

## Property rights transfer in Madagascar biodiversity policies

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### *Draft*

#### **Summary**

Before the implementation of the First and Second Environment National Plans and of the recent decentralization process, the property regime governing the management of natural resources in Madagascar could be resumed to a state property regime. Nevertheless, the actual community natural resources management was mainly governed by rules based on customary law.

The second Environment National Plan – like the First one – was widely related to the demand of funding agencies. It led to the setting up of a new policy framework through the so-called "GELOSE" act (for 'gestion locale sécurisée'; i.e. secured local management of natural resources including biodiversity). The meaning of this law was to make possible contract between the central government, local communities and district authorities for the transfer of management rights over identified natural resources.

This policy is characterized as "contractual", but the analysis of the contracts shows how particular they are. As a matter of fact, two questions have to be addressed :

- what is the nature of the right actually transferred through the GELOSE contracts ?
- what is the nature of the incentives ?

On the first point, it can be shown that, following the now classical Schlager and Ostrom categorization (Schlager and Ostrom, 1992), this is mainly withdrawal rights and neither full property nor management rights that are transferred to the local community, with the allowance of the district authorities. On the second one, it is much more unclear since there are many kinds of advantages in the actual contracts, none of them being straightforward incentives for biodiversity conservation: users

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can be compensated if they commit themselves not to make some uses, they can get some training to new practices, the income from the resource will be shared differently and the main point is usually the land tenure securization.

This last point appears to be of special interest and is in many cases the main incentive for the local community members to get involved in the contracts. The main point is to obtain an exclusion right on the resource upon which they are living. Consequently the other rights actually transferred may be quite limited.

The purpose of the government is not mentioned in the texts, but it is clear and in fact recognized by the officers that its main objective was to find in these contracts a way to achieve supranational commitments such as the demand of several funding agencies and the requirements of the UN Convention on Biological Diversity.

The GELOSE contracts then appear as quite different from any classical bilateral contract, and more like essentially unilateral decisions by which the central government transfers rights that it cannot enforce by itself, to local communities within a framework of rules that try to guarantee some congruence between the future uses of the resource and its proper objectives.

We can recognize there the theoretical framework raised by Aghion and Tirole (Aghion and Tirole, 1997) when they analyse the case when the party that hold formal authority can have interest in letting the decision rights to an agent which holds better information or effective control upon some resource. Several characteristics of the GELOSE contracts are then analysed, according to the results of this paper.

As a matter of fact, the real interest of the rights transfers through the GELOSE contracts may rely on the social control that local communities may exert on the actual respect of the exclusion right they receive and the consequent impossibility to sell license to any agent out of the community.

## ***Introduction :***

In Madagascar, three major features of the institutional setting for biodiversity management are worth outlining. These are :

- the NATIONAL ENVIRONMENTAL ACTIONS PLAN (NEAP) which started in 1992. In its first phase, the NEAP focused on biodiversity protection and conservation in 46 protected areas<sup>2</sup>. 21 Integrated Conservation and Development Projects (ICDPs) have been established in and around protected areas. The ICDPs were designed for conservation purposes in protected areas and in support to resource uses around as a means of compensation. In the second phase of the NEAP (1997-2002), more attention was paid to the valorisation of biodiversity.
- The GELOSE<sup>3</sup> Policy set by the act 96-025 which allowed the management of forests and other renewable resources to be handed over by contract from the national government to rural communities. The first contracting process has been set up in 1997 in a forest zone near the IDCP National Park of Marojejy. In 2001, 32 contracts have been signed and 53 are about to be signed (ONE, Cellule GELOSE, 2001). A new forestry policy was designed in 1997 to foster the contractual management of all types of forests, excepted protected areas.
- The decentralization policy started in April 1996 which meant a focus on the creation and on the weight given to institutions defined at the regional and local level, and on the design of development policies at that level.

This contributed to a decentralization of the state control over natural resources and biodiversity that was designed to solve the problems of overlapping responsibilities and management competences. This decentralization involved modifications of property rights.

The first part of this paper focus on the context in which the GELOSE policy was developed and on its major features. In a second part, a model developed by Aghion and Tirole (1997) over the allocation of authority between a principal and an agent is presented and applied to the GELOSE policy context. It helps us understanding the major determinants of the delegation of rights from the government to the local communities. And in a third part, we further discussed the nature of the contracts and the coordination issues that may arise inside each party due to their collective nature. We also put the stress on the role of the mediator as it is a key feature of the GELOSE policy.

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<sup>2</sup> 18 national parks where non commercial use rights are authorized, 23 special reserves and 5 integral natural reserves with a use rights ban.

<sup>3</sup> GELOSE : Gestion locale Sécurisée or secured local management of natural resources.

## **1. GELOSE policy : a new approach for resource policy in developing countries ?**

GELOSE is a policy that can be briefly defined by :

1) A law, n°96-025, approved on September 1996, which framed the delegation of natural resources management rights from the central government to local communities, organized in associations called “*communauté locale de base*” (grassroots community or CLB), on a country-wide scale. To do that, the law sets a general act encompassing all the resources i.e. the country's forests, wild fauna and flora, together with water and rangeland, part of the state domain. The law created the “*communauté locale de base*”, as an entity that have a legal status and count with a juridical personality. It also allowed to recognize customary rights. The delegation comes at the end of a process of negotiation between the government representatives and local rural community demanding for the transfer of management rights for a three-year-period.

2) The creation of institutional arrangements between the users of natural resources on a defined area and the government authority, which defined the exclusive rights to be transferred to the members of the “*communauté locale de base*”. These rights are established after a process of accommodation of interests, with the support of a mediator. Contracts are designed for each ecosystem type and for each CLB which has developed a particular set of uses over the ecosystem resources. The contracts determine the rights and obligations to be followed for the access and use of the ecosystem resources. They are agreed upon by the government representatives. Contracts include a formal agreement among the community members that sets the social control of the contract terms (“the dina”).

