

## Protecting local management in northeastern Madagascar

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### SUMMARY

Local forest management is a project of the Malagasy Environmental Programme. In humid mountainous areas, the World Wide Fund for Nature (WWF) supports a regional experiment in community forestry. The population, which is very dense and predominantly rural, clears the forest to cultivate swamp rice, vanilla and coffee. In the area around the National Park, the forest cover, which was a continuous expanse at the dawn of the century, is today reduced and fragmented. The formerly powerful forestry service has run out of means.

The State, which is the overall landowner, has authorized the transfer of forest management to the communities, after acknowledging the failure of its repressive policy. Belambo is the first experiment (with 2 000 inhabitants and 100 ha of forest). In 1997, the community, with the help of an environmental mediator, signed an agreement with the forestry service that gave it responsibility over the forests for three years, accompanied by officialized specifications and village rules and regulations. Despite the delay in the legislative process, a regional body is preparing support and validation mechanisms to accelerate transfers and real estate protection operations.

The village management committee coordinates activities, controls access to forest resources, collects forest exploitation revenue and forbids the clearing of forest land. The committee, which is autonomous, solicits the assistance of the forestry service and conducts research to enhance its management.

The will of the communities is at the centre of this approach. A diagnosis of the communal heritage consolidates this will. The communities then look for technical partners. All the interest groups present must validate decisions taken. Local management must be in keeping with the regional perspective. Fiscal aspects are crucial. Forest management entails the management of other resources and the conservation of protected areas.

## **Madagascar: a major rice-growing basin, protected highlands, high population density**

Deforestation is a widespread phenomenon in Madagascar. It is estimated that 50 percent of the forest disappeared between 1950 and 1985. This deforestation must be curbed, considering the 8 000 known plant species that are endemic to Madagascar.

The massifs of Marojejy and Anjanaharibe-Sud, both of which rise to an altitude of more than 2 000 m, are situated at the northern extreme of the great eastern escarpment that runs from the south to the north of Madagascar. Well-developed relief and a tropical, humid and hot climate characterize the whole region. The great diversity of the exceptional sites of this region, its biogeographical peculiarities and the high degree of regional endemism have quickly led to the delimitation of protected areas.

The massifs of Marojejy and Anjanaharibe-Sud surround the Andapa Basin, a vast sedimentation basin of more than 13 000 irrigable ha, with a population concentration of almost 100 000 inhabitants. The population density in the basin is nearly 500 inhabitants per km<sup>2</sup>. Although deprived of a direct access road to the south and the west, the region is buoyant with economic activity and holds a special place in the nation's economy because of its high-value export crops of vanilla and coffee. The Andapa Basin is the rice basket of the region. Apart from the basin, land that can be used for swamp rice cultivation is rare and does not allow for the self-subsistence of village communities. Population density outside the basin varies but is everywhere more than 50 inhabitants per km<sup>2</sup>, exceeding 100 inhabitants per km<sup>2</sup> in some sectors.



The Marojejy and Anjanaharibe-Sud massifs have a wide variety of low-altitude and highland forest ecosystems on their 78 000 ha of forest land. This gives them an important place in the national biological diversity conservation network of Madagascar. The Marojejy massif has been protected under the status of Integral Natural Reserve since 1952 and of National Park since 1998. The Anjanaharibe-Sud massif has been protected since 1958 under the status of Special Reserve.

The Project for the Conservation and Integrated Development (Projet de conservation et de développement intégré [PCDI]) of Marojejy/Anjanaharibe-Sud has been carried out in Andapa since 1993 by WWF and financed through the financial cooperation between the Federal Republic of Germany and the Republic of Madagascar.

## **Status of forest resources**

### **Recent colonization and massive deforestation**

Human settlement in the Andapa Basin started at the dawn of the twentieth century when settlers from the Reunion Islands came to Madagascar to acclimatize vanilla. The forest in the low-lying areas was cleared for the planting of the precious orchid. Migrants from the drier regions west of the country settled on the slopes rather than in the low-lying areas of the adjacent forest valleys to carry out slash-and-burn cultivation of tavy rice, a favourite of the Malagasies.

Deforestation increased from 1972 under the impetus of a nationalist Malagasy government that wished to break with the conservation options of the preceding colonial and neocolonial periods. From 1975, the population density increased, fluctuations in the prices of export crops such as vanilla and coffee undermined their cultivation and the European Development Fund (EDF) launched a vast rice cultivation drive in the Andapa Basin. These developments encouraged the abandonment of export crops for rice and the clearing of slopes adjacent to the basin and even beyond, since the rice grown in the region was no longer enough to provide income and ensure food self-sufficiency.

