

Study of social perceptions to reconcile international concerns and local needs

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Abstract: International policies award a central role to participation by local populations in sustainable development issues.

The FOREAIM project is aimed at limiting degradation and enhancing the restoration of ecosystems for local populations and with their participation. In this framework, the present study is based on the perceptions of forest and forest degradation of the different stakeholders. The work was conducted on the east coast of Madagascar. The different perceptions and the solutions put forward for remedying degradation are then used to develop restoration strategies.

Keywords: Madagascar, perception, forest, degradation, restoration, forest corridor.

Is the environment an international issue or the business of local stakeholders?

International policies in the field of sustainable management of tropical forests incorporate two parameters: (i) the concern of civil society in the face of deforestation and (ii) the need for participative approaches. Development operators must be careful in the face of this duality between global undertakings and local applications. Care must be taken not to instrumentalise participation in order to rally local populations to international decisions.

The FOREAIM (Forest Restoration in Eastern Africa, Indian ocean islands and Madagascar) project aims to limit degradation and to encourage restoration of ecosystems. The purpose of this project first part is to evaluate the forestry practices of stakeholders and to examine the restoration strategies that they propose or use. These preliminary studies should enable progress to be made in the other parts of the project that concern restoration techniques. This study belongs to the first part of the project working on social perceptions (Rives, 2007).

The forests of eastern Madagascar: a context of degradation

Madagascar is a symbol of primary forest threatened by expanding agricultural and forestry practices. The Malagasy state awards local populations an active role in natural ecosystem conservation through the *Gestion Locale Sécurisée* (GELOSE) or secured local management law (Montagne & Bertrand, 2006). Since the Durban Appeal in 2003, the government has shown political determination to incorporate 6 million hectares of natural ecosystems in the Malagasy *Système des Aires Protégées* or protected areas system. The Zahamena-Mantadia forest corridor targeted by the FOREAIM Project is concerned by this programme.

A method for the evaluation of stakeholders' approaches

Social perceptions are 'interpretation systems that govern our relation with the world' (Jodelet, 1989). Analysis of the expressions used by the various stakeholders covers perception of forest and of their degradation. Social perceptions have been studied in three villages – Raboana, Betsingita and Bevanana – chosen in the light of different criteria (Table 1). Perceptions of forest by the political sphere have been studied in laws and in the programmes of the ministry in charge of forests. Perceptions by local stakeholders were gathered by semi-directed interviews of farmers and administrative officials (Table 1). The interviews also made it possible to examine the impacts of degradation as perceived by the farmers and the solutions that they suggest.

Table 1. Description of the study sites according to criteria of choice and interviews numbers by sites

Criteria \ Site	Raboana	Betsingita	Bevanana
'Degradation'	Very slight	Medium	Serious
Agricultural practices	Lowland rice	slash & burn (<i>Tavy</i>)	slash & burn (<i>Tavy</i>)
Other occupations	Forest exploitation	Paid agricultural work	Paid agricultural work, recent forest exploitation
Households : interviewed/ total	30 / 50	10 / 18	24 / 50

A variety of stakeholders and perceptions

Forest must meet the requirements of the ministry in charge of forests, environment-focused NGOs, forest harvesting operators and farmers. Agricultural practices and other occupations are varied and result in different relations with forests. The study of perceptions has been focused on two main stakeholders: the political sphere (the state) and farmers. Analysis of expressions covered perception of forests and their degradation (Table 2). Some expressions are mentioned for example.

