 million hectares, or 90% of forested land) and Eastern and Southern Africa as a whole (270 million hectares), their utilization has exceeded sustainable levels in many places. Having depleted the resources of the most valuable timber species, for example, people and communities have had to turn to species with less favorable wood properties for their construction needs. Unregulated charcoal production has resulted in extensive lack of wood in many areas.

Without effective regulation, management, and participatory measures, the deterioration of the ecosystems and depletion the forest resource, and poverty and rural depopulation will continue and accelerate in the future. Participatory forest management regimes, such as Community-Based Forest Management and Joint Forest Management, have been initiated with success on about 2 million hectares and around 10% of villages in Tanzania.

Sustainable management of native and non-native trees, woodlots, and forests with the intensive involvement of local communities seems to be a key alternative. Women in particular have shown

great interest in establishing and managing tree crops and stands. Given their extent and intensity of use, remarkably little emphasis in research and development efforts have been directed on the silviculture and management of miombo woodlands. Past research and development efforts in forestry and forest ecosystem management in the area have primarily been pursued in terms of the plantation approach.

The knowledge basis for the management of indigenous forests is very limited. The stand structure, species composition, tending and dynamics of indigenous forests and woodlands are much more complicated than those of plantations of exotic tree species, and advanced survey, as well as experimental, analytical (statistical, and simulation) methods are required in order to produce reliable research results and concrete recommendations. The MITMIOMBO project is a small-scale effort to explore and experiment with tools that forest research can provide for development and extension efforts in miombo woodlands.

Objectives and Activities

The first primary objective is to coach Tanzanian researchers in the application of state-of-the-art research methods for addressing management challenges involving indigenous stands with complex structures and dynamics. After the project, groups of researchers participating in the project will be able to design and implement such studies on their own and to pursue fruitful cooperation with European colleagues in the future. The major objectives subordinate to the primary objective are:

1. To communicate general principles and previous applications of state-of-the-art research methods for stands with complex structures and dynamics in terms of papers presented at two project meetings and specific workshops by smaller groups. The primary approach is modeling and simulation based on empirical data sets from permanent sample plots.
2. To establish and manage a set of permanent experimental research plots in the Kitulungalo Forest Reserve near Morogoro, Tanzania to serve as a staging ground for demonstration and application of research methodologies appropriate for complex stand structures and dynamics, natural regeneration, seasonal growth variation of trees in the area, and pest problems as tree – herbivore interactions.
3. To exchange experiences between researchers on the research methods by direct joint application to design and establishment of the experiments, data analysis, and work towards conclusion relevant to practice in terms of exchange visits (two persons for 1-3 months each) and workshops.
4. To initiate and promote cooperation with researchers in other East and South African countries on the project themes by inviting them to participate in selected activities for communicating the working concept, scientific substance, and results, utilizing the permanent plots for demonstration.

The second primary objective is to pursue interaction and dissemination of knowledge between local communities, farmers, and potential tree growers, local extension workers, and researchers on practical management issues of indigenous stands. Communities in the vicinity of the demonstration plots will be involved.

The third primary objective is to promote the exchange of knowledge and experience between researchers from Tanzania, Europe, and other East African countries on the objectives, methods, and potential benefits of the management of semiarid forest ecosystems. The connections and work-

ing relationships that form a network for future cooperation on the subject will be established and strengthened through involvement in this pilot project and participation in its activities.

The project participants humbly acknowledge that the kind of forest management and silviculture that may optimally promote the goals of the various stakeholders in a specific situation is an extremely complex question, with equally variable applications as solutions in the vast domain of miombo woodlands. The inherent limitations of such a small-scale project must be apparent to anyone. We can only apply and demonstrate one or two basic treatment principles on location, leaving a large variety of alternatives aside. On the other hand, it is not the specific treatments that are on trial and display, but principles and approaches. In that sense, the power of research and researchers in generating knowledge and providing tools for making wise decisions in the future is one of the major things that we want to emphasize with the project.

Contractors

Finnish Forest Research Institute (METLA; FIN) (Coordination), University of Joensuu (UJOE; FIN), Swedish University of Agricultural Sciences (SLU; SWE), Sokoine University of Agriculture (SUA; TNZ), Tanzania Forestry Research Institute (TAFORI; TNZ), Tanzania Association of Foresters (TAF; TNZ)

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