The clearing of primary forest for rice cultivation, together with the widely disseminated land conquest strategy, have been the main causes of deforestation up to the present. The repressive forestry policy, compounded by the lack of government assistance to the Water Resources and Forestry Service in the 1980s and 1990s, led to the massive deforestation of several tens of thousands of hectares, even in the protected areas of the Integral Natural Reserve of Marojejy and the Special Reserve of Anjanaharibe-Sud, where more than 5 000 ha have been cleared for tavy rice cultivation and, to a lesser extent, for vanilla and coffee cultivation on slopes for the most part exceeding 100 percent.

Having settled from time immemorial in the forest, the people depend entirely on it for shelter, handicraft, fuelwood and medicine. In this context, forestry legislation lays down the rules authorizing each person to extract the forest resources necessary for his or her subsistence. Successive waves of immigrants have pushed the population density up to 500 inhabitants per km<sup>2</sup> in the Andapa Basin, and to between 50 and 100 inhabitants per km<sup>2</sup> in the forest valleys. With no form of exploitation other than the exercise of usufruct rights by the local population and the supply of timber and fuelwood to neighbouring small towns, the entire forest situated outside the protected areas has either disappeared or been severely depleted. It has been reduced to a few clusters of tens of hectares perched on ridges and summits with craggy slopes.

### **Protection of reserves and curbing of pressures**

The project started by the WWF in 1993, with 25 conservation experts in the field, gave the Water Resources and Forestry Service its rightful role and involved it right from the start in environmental education, the re-establishment of the boundaries of protected areas, the control of felling and the revalorization of forestry legislation as regards the granting of authorizations for clearing forest land or burning fallows. In the zones covered by the project, for a population of almost 150 000 people living on an area of 1 500 km<sup>2</sup>, it has been found that 15 ha, or less than 0.02 percent, have been cleared in the protected areas, and 20 ha have been cleared outside the protected areas. Although the

clearing of forest land for tavy rice cultivation remains a very serious threat, the main pressures on the forest in areas covered by the project remain. These pressures are the unauthorized felling of trees for timber and the quest for non-ligneous products, such as the felling of tall trees to harvest honey, the peeling of the bark of the bilahy tree (*Evodea bilahy*) for fermentation of local alcohol, and the harvesting of pandanus leaves for handicraft.

On the whole, forest resources are becoming increasingly hard to find and the alternatives are few. Substantial progress has been made in the improvement of irrigated rice farming with the hope of increasing the self-subsistence capacity of the communities living near the protected areas. However, cultivation and management methods that are adapted to the zone and that make it possible to halt rapid soil degradation have not been developed.

## **A joint legislative and experimental process**

### **Change of policy on water resources and forestry**

At the end of the 1980s, the failure of the repressive forestry policy to curb the widespread deforestation all over the country, the ever-growing interest of the international community, and national awareness of the need to preserve the immense and unique biological wealth of the minicontinent of Madagascar led to the promulgation of an Environmental Charter in 1998 that addressed natural resource conservation together with poverty. This resulted in the elaboration of an Environmental Action Plan (EAP), which should in 15 years slow down the destruction of natural resources, and forest resources in particular, and profoundly change the behaviour of Malagasy rural communities. Launched in 1992, this plan is in the second phase of its implementation. All funding bodies of the country finance it, consistently coordinating their policies and actions under the impetus of the World Bank, the leading funding body of the EAP.

The forestry policy, which was very elaborate but repressive, was challenged within the framework of the envi-

ronmental programme for its flagrant lack of results in the face of large-scale deforestation, illicit felling and bush fires all over the country. The conservation of protected areas, national parks and reserves was also discussed in a parallel forum. All these discussions, which often involved representatives of the communities, revealed three additional (and in our opinion, crucial) findings:

- the inability of the State to manage all the forests on its territory;
- the need for the communities to be involved more closely in the management of resources that ensure their livelihood; and
- the need for these same communities not to dissociate reflection on the conservation of protected areas from reflection on their development.

Consequently, a legislative process started that led to:

- a revision of forestry policy and legislation stating openly: (i) the need for the Water Resources and Forestry Service to open up to new stakeholders, in particular the communities; and (ii) the need to envisage participatory and local forms of management;
- the promulgation of a law at the end of 1996 to lay down the terms and conditions for the transfer of the management of natural resources, and forest resources in particular, from the Water Resources and Forestry Service to grassroots communities. This law on the management of renewable natural resources delimits the scope of the Protected Local Management component of the EAP, more commonly referred to as GELOSE (from *gestion locale sécurisée*, its French name).

