



Agroforestry systems in the humid East Coast of Madagascar : between food self-sufficiency and high value chains for export

* Eric Malézieux, CIRAD, France

Eric Penot, CIRAD, France

Aina Rabodomanantsoa, CTHT, Madagascar

Gaylor Razafimananjison, Université d'Antananarivo, Madagascar

Fawbush Razafimbelo, Université d'Antananarivo, Madagascar

Michel Jahiel, CIRAD, Madagascar

Pascal Danthu, CIRAD, France

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Madagascar is one of the leader producer and exporter of lychee, clove and vanilla in the world. These three crops were introduced and developed on the east coast of Madagascar more than a century ago in the context of colonial agriculture. Since then, innovative complex agroforestry systems (AFS) were designed by smallholders that associate a high diversity of species and constitute the basis for the export of these products. In Atsinanana and Analanjirofo (literally : clove forest) regions, these AFS not only combine clove and lychee trees but also a high diversity of fruit and forest tree species, and herbaceous crops that are or have been of strategic economic importance such as vanilla, coffee or pepper. Some crops are also intended to feed the local market or the on-farm consumption as breadfruit, jackfruit, or sugarcane. Moreover these AFS provide a wide bunch of ecosystemic services for local population: the diversification process improves socio-economic resilience of vulnerable farmers by balancing incomes and providing numerous cultural, social and environmental services. The paper, based on numerous farm surveys and field observations in the areas of Toamasina and Fenerivo, proposes a typology of AFS, mainly characterized by structures (species composition and association) and practices. The diversity observed contributes significantly to the resilience of the socio-ecological system. In the future, the orientation of these socio-ecological systems toward more resilient trajectories will highly depend on the development of their capacities to reconcile the constraints of highly competitive international value chains such as lychee, clove or vanilla, which are greatly influenced by the demand located in developed and emerging countries, with the complexity of the existing systems.