Table 2. Perceptions of forests and forest degradation by the state and by the farmers in the three places

Stakeholder	Perception of forests	Perception of degradation
State (<i>Legal texts of the ministry in charge of forests</i>)	1) Biological richness, biodiversity. Madagascar is a ' <i>true nature sanctuary</i> ' (Office National pour l'Environnement, [online]) 2) Production of building timber	Degradation losses consist of 1) ' <i>the disappearance of several thousand species</i> ' 2) ' <i>the disappearance of the materials and products that rational exploitation can draw [from these species]</i> ' (Ministry of the Environment, 2001).
Farmers at Raboana (mainly woodcutters)	Production of building timber <i>'the water and forestry administration protects [the forest] so that [farmers] can harvest it'</i>	A decreasing number of large-diameter trees
Farmers at Betsingita (farmers using the slash & burn (<i>Tavy</i>) technique following a decrease in materials resources)	Refuge and survival area, fertile cultivable land Forest is ' <i>life</i> ', a ' <i>rice granary</i> '.	Not expressed
Farmers at Bevanana (farmers who have used the slash & burn (<i>Tavy</i>) system for many generations)	Cultivation area The mosaic of forest and fallow patches seen by an outside observer represents a whole referred to as 'forest' by the farmers. When they go to work in their slash & burn (<i>Tavy</i>) fields, they say that they are going ' <i>into the forest</i> '.	Forest degradation is perceived via ' <i>the shortage of rice fields</i> ' and ' <i>problems of sterility</i> '

Each stakeholder perceives certain functions in the forest and sees the loss of these functions in degradation. The state perception responds to international concerns and the image of Malagasy forests as seen from outside the island. Farmers' perceptions are related to everyday uses of forest and the value-added resulting from certain functions (production of building timber, soil fertilisation...). The degradation of these functions drives the developed or suggested farmers' solutions.

Developing restoration strategies

Types of degradation and solutions, especially those put forward by farmers, must be taken into account in restoration strategies so that participation by neighbouring populations is effective and efficient.

The state restoration strategies are aimed at restoring the perception of a 'virgin forest', which in fact does not exist (Michon *et al.*, 2003). So, we propose to the development operators to abandon the idea of restoration of 'the natural forest' as a whole. The natural dynamics of forest ecosystems combined with restoration operations should lead to the establishment of a multifunctional landscape mosaic. The functions assigned to each patch change in space and time according to the functions to be restored for the stakeholders there and the potential of the environment (cf. Figure 1). Although the management of a patch is performed with the aim of restoring function F1, the range of functions effectively restored may be broader.

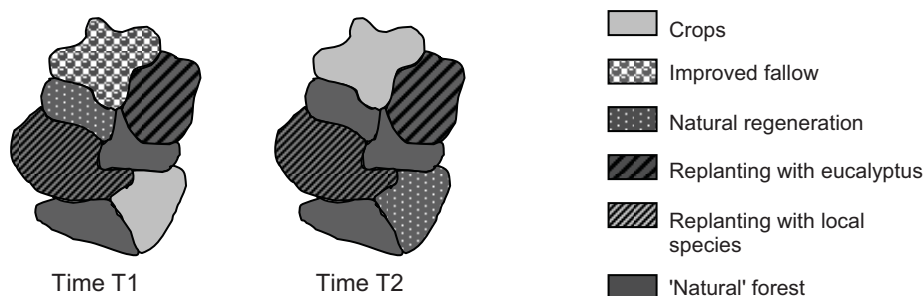


Figure 1. Diagram of multifunctional landscape mosaic

This aspect is clearly illustrated by plantations of eucalyptus. In some places, farmers plant eucalyptus to restore the timber production function (the restoration objective of local stakeholders); this action also restores soil protection function (functions effectively restored).

Conclusion: facing unexpected worlds

The diagram of multifunctional landscape mosaic, showed ahead is a comprehensive model. For becoming a prospective-model, it has to be rebuilt case by case with further collaboration with stakeholders, especially in the next year of the project.

Accepting landscape mosaic that differs from so-called primary forest makes it possible to envisage other solutions that are better suited to the local socioeconomic context and that can therefore be handled by local stakeholders.

Work on the social perceptions of stakeholders is essential. It upsets the positions of the scientists, developers, experts and political decision-makers, who find themselves facing worlds different to those that they initially expected.

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