### Field experiments

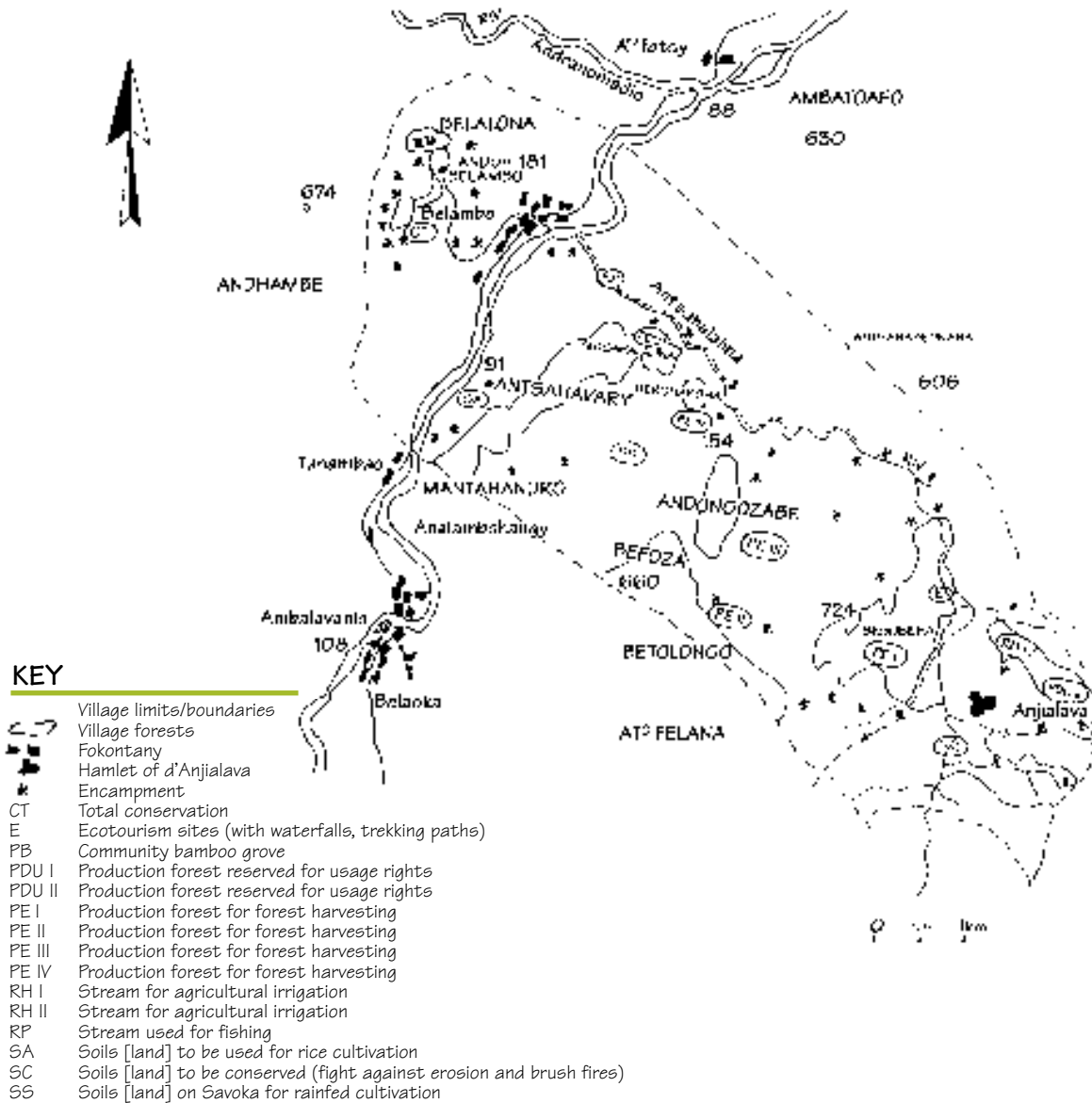
Although the instruments of implementation of this law have not yet been promulgated, it soon aroused the interest of the WWF project in Andapa and that of Belambo-Lokoho, a community near Andapa that was aware of its dwindling forest resources and had been concerned about preserving them since 1978. This community of interests made it possible to experiment a form of local forest management, an important novelty in Madagascar, within a community of more than 2 000 inhabitants living on a territory of about 5 000 ha, with almost 700 ha of forest.