To implement the law and to elaborate the contracts, there is a need of information on the biological state of the resource, its delimitation, the nature of the actual uses and the various claims for allocation of rights over the concerned ecosystem biodiversity. Furthermore, the main issue of the GELOSE policy and of the transfer of property rights is to address to what extent the law - its administration and enforcement - can affect the behaviour of users of natural resources (Barzel, 1989, Bertrand and Weber, 1995)

### ***1.1. The foundations of the GELOSE Policy***

The GELOSE policy was designed to encompass the three main dimensions of biodiversity management policy : prevent the risks of biodiversity loss, improve the governance of natural resources, identify the main interests at stake.

### Preventing the risks of biodiversity loss

It is well known that Madagascar holds an important biological patrimony, with a high number of endemic species and a wide range of ecosystems. Since several years, the risk of biodiversity loss was stressed by scientists and taken up by international agencies and conservation NGOs. The decrease of the forest cover was assessed over a range of 100.000 ha to 200.000 ha per year (Ganzhorn, et al., 2001) and the area under protected areas is of 1.557.406 ha.

GELOSE policy was implemented firstly because the biodiversity management was challenged by two features. The human settlement was increasing in the protected areas set up by the NEAP and managed by the ANGAP or the NGOs as stated by the national conference of Mahajanga in 1994 (Weber, 1995). The involvement of the local political structures (the fokolona, the basic administrative entity, and the “commune” or district authority constituted by several fokolona) to conservation efforts used to be exceptional and inefficient for two reasons: firstly, the authorization for the use of renewable natural resources within protected forested areas and their adjacent zones was exclusively delivered by the forestry administration; secondly, no biodiversity management competences devolved upon local government units, reflecting the lack of the central administration’s awareness of the customary local multiple uses management (Weber, 1995). So the success or failure of the conservation of biodiversity was directly linked to an effective control by the forestry administration, ie surveillance and actions against intruders. This led to a situation of “de facto” open access to natural resources in protected areas and of an informal multi-governance upon biodiversity.

### Improving the governance upon biodiversity

The situation of biodiversity management, prior to the GELOSE policy implementation, have been depicted as one of:

- lack of compliance with the existing legal rules rights;
- problem of definition from the government of the specific objectives and rules to be followed to fulfil the requirement for a sustainable development;
- and then, lack of control of their implementation.

Since the colonial period until the first and second NEAPs, the property right regime governing the management of natural resources and biodiversity in Madagascar could be resumed to a state property right regime over a “state domain” extended to most land and natural resources. This “state domain” is managed according to a division of the territory into the different possible land uses, and then a division into specific administrative bodies for each land use. It encompasses the protected areas and gazetted forest (for biodiversity and forest conservation), the productive forest (for timber and fuel wood production) and the agricultural land (for crop production). The government has the authority to decide over the conditions for the access and the use of ecosystem natural resources for commercial purposes. It generally allows customary users’ rights which exclude the commercialisation of the

natural resources products to be exerted. These rights are limited and not recognised on a legal basis but they have a social legitimacy (Razafindrabe and Thompson, 1994).

The protected areas are under the authority of a conservation agency body, the ANGAP, which was set up by the first National Environmental Plan<sup>4</sup>. The protected areas are directly managed by the ANGAP or granted to conservation bodies such as Conservation International or WWF. Protected areas and gazetted forests do not fall in the territorial area of local government units and are thus excluded from their responsibility. A first type of protected areas, the Special Reserves, is characterized by a total exclusion of uses or access, except for scientific purpose. For the second type, the National Parks, customary users' rights are allowed over harvest of dead wood for fuel wood consumption, fruits and barks<sup>5</sup> and over social and religious practices (burial, customary rites).

Over agricultural lands and forests, the attribution of biodiversity commercial use rights and management rights is held by the forestry administration and its territorial forestry services (regional, communal). As in national parks, customary users' rights are also allowed over productive and gazetted forests, managed by the forestry administration. Rights for commercial exploitation of timber can be given in productive forests but not in gazetted forests. Productive forests are divided in concessions granted to timber companies. Administrative licences are requested for hunting and fishing.

On agricultural lands, felling is submitted to the authorization of the representative of the central government in the village, the Local Commission for Security (LCS). Clearing is submitted to the formal authorization of the local representative of the forestry administration and of the CLS.

Private ownership rights over lands, guaranteed by an official land title, are effective over 6 to 10% of the national land. But ownership claims and rights obtained by clearing can be exchanged and registered by the district authority even with no official land title.

#### Identifying the main interests at stake

With the GELOSE policy, the state remains the unique legal owner of these resources over all the national territory (except when private land property rights have been defined) and the guarantor of their integrity. But some autonomy is given to local communities in their decision about how to use some natural resources on some delimited territory. Local communities are to be granted exclusive use and management rights over the "state domain" in order to foster security of land tenure and resource management. GELOSE was seen as a way of sharing property rights over biodiversity to reduce the government cost of control (Babin, et al., 1999).

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<sup>4</sup> Since 1999, ANGAP is under the authority of the Ministry of the Environment.

## ***1.2. The contracting process***

The contracts are designed so as to delegate the management rights of specific resources and areas from the state to local communities. Three parties sign the contracts, the representative of the forestry administration, the district authority and the CLB. Four steps are requested to implement the contracts. A demand from the local community is required as a first step to initiate the process. This demand is taken over by an operator that can be either the ONE or an NGO. In a second step, right claims and information about actual land uses and resources exploitation are reviewed. This is done with the support of a mediator to facilitate the dialogue between the administration and the local stakeholders.

The third step consists in redacting the contract. It includes the delimitation of the areas and resources to be regulated, the management rights duties of both the forestry administration, the CLB and the district authority, and the technical rules for the exploitation of resources by the community indexed in the charges and conditions document.

The fourth step aims at the description of the control and sanction mechanisms that will ensure the compliance of the community with the designed rules. Those are included in a local community convention called “dina”.

### The demand

The process is a case by case approach which is contingent to the local context and to the specific issues. For instance, in the proximity to a protected area, the major issue is to secure community users’ rights over resources outside the protected area in order to ensure that people will not invade it. In many instances, the issue is to limit the assignment of permits by the forestry services to people outside the community. In other context, it can be linked to situations of overly degraded resources which the government is not interested in.

Operators, in addition to their role of transmitting the demand, are often at the origin of the community demand. Hence, these are mostly nature conservation agencies or NGOs.