GELOSE falls in line with a patrimonial approach that tries to reconcile the communities with their environment and rally them around the resource management objectives adopted by all components of the community, local forest exploitation agents and the technical services of the Water Resources and Forestry Service. To encourage the building of this consensus, the law requires the mandatory presence of an environmental mediator responsible for facilitating the emergence of the long-term objectives of forest resource management and, with the assistance of technicians and after some inventories, for drafting the specifications that make it possible to translate these management objectives into concrete community actions. This is usually followed by the drafting of a *dina*, a body of internal regulations of the community defining the rights and obligations of the parties, the quota for each type of resource user and for each resource, the rates to be paid for exercising forest exploitation rights and the fines to be paid by offenders. All of this activity is crowned by an agreement that sets out the conditions for transferring part of the authority of the Water Resources and Forestry Service to the community, pursuant to which the former agrees not to take management decisions that run counter to the objectives set by the community.

GELOSE also includes a land operation aimed at protecting the community's occupation and use of land. This is a relative land protection scheme that does not grant access to land titles but recognizes and establishes legitimate occupancy in a country where land and forests are State property, where real estate insecurity is widespread, and where title-deed procedures are especially costly and time-consuming.

These instruments and documents are signed: (i) by the grassroots community, represented by a management committee; (ii) by the mayor of the competent local council, which is involved in the drafting of this agreement and is responsible for ensuring its implementation; and (iii) by the regional Water Resources and Forestry Service. The instruments and documents are legitimized by a ministerial decision, which can be invoked by the community in transactions with third parties. The agreement is valid for three years, after which an evaluation exercise is to determine its renewal and/or amendment.

MAP 1 • Belambo territory, Madagascar



The Belambo-Lokoho community signed the first such agreement in Madagascar in June 1997, and has acquired a sound experience of the procedure. Because of the absence of official instruments to implement the law authorizing the intervention of the lands service, land protection has not been undertaken in Belambo to date. Nevertheless, the setting of long-term objectives and the practice of forest management by the community have enabled it to examine its future, the assets and resources available, and its major constraints, and then to draw up a first development and management plan for all natural resources available to it. The community displays a high degree of responsibility in honouring its commitments because it is eager to prove its competence to the technical services and to prove its authority to unauthorized pressure groups.

Communities are especially concerned with proving their ability to prevent non-members of the community from penetrating into their territory to exploit resources. The primary motivation seems to be to cut off access to resources for non-members of the community.

The WWF, which supported the operation, did not wish to act as mediator. This role was given to an organization foreign to the region, whose recognized neutrality enabled the rallying of divergent interests within the community around common management objectives. Technicians of this organization went as far as drafting the instruments and documents and handing them over officially. After the transfer of management, the WWF became committed to providing supplementary training, in conjunction with the Water Resources and Forestry Service, on the technical aspects of forest management. Having acquired a clear view of its future, the community was able to request and obtain assistance from other support and development projects that were interested in

working with communities that could formulate precise demands based on careful analysis.

The legislative process to organize GELOSE has not started. The instrument governing relative land protection has just been enacted. However, the envisaged mechanism will essentially comprise instruments relating to:

- the definition of natural resources;
- environmental mediators; and
- organization of the grassroots community.

Other instruments will be necessary to consolidate the process, especially those governing local tax schemes for the exploitation of forest resources.

This incomplete legal framework has so far not impeded the process begun in Andapa. Drafts of the instruments being prepared have made it possible to give some basic orientation to field operations. Forestry divisions and local authorities, which were involved from the beginning of the process, fully participated in the drafting of the Belambo agreement and were supported by their organizations, within which 'participatory' approaches had failed to produce the expected results. Such failure, in their view, justified the adoption of an approach granting more autonomy to the community, on condition that necessary measures would be taken to fine-tune all management aspects.

### Creating a regional framework

A broad-based consultation with communities of the Andapa subdivision was organized to pool assessments carried out at the municipal and regional levels, and to examine solutions to the major problems of real estate insecurity, community disintegration, the lack of infrastructure and the accelerated degradation of natural resources. A regional consultative body called the *Sehatra* (Platform) has been set up; its main objectives are to identify joint natural resource management goals at municipal and regional level, and to set up land-protection procedures that are accessible to all. This body also intends to promote the transfer of natural resource management, as well as to coordinate and validate actions and instruments implemented in the region.





## Controlling access to resources: the first achievement of GELOSE

After a year and a half of activity, the assessment of Belambo-Lokoho is positive. Three clearing attempts were stopped before the areas were set on fire. One of them had been authorized by a Water Resources and Forestry Service employee who had little regard for the agreement's importance. The three culprits and the Water Resources and Forestry Service employee paid the various fines set by the dina. Thanks to surveillance, no person foreign to the community was able to enter the forest and carry out unauthorized felling, and all felling by members of the community was supervised.

Although such management cannot be termed sustainable for lack of indicators of sustainability, it is, however, a leap forward because of the degree of supervision carried out by a large part of the population.

However, some problems remain unsolved. It is necessary to clearly determine the boundaries of forests to be protected. The management committee needs to acquire greater knowledge of forestry regulations with regard to the quality of timber and regulations governing timber (authorized felling size of timber and classification of timber species). Also, fund management must improve.

As stated above, it is not possible, in view of the current state of management and development tools, to speak of sustainable management. In the coming months, it will be necessary to determine indicators of the successive phases of forest degradation in order to fix thresholds that should not be exceeded if irreversible degradation is to be avoided. Clear and simple indicators could thus be made available to communities.

The elements of this mid-term review presuppose the evaluation and supervision to be carried out by the Water Resources and Forestry Service at the end of the three-year contract, in order to rule on the possibility of continuing, slowing down or even terminating the experiment. The Water Resources and Forestry Service retains all its supervisory powers for the granting of authorizations to clear fallow land, the granting of authorizations to fell heavy timber, and ultimately over all management of resources transferred under the terms of the agreement.

## Recommendations

The experience presented here transcends the domain of community forestry as such. In our view, technical recommendations can be successfully implemented only if the community is at the centre of the process, and if the process is relevant to the community's overall development. That is why community forestry must be part of the global approach to community development.

The following recommendations can be made.

- The technical approach should follow the adoption of the procedure by the communities.

Although the technical aspects of management must never be neglected, they should be considered only after a reflection has been conducted on long-term objectives. This technical factor should validate or invalidate the choices made by local stakeholders, depending on their feasibility. The drawing-up of a development and management plan must therefore be viewed as the expression of a rural dweller's view of the future of his village land, his community and its resources. Conservation or management objectives imposed from outside would deprive the community of its central position in the drawing-up of the management plan and could lead it to question the local management process already begun with its participation.

- The population should be placed at the forefront of the process. A request is an expression of motivation. The community: (i) defines its long-term objectives; (ii) negotiates its specifications and draws up its work schedule; and (iii) drafts its dina.

A participatory assessment approach can help communities understand the issues at stake, and a presentation of the opportunities offered by the legislation



can open up new prospects. In any case, the request for transfer of management must be clearly and freely expressed by the community. The community must, from the start, feel that it is in control and should not have management objectives imposed on it by strangers to the village, whatever their authority. Recognition of the community as a full-fledged partner will enhance its commitment as well as its involvement in the process.

- The dina is a tool mastered by the population, but it needs to be defended in court.

The dina, signed by all members of the community and proclaimed officially, is a tool that the community knows how to use. Its presentation to local legal authorities will ensure protection against disputes engineered from outside the community. Collaboration with State services is more difficult to carry out at the beginning of the agreement. The community's will to succeed must be bolstered by its partners, who must do all in their power to ensure that its attempts succeed, without infringing on its independence.

- The community's independence must be respected. The agreement is signed for three years.

The community's independence is an indispensable condition for the continuation of the transfer agreement. Support and assessment will only be possible if the community requests them. Forestry officials are always authorized to supervise the community's activities, but the convention is signed for three years after investigation of the community's maturity and its ability to commit itself. This commitment must be respected, and stakeholders must trust the community and respect its independence.

- The mediator's independence is crucial; his presence is indispensable.

The Marojejy PCDI intended to replicate the Belambo-Lokoho experiment in another community of the region by acting as mediator. The experiment failed because WWF was immediately viewed as a stakeholder concerned with conservation. The mediator's neutrality must be respected each time the vested interests diverge somewhat from long-term management objectives.

- A regional plan is indispensable to address communities' unequal access to resources.

In the Andapa Basin, the communities prevent strangers to the community from accessing their forests. If this state of affairs becomes widespread, the many communities left without forest resources would be in an intolerable situation. A microregional approach is therefore essential to determine possible balances in the supply of forest products to all communities, while ensuring better control of access to forest resources than currently exists.

- Forest management must be accompanied by an analysis of all resources, such as water and soil.

The primary motivation of communities in protected local management is protection of their forests against wanton and unbridled exploitation, and protection of their land in low-lying areas. Their preoccupation has extended to all natural resources on their territory whose management had environmental implications. Receptiveness to the drafting of management objectives for all resources of the land must be considered as soon as possible; however, it is not a necessity.