### The identification of stakeholders interests and rights claims

A first important step is the delimitation of the area and of the resources covered by the contract. The delimitation is negotiated with the forestry services and the neighbouring communities<sup>6</sup>. The mediator plays an important part in this process of dialogue about what can be allowed within the forest law and what are the community’s claims. Part of the mediation process consists of revealing the medium term objectives of the local community with respect to their natural resources management. The information about the actual uses of the resources becomes common knowledge for all the contractors.

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<sup>6</sup> A map of the area is established that described the affectation of the delimited community area to agricultural uses, harvest of forestry products, etc.....

The district authority interest in taking part to the GELOSE is basically that of getting better information over natural resources exploitation and then, of better perceiving fiscal income from the commercialisation of rough products, called the ‘*ristournes*’, even if these *ristournes* can be shared with the local community.

The main interest of the forestry administration in this process is to reduce its costs of control and to limit the conflicts that end in bush or forest fires or in settlements inside the protected areas. It can also benefit from the improvement in the acquisition of information about natural resources exploitation, and then better perceives taxes (called ‘*fedevances*’) for the allocation of commercial withdrawal rights or “permits” over some resources, even though the rate of the taxes are lowered through the process of contracting. The assignment of permits may fall, in some cases, into the authority of the CLB.

For the local community, the main interest appears to be that of securing community land uses and access rights to the community area and resources and that of excluding outsiders. This is not associated with assignment of full property rights to the community members and it is called “relative secured land rights”. The community can also have a part of the financial resources : charge some users rights, perceive fines, perceive a part of users fees or taxes such as "*ristournes*" and "*redevances*".

#### The contract and charges and conditions document

The contract describes the rights and duties of the three contractors. The charges and conditions document, joined to the contract, specify the technical conditions for the exercise of management rights by the community. These conditions refer to the forbidden areas or species, the limits of the resource use by household, the felling specification, the nature of permits that can be granted by the community. In the charges and conditions document is also laid down the non-compliance features that entails the suspension of the contract by the government representatives.

#### The control and sanctions

The CLB is in charge of the control of the compliance of the community and non-community members with the rules specified in the contract. The control is exerted by an executive management structure emerging from the local community, the management committee, called the COGE. The sanctions, mainly fines, are imposed through the *dina*, the community convention dealing with social control. The *dina* is approved by the district authority and states the legitimacy of the CLB.

### ***1.3. First achievements and issues***

The forested area was the primary area of application of GELOSE, that is to say that the forest administration is merely the one that transfers management rights through GELOSE contracts (cf. Table 1). Transferred resources are mostly forested resources located in the periphery of protected

areas. This is linked to the role of the operator, the contracts being implemented where a pre existing structure plays a role in resource management or conservation.

The various examples showed the nature of the property rights that the government devolved upon local communities (CLB). The transferred rights are mainly non commercial use rights for timber and forest resources and commercial withdrawal rights for fuel wood. Real management rights are not transferred. CLB are not allowed to turn the forested area into other uses. The authorization for clearing remains under the forestry services' authority. The compliance of the CLB members with the contract term is then enhanced by the following main incentives: the possibility for community members to be compensated for their willingness to accept the clearing ban, the rights to choose the conditions of exploitation of some resources, the secured actual land uses and the payment for forest maintenance are the main incentives to the community members.

Tab 1. A review of the GELOSE contracts in Madagascar

<b>Resource category</b>	<b>Zone</b>	<b>GELOSE Contracts</b>	<b>Operator</b>
Small dry forests	Sakaraha (West/South)	5 signed GELOSE contracts ; new contracts planned	NEO-WWF
Secondary or deteriorated dry forests	Tulear (West/South)	1 signed contract New contracts planned	Local NGO-NEO
Dry forests	Ejeda (West/South)	1 signed contract	NEO
Dry forests	Diego (North)	1 signed contract	NGO
Dry forests	Mahajanga (North)	5 signed GELOSE contracts 30 contracts planned- Fuel wood management	CIRAD-FOFIFA
Moist forest	Fort Dauphin (West/South)	1 signed contract, 4 planned contracts	CAF
Moist Forest	Merikanjaka (Centre)	1 contract signed ;	NEO- FDP
<i>Tapia forest</i>	Arivonimamo (Centre)	2 signed GELOSE contracts 9 planned	NEO-FDP
Moist Forest	Ambalavaoa (Centre)	1 signed contract several planned	WWF-NEO
Fragments of moist forests near P.A	Andapa (Est)	3 signed GELOSE contracts, some contracts signed locally, 10 planned	NEO- WWF
Moist Forest near P.A.	Masoala (Est)	Contract with lumberjacks	CARE
Moist forests and plantations	Ambatolampy (Est)	1 contract with forestry cooperative.	PDFIV-DIREF
Plantations	Fort Dauphin (West/South)	1 signed contract	WWF
Raphia and small residual moist forests.	Brickaville (Est)	2 signed GELOSE contracts on raphia 1 signed contract for residual forest	NEO
Freshwater Lake	Antsirabe (Centre)	Demand from the CLB	-

NEO: National Environmental Office, DIREF: Forestry service; WWF, CARE: NGO managers of ICDPs.

Source : (Maldidier, 2000) et ONE, Cellule GELOSE, Bilan des contrats, 2001.

The contractual policy started with GELOSE raises two kinds of issues in its implementation:

- the role of the operator, which is an intermediary between the government representative and the CLB in the delegation process. This operator is not one of the contractors. Generally it acts as an informal mediator, because it is known by the CLB while the formal mediator has a reduced role. This operator has its own objective and may influence the autonomy of the others contractors to devise management rules.
- the capacity of the rural community to exert its rights and effectively enforce them (Ostrom). What is at stake is the CLB's autonomy to devise rules for the use of the natural resources on its area, as far as the transferred rights allow it to do so. A second stake is the requirement in terms of human capacity on behalf of the local community for conceiving and effectively implementing management plans, and for controlling them.

The political decentralisation process may have been a condition to the implementation of the GELOSE policy. Indeed, the decentralisation of the management of the resources reinforced the local structures. It enhances the capacity building at the local level and the re appropriation of the natural resources management by the local communities and may have favoured the existence of spontaneous demands for GELOSE contracting.

GELOSE procedure can be seen as a way to improve the articulation between the legal institutional setting basically resting on the state ownership of natural resources and the customary laws governing the use of natural resources inside the local communities.

What are actually the economic mechanisms that justify the GELOSE policy? As a matter of fact, it is mainly a decentralisation process and then, its value may come from a better link between the level of the decision and the building of economic interests.

## 2. Contractual mechanism and property rights arrangements

As developed in the first part, the GELOSE policy was primarily developed in response to situations occurring in different parts of the Malagasy territory where the state had imposed, with the creation of protected areas, the exclusion of local communities from resources upon which they used to rely. This has led to situations of *de facto* open access because of the lack of possibility of control by the state of these protected areas, as was put forward in the first part, and then to critical degradation of natural resources (Bertrand and Weber, 1995). To face this situation, the GELOSE policy major objective is the conservation and sustainable use of natural resources (GELOSE Act 96-025). In order to pursue this objective at the local level, it is necessary for the local community to be organized in a way that allows designing rules of management that will effectively be followed by its members, and that are in accordance with the state's objectives. The basic purpose of the GELOSE policy can be roughly described as a transfer of the *de jure* management right owned by the state over some renewable natural resources to local communities which used to exert a *de facto* management right over these resources based on customary rules.

A major question to be addressed with respect to this policy scheme is that of the interest of the state in losing control and rights over natural resources management. Hence, we are interested in analysing what determines the transfer of rights, and what are the factors that will permit this GELOSE policy to be successful. Put in other words, in this section, we are concerned with analysing and understanding what is the best organisation framework for the decision making process over natural resources management given each actors' interests in this management.

To deal with this issue, we mobilized a model conceived by Aghion and Tirole (1997). Indeed, a striking feature of the natural resources management under the state authority is its lack of control and information over the resource state and the real level of exploitation. Thus, this model will help us analysing the interaction between the attribution of authority through the delegation and the acquisition of information and then, the elements that may lead to this delegation.

### 2.1. The Aghion and Tirole model

As was just stated, the major features of the GELOSE procedure can be formalized using a theory developed by Aghion and Tirole (1997) in the context of the allocation of real and formal authority within organizations. Following H. Simon, the definition of authority is the "*right to select actions affecting part or the whole of an organization*".

The issue dealt with by these authors is that of determining the best organisation, in the context of a firm, in terms of the allocation of the decision right over which project to implement. The conception

of the organization behind Aghion and Tirole work basically relies on the firm representation but it can be extended to the case of the institutional setting supporting the management of natural resources, at least in the case of Madagascar, as will be developed. In the GELOSE policy case, it could be formulated as who should take the decision about how to select natural resources management rules to be implemented and about how to control the compliance with these rules, and what determines this organisation.

### The major features of the model

As stated by Aghion and Tirole, the ownership of a member or of a group of members of an organization over an asset gives this member the formal authority, and then the power to decide and to exercise control<sup>7</sup> over the use of this asset. The authority may also result from a formal or informal (implicit or explicit) contract, that may then modify the prior structure of property rights over the asset. Real authority is given to a member when this member finally takes the decision. This member may or may not have the formal authority.

The theoretical framework within which is developed their model is that of the incomplete contract theory. This means that, in the considered situations, the whole outcomes of the various possible scenarii resulting from different choices of project implementation, or of resources management rules in our case, cannot be totally predicted *ex ante*. Then, the sharing of costs and benefits cannot be fully specified prior to the process of definition of the contract. The considered decisions are sufficiently complex that their outcomes cannot be specified completely in an initial contract between the two parties. Then, in case of non specification in the contract about who decide in a particular case, this right belongs to the owner of the asset over which the decision is taken<sup>8</sup>.

In the model, the first step is that of the allocation of the authority between the principal and the agent. This means that firstly the organisation scheme is defined and then, its effects on the decision and on the behaviour of the two parties are discussed. The difference between integration and delegation comes from the possibility for the principal in the integration case to overrule the decision taken by the agent. Hence, in this case, the agent may be incited not to make too much effort to gain information about the projects. On the other hand, under delegation, the agent's decision has pre-eminence over the principal's decision.

What makes the decision right allocation important is that the principal and the agent do not have the same order of preferences over the possible projects. In order to characterize this aspect, a measure of the difference between the principal's and the agent's preferences is given by two parameters of

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<sup>7</sup> (Grossman and Hart, 1986) "*virtually define ownership as the power to exercise control*".

<sup>8</sup> "*We assume that the owner of each asset has the right to control that asset in the case of a missing provision*". (Grossman and Hart, 1986).

congruence, each attached to the benefits perceived by one party when the other party chooses the project to be undertaken, and then implements its preferred project. Then, each agent is characterized by a parameter of congruence which reflects the expectation of this agent about the benefits he would perceive if the other agent's preferred project was chosen (see model in annex 1).

Furthermore, the assumption is made in the Aghion and Tirole model that when the central authority has no information to choose among the projects, it is better off accepting the project chosen by the agent than choosing a project by itself arbitrarily. The same holds when the decision right is on the part of the agent and he is uninformed; he would then prefer to rely on the principal's decision.

In a second step, based on these statements, each party at the contract chooses how much to learn about the projects. Then, the party who does not have formal authority transmits part of the information he acquires to the other party. This ultimate, if having enough information, decides which project to develop.

The question is then to analyse in which cases is it advantageous for the principal to transfer his authority to his subordinate. The distribution of the authority will at least partly determine the effort the two parties will make in acquiring information, given the possibility that this authority gives them to decide over which project will be developed and then, to receive from it the maximum possible benefit.

#### The results of the model

Aghion and Tirole show that two main benefits arise from the delegation of formal authority. These are, firstly, an increase in the agent's initiative or incentive to acquire information (and hence a reduction of the principal's overload). Indeed, when being given the authority to decide, the agent's decision will not be overruled by the principal and then, the agent is incited to learn about the projects so as to make an informed choice and to implement his preferred project.

Secondly, the delegation facilitates the agent's participation to the contractual relationship in cases when the issue matters relatively more to the agent than to the principal. These results come at the cost of a loss of control over the choice between the projects by the principal.

Then, one of the major results of this work is that the principal will delegate formal authority to the agent when the latter has a better informational capacity and when their objectives are not too different. Hence, the delegation will be favoured by a better congruence between the preferences of the principal and that of the agent.

Another way of presenting the results of this model is to say that whenever the benefits from undertaking the projects are important to the principal, formal delegation is less likely to occur. On the contrary, delegation of formal authority is favoured by the agent's interest in it, being for the benefits at stake or for the importance of not being overruled by the principal.

Then, the formalisation developed by Aghion and Tirole gives insight to the trade offs between giving autonomy to the local community in their management decisions over the use of the resources and maintaining the authority of the central administration over these management decisions. This model helps figure out what are the major determinants of an effective delegation. In light of this model, we further analyse the procedure of definition of the GELOSE contract, and then we identify the key parameters to the delegation.

## ***2.2 Some insights for analysing the GELOSE policy***

### **The stakeholders and the parties at the contract**

A first step for entering this analysis is to further describe who are the parties at the contract and what is their role in the process. Indeed, on the one hand, the GELOSE contract has been said to involve three parties. The local community association, the water and forestry administration and the district authority all participate to and sign each GELOSE contract. On the other hand, in the Aghion and Tirole model, only two agents are considered.

Then, we will first outline the major features of the government organisation involved in the natural resources management. As was previously noted, in what refers to the government organisation and institutions, two actors play a particularly prominent role. The first is the district authority. Indeed, through the process of decentralisation undertaken in Madagascar in the middle of the 90's, districts were defined and district authorities were given control over development policies in their territory.

The other major state organisation is the water and forestry sector administration. This administration has staffs distributed over all the Malagasy territory and intervene as the state representative for the natural resources management. Indeed, as was previously stated, the forestry administration, prior to the GELOSE implementation, was the only decision maker governing the management of the forestry resources. There exists a legally well-established system of regulation of the harvesting of the resources and of taking of taxes implemented by the administration, even if this system does not reach an effective control over actual forest resources uses.

Hence, designing a policy to transfer management rights to local community necessarily meant taking into account these two types of state institutions, which are both parties to the contract. However, the intervention of the district authority created through the decentralisation process within the contract is basically conceived so as to guarantee that the management rules defined within the contract are compatible with the regional and local development plans. It may exert a role of supervision over the way the natural resources are effectively managed by the local community association but it does not constitute an essential actor in the process. Then, in what follows and for the purpose of drawing a parallel between the Aghion and Tirole model and the GELOSE procedure and contract definition, we

will develop our analysis referring to the contract as if it were signed only by the state or the central administration, represented by the water and forestry administration, on the one hand, and by the local community, on the other hand.

This assumption can be made without real loss of insight given that the district authority mostly has a consultative power in the process of definition of the contract. It is also given a right to control the implementation of the contract so as to ensure that this management is not prejudicial to the local and regional development plans but this does not modify the major features of the model.<sup>9</sup> The participation of the district authority to the contract does not clearly modify the scheme of the management rules to be defined and then, the possible benefits resulting from them.

When the GELOSE contract is implemented, the control over the effective implementation by the users of the natural resources of the rules of management specified in the contract is under the local community liability. More precisely, the local community association (CLB), constituted so as to implement this contract, is responsible for ensuring the compliance of its members and of others users with the designed rules. The legal setting prior to the GELOSE contract development is such that the ownership over natural resources belongs to the state which then has the right to decide over their use. Through the GELOSE contract, this right may be conferred to the local communities.

The hierarchy between the Malagasy state, which owns the natural resources over its territory, and the local communities which are willing to make use of these resources in a specific place and that can be given that right by the state through the GELOSE contract, can be seen as that involved in the relation modelled by Aghion and Tirole between a principal, who hires an agent to implement a project, and this agent. The design of a collective management plan of natural resources, called the “*Plan d'aménagement et de gestion simplifiée*” (or simplified land use and management scheme), which is at the core of the contract between the state and the local community gives the framework within which the CLB will decide about who can make use of the resources. The CLB takes part to the decision about the land uses permitted over a specific territory taken during the negotiation process. But what is being transferred is the right to decide who will be allowed to make use of the resources, and then who will be excluded from it. The decision equivalent to that of choosing between various projects that will yield different benefits is that of choosing who will benefit from the resource exploitation.

#### The information issues, the major elements of the definition of the contracts and the interests at stake

What is under examination in this paper is not only the contract of delegation of rights but also the mechanism by which this type of contract is developed. The framework of analysis taken from the work of Aghion and Tirole is to be applied to the general GELOSE policy procedure which finally leads to each specific contract. This procedure by which the contracts of delegation are finally defined

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<sup>9</sup> This is true except for the need of the signature of the DISTRICT GOVERNOR in a particular step of the procedure.

and signed, and the different steps it encompasses, has been specified by the National Office for the Environment in charge of the GELOSE policy.

In the GELOSE procedure, the process begins with the “*déclaration d'intention*” or the demand expressed by the community over the right to manage some specific natural resources and then, when the demand is accepted, a negotiation is initiated with the state representative (Forestry Ministry) about the modality of the transfer. Indeed, the GELOSE policy is based on the initiative of the local communities.

At the beginning of the process, both the local community and the state are uncertain about what will be the benefits resulting from different sets of rules enforced for the management of natural resources. The process of definition of each contract, undertaken within a specific GELOSE procedure, involves, prior to the signature of the contract that will define the rights and duties of the three parties part of it, a process of definition and comprehension of what is at stake.

Hence, the acquisition and gathering of information from the parties to the contract are preliminary steps to the determination of the terms of the contract which will determine the decision about how to govern the management of natural resources. Both parties get involved in acquiring information and define how much information to learn about the benefits of the different potential plans of management that could be developed. Information looked at mostly concerns the specification of the limits of the territory over which the contract will be enforced given that it can be contested by other communities, and the impact of the different rules of management of the natural resources present on that territory.

One of the particularity of the procedure is linked to the mediation process. Part of this mediation process, that will be further discussed latter on, can be seen as dedicated to this acquisition of information for the two parties. Then, the local community communicates her information to the state by proposing a project, with the support of the mediator who redact it. If it is accepted, the contract is signed and then, implemented.

Nevertheless, it is worth noting that this GELOSE procedure has not been defined once for all, except for the elements clearly stipulated in the law, and then that it is seen as possibly evolving depending mostly on its success<sup>10</sup>.

#### Variations in the degree of autonomy given to the local communities through the GELOSE contract

The actual autonomy given to the local community in the definition of the management of natural resources through the contract do not appear to be always the same. Indeed, the importance of the resources and of the uses considered in the contract depends both on the demand made by the local

community and on the interests at stake from the viewpoint of the state. Then, the benefits expected by the two parties from the implementation of the contract can vary widely.

The implementation of the GELOSE contract can lead to modify existing customary rules and/or to create new ones, specifically designed to cope with the sustainable management of the resources considered in the contract, or it can just consist in legally enforcing existing customary laws. Through the implementation of the contract, as specified in the GELOSE procedure, the local community is given the control over the management of the natural resources delimited in the “*Plan d’aménagement et de gestion simplifiée*” in the framework of the contract. This plan is negotiated during the GELOSE contracting process, and then implemented by the local community.

However, depending on the specific terms of the contract, the local community may effectively be given the right to decide over who can benefit from the natural resources considered in the contract and how each person can benefit from them<sup>11</sup>, or be excluded as far as users rights are concerned. Or it may just be given the right to control the effective compliance by the community members and by people outside the community of the rules of management of the natural resources specified in the contract when commercial rights are assigned by the forestry service.

#### The benefits of the delegation for the two parties

In what refers to the benefits of the contract implementation for the two parties, it is worth noting firstly that, as all the contracts do not always encompass the same natural resources and the same uses, the benefits may vary widely between them. Indeed, the demand for a contract comes from the local community, and it is based on its specific needs and preoccupations. Moreover, the chosen rules will determine the costs and benefits that will rest upon the different actors involved in the natural resources management, and then basically on the government, on the one hand, and on the local community, on the other hand.

Nevertheless, elements of the benefits arising from these contracts can be outlined. A major purpose of the GELOSE policy is of regulating and securing sustainable land uses. In many cases, this implies securing private land tenure that has been exploited by the same members of the community for a long time. Indeed, GELOSE, by its work of delimitation of plots within a map representing the territory over which transfer of rights is claimed, can facilitate the process of recognition of private property over land by the state. This can constitute a high interest for some members of a community since this process of recognition of private property rights by the state is known as taking a long time and entailing high costs. Hence, private interests in land entitlement contribute in many cases to the

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<sup>10</sup> The success of the procedure is basically measured in terms of quantity of contracts signed over all the territory but a more adequate procedure of evaluation is considered so as to account for qualitative elements not directly apparent with this single criterion.

<sup>11</sup> This was at the core of the decision of undertaking the GELOSE policy which is conceived as a policy of transfer of the right of management to local communities.

willingness of local community members to get involved in a GELOSE contract, and then to have rights over the management of natural resources over a particular territory.

Another major interest of the local community in contracting seems to arise in many cases from the possibility to exclude other communities members from the uses of the natural resources considered in the contract. Through the *'Plan d'Aménagement et de Gestion Simplifié'*, the local community is given the power to decide and/or to control who can exploit the resources and where.

Claims for controlling access to land by local communities, collectively or privately, and willingness of acquiring capacity of exclusion of people outside the community are powerful driving forces for demanding a contract as defined by the GELOSE policy.

From the viewpoint of the administration, the benefits of the GELOSE may be linked to the enhanced control over the natural resources allowed by the implementation of the GELOSE contract. Indeed, the previous system of tax taking developed by the forestry sector administration is not fully eliminated with the signature of the contract. Even if the tax amount is lowered, the control is reinforced by a new regulation system managed by the local community association. Then, both the central administration and the local community have an interest in ensuring that the established rules over natural resources are respected. In this new system, the district also receives taxes for the uses made of the natural resources on its territory. Then, with the increase in the control exercised over the uses of natural resources, the government may expect to better perceive the taxes for the exploitation of natural resources.

The other great benefits of the contract for the economy/society as a whole should arise from the more sustainable management of the natural resources, resulting from the interests of the local communities in ensuring the long term maintenance of the resources over the territory over which they acquired rights of control and exclusion.

#### The informational issue

Through the GELOSE policy, the local communities get involved in the decision making about the management of the natural resources present on their territory, and then they are incited in acquiring information about how to better manage and control the exploitation of these resources, as stated by the model of Aghion and Tirole. Hence, the delegation reached through the contract may result in a better information about how to manage the natural resources in a sustainable way, and also in a better control of the way the resources are used given the greater involvement of the local community in their management.

Hence, this model, firstly, support the idea that local communities should be given the right to decide over natural resources management over which they are better informed. This reinforces the basic

argument behind the community participatory approach and the involvement of local populations in natural resources management, that these communities possess a capacity of managing information, and a capacity of control, that the state cannot have.

### The congruence issue

The other aspect pointed out by the model of Aghion and Tirole is that of the necessity of congruence between the state's and the local community's interests for the delegation to take place. The local community when formulating its demand can ensure that it is not claiming transfers of right over natural resources for which the state's interests are too divergent from that of the local community, by not including, in the demand of transfer, resources over which conflicts are too strong for example. Furthermore, the dialogue established through the mediation process during the negotiation of the terms of the contract can modify the expectations of the parties to the contract, and then increase the congruence in their objectives, thus favouring the delegation. The mediation process can be thought of as one permitting a lesser dissonance, or differently stated, it can be seen as a way of increasing the perceived congruence, between the state and the local community.

Concerning resources from which the government has been receiving great benefits, and then considered as strategic resources, its willingness to delegate their use has been shown to be really low. Indeed, the state does not want to loose control over resources bringing it large benefits. This is clearly the case of the shrimps which cannot be included in the management plans proposed by the community and remain under the state supervision. On the other hand, it was mentioned in the first part that GELOSE contracts are more likely to be established in areas where resources are really degraded, and then where the interests at stake for the government are low.

## **3. Discussion**

Two majors elements will be focused in the discussion. These are firstly the nature of the contract, and then its reliability and its robustness, in a first hand, and the degree of freedom of action conferred by the rights transferred, in a second hand. The major question is to determine if the GELOSE policy is really a policy of transfer of rights or if it is only a policy by which the local communities are made to manage the resources in the way defined in the contract.

The second element that will be further discussed refers to a deeper characterization of the parties at the contract, and then to the organizational aspects required to implement the GELOSE policy. Hence, we will firstly stressed the collective features of both the central government and administration on the one hand and of the local communities on the other hand and secondly, we will discussed the role of the mediator.

### ***3.1. The nature of the contract***

A first element to be discussed is that of the possibility for the government to reverse the process and to deny the rights that it had previously granted to the local community through the GELOSE process. The question is to determine what would have happened if the government was to learn that some resources would have a really higher valorisation outside the contract. It may then not be willing to respect its commitment to give the control over the management of the resources to the local community.

A first element of response is given by the fact that the government always remains the owner of the resources. A second element is that the contract can be denounced by the government if changes occur in the forestry legislation. In that case, the CLB may be compensated for their loss of rights. Furthermore, the contract, in the current first phase of implementation, is defined over a period of three years, which represents a short period, and then imply almost no irreversibility in the transfer.

Another element to answer this question is to note that while the CLB has a mechanism for enforcing the contract, the *dina*, the forestry administration has not a specific one. This can reveal that both parties are not submitted to the same level of constraint in the implementation of the contract.

Nevertheless, a difficulty in bringing clear elements to this discussion comes from the really short time until which contracts have been implemented and the low number of contracts that have already been signed. Thus few information are available to assess the reliability of the contract.

Furthermore, as was yet mentioned there exists a great variability among the contracts both in terms of the resources that are involved and of the uses of that resources. Hence, what is at stake in each contract cannot always be compared. Some contracts address only personal uses of natural resources, and then do not entail great conflicts of interests. Other contracts are defined over large territories and include important commercial uses. Hence, the first kind of contracts are less subject to be challenged than the second one.

The freedom of action of the CLB within the contract is basically linked to the authority it is conferred to decide who is allowed to use the natural resources. Indeed, the CLB is not given the right to decide about the way the resources are managed. This is negotiated during the contract definition and is registered in the '*Plan d'aménagement et de gestion simplifiée*'. This point was important to be clarified as the GELOSE policy is often called a policy of transfer of management rights.

However, whatever the terms of the contract are, the local community, for being at the initiative of the process of contracting and for its role during all the phases of definition of the contract, participates to the process of definition of the collective rules that will regulate the uses of the resources. Hence, in the implementation of the contract, local communities are not given full autonomy in their decision about natural resources uses because of the restrictions imposed a priori in the contract terms about the nature of the rights to be transferred. Nevertheless, the capacity of the local community of influencing the decision making process can manifest itself during the negotiation about the specification of the

rights and duties of the parties. This decision making process refers both to the delimitation of the resources to be included in the contract and to the uses over which rules are designed.

Finally, what can be said is that when interests are and remain congruent, that is to say when the two parties have private interests in respecting the terms of the contracts, the unclear nature of the contract does not really matter since there is little room for contestation and failure to implement the contract.

On the contrary, when, especially in the long term, the interests at stake are divergent, clear procedures and clear specification of the rights and duties of the two parties must be reached.

### ***3.2. The collective features of the parties and the role of the mediator***

#### **The local community**

In the model, we considered the local community as an entity taking decisions and implementing actions in a unique way. But it refers in reality to a collective level of decision, and then divergence of opinions may be expressed among the members and problems of coordination may arise. Problems of internal coherence can exist. The analysis based on the model of Aghion and Tirole put forward relevant aspects of the process of delegation and of its determinants. But the institutional component of the GELOSE policy linked to the creation of a CLB which is designed to represent the collective local interests and implement the GELOSE contract, should not be underestimated. Hence, other factors not directly present in the model must be reported. Indeed, the efficiency of the rules will depend on the distribution of power among the community members. Rules are effective when they constraint a minority of, or the less influent, members (lumberjacks) or when they are supported by a majority.

Another key feature is the reliance of the local community on the traditional system of customs and rules through the definition of a dina for enforcing the contract. In the dina, rules are clearly stated and sanctions are provided for each type of offences that could be encountered. Furthermore, the dina can evolved if it is required due, for example, to the dynamics of the resources. This means that through this enforcement mechanism, adaptive management is made possible.

#### **The central government and the administration**

Within the water and forestry administration, interests are not always the same between the agents pertaining to the central government and those that are living near the community and are directly in charge of the control of the natural resources uses. Due to the lack of control within the administration, these ultimate, within the previous system of management of natural resources, were perceiving greater incomes from the exploitation of natural resources. Indeed, they were responsible for delivering permits, for controlling the exploitation of natural resources, and for sanctioning and perceiving fines and they did not always report all the transactions they realised to their supervisor.

Thus, they may be unwilling to implement the GELOSE policy which basically results in removing from their responsibility at least part of the taxes perception. On the other hand, for the central government, the GELOSE policy may represent a way of gaining information and transparency about the way the natural resources are managed since reports are written by the CLB and so are made public information; and a control of these reports is made both by the administration and by the district authority.

Another element that give further insight to the definition of this policy is that it responds to the general willingness of the governments of developing countries to change the public image of the administration and to orientate it more towards a support to the management of the natural resources.

### The role of the mediator

As was yet pointed out, the role of the mediator is basically that of improving the communication between the government agents, on the one hand, and the local communities, on the other hand, during the negotiation process. He is responsible for redacting the charges and conditions document, and hence plays a major role in the definition of the contract.

As one of the major feature of the GELOSE policy is to articulate two systems of management of natural resources, the legal one managed by the forestry administration and the traditional one that govern the uses of resources within the communities, the mediator has been conceived so as to facilitate the dialogue between these two parties. Hence, he must be familiar both with the customs of the local community that undertook the process and with the way the forestry administration regulates the management of natural resources so as to make the link between the two.

One of his missions is to ensure the compatibility between the objectives of the forestry administration and that of the local community. Medium terms objectives are made to emerge from the dialogue both within the community members and between the community and the administration. The commitment on these objectives are taken as a mean of resolving the conflicts, and rules are designed based on these objectives.

A problem that has been encountered in some cases is that of its legitimacy. Then, objective criteria and capacity building of the agents chosen for assuming the role of mediator have been developed. But this requires financial means that are not always available. Moreover, other institutions like NGOs involved in natural resources management long before the GELOSE process begun and that often intervene as operator in the GELOSE process may facilitate their own mediator. This may be a source of bias in the negotiation process as the mediator can then not always be considered as neutral, as it is supposed to be.

## ***Conclusion :***

By delegating rights over the management of natural resources to the local communities, the GELOSE policy contributes to give autonomy to these communities in their uses of natural resources, and then to give them incentives firstly to collect information about the state of the resources, about who are the users and the actual uses... and to transmit it to the administration. This delegation is clearly in line with the international financial institutions' will to reduce the role of the state and to concentrate it on its basic functions.

Furthermore, the congruence between the interests of the parties appears to be a major concern for the development of the GELOSE contracts. This can be linked to the ambition of the GELOSE policy to articulate the legal system of management which has the formal authority over the natural resources management but does not have a sufficient capacity of control to fully supervise it and to resolve conflicts and the traditional system that works inside the communities. Each system has its own objectives. The congruence of objectives has been shown to be a key factor for the delegation. An interesting feature of the GELOSE policy is the presence of a mediator during the negotiation process that facilitates the communication. The role of the mediator can be seen as that of ensuring that the objectives of the parties are made congruent, and then that the delegation can take place.

Another element is that of the necessity for the community to organise itself in an association to claim rights over the management of the resources and to get involved in a GELOSE contract. The constitution of this association is supported by the decentralisation process that brings closer the management decision making process and the local economic interests by creating local structures of management. Hence, it reinforces the capacity of the local communities to supervise the management of the natural resources over their territory, and then to become a real authority able to devise effective management rules.

Nevertheless, it is worth noting that other policies of transfer of natural resources management to local communities exists that are easier to implement than the GELOSE process. However they do not involve the securing of land and can be compared in most cases more to a participation of the local community to the planning of the management together with the forestry administration and NGOs presents in the zone.

Furthermore, even though the GELOSE contract may seem attractive in the way it has been presented, for the right it gives to the local communities, the GELOSE policy did not reach its goal in terms of numbers of contract signed in its first four years of implementation as noted by Aubert (Aubert, 2002).

Another issue that has not been treated in this paper is to what extent the step to contractual management policies grounded on property right transfer can address the issue of biodiversity conservation?

### *Annex 1: The Aghion and Tirole model*

In that model, the utilities of the principal and the agent under the delegation and integration case are described. Then, the optimal effort of acquiring information by the two agents under these two situations are compared.

When the principal's preferred project is chosen, its benefits is noted  $B$ . In that case, the agent's expected benefit is  $\beta.b$  where  $\beta$  is called a parameter of congruence. Symmetrically, when the agent's preferred project is chosen, its benefits is noted  $b$ . In that case, the principal's expected benefit is  $\alpha.B$  where  $\alpha$  is the principal's parameter of congruence.  $\alpha, \beta \in [0, 1]$ .

$E$  is the probability for the principal of acquiring perfect information over the projects' benefits and  $(1-E)$ , the probability of not learning anything. It comes at a cost  $g_p(E)$ .  $E$  can be seen as a measure of the supervision exerted by the principal.

$e$  is the agent's probability of being informed about the projects' benefits and  $(1-e)$ , the probability of not getting any information over the projects.

The cost of acquiring information for the agent is noted  $g_A(e)$ .  $e$  measures the initiative of the agent.

$E$  and  $e$  represent the respective strategies of the principal and of the agent for acquiring information.

Then, in the integration case, the agent's and principal's utilities can be written as follows:

$$U_p = E.B + (1 - E).e.\alpha.B - g_p(E)$$

$$U_a = E.\beta.b + (1 - E).e.b - g_A(e)$$

Then, the optimal strategy of the principal is determined by the following equation:

$$(1 - \alpha.E).e.B = g'_p(E) \text{ and the optimal strategy of the agent by } (1 - E).b = g'_A(e)$$

When the delegation takes place, the agent's and principal's utilities are then the following:

$$U_p^d = E.\alpha.B + (1 - E).e.B - g_p(E)$$

$$U_a^d = E.b + (1 - E).e.\beta.b - g_A(e)$$

In that case, the optimal strategy of the principal is determined by the following equation:

$$(1 - e).B = g'_p(E) \text{ and the optimal strategy of the agent by } (1 - \beta.E).b = g'_A(e).$$

It can be shown that  $E^* > E^{*d}$  and  $e < e^{*d}$ . There exists a trade-off between the control of the principal which is reduced under the delegation mode and the initiative of the agent which is enhanced.

When considering not only one decision but  $m$  decisions ( $k=1$  to  $m$ ), the decision of delegating or not can be modelled through a dummy variable  $x_k$  which depends on the decision  $k$ .

$x_k = 1$  when the principal maintain the control over the decision  $k$  and  $x_k = 0$  when it delegates it.

The optimal level of delegation then is that which maximises the principal's payoff under the participation constraint of the agent:

$$\begin{aligned} \Sigma_k ([E_k + (1 - E_k).e_k.\alpha_k].x_k + [e_k.\alpha_k + (1 - e_k).E_k].(1-x_k)).B_k \\ \text{subject to } \Sigma_k ([E_k.\beta_k + (1 - E_k).e_k].x_k + [e_k + (1 - e_k).E_k.\beta_k].(1-x_k)).B_k \end{aligned}$$

Let  $\mu$  be the participation constraint multiplier, then it comes:

$$\frac{b_k(1-\beta_k)}{B_k(1-\alpha_k)} < \frac{1}{\mu} \Rightarrow x_k = 1$$

$$\frac{b_k(1-\beta_k)}{B_k(1-\alpha_k)} > \frac{1}{\mu} \Rightarrow x_k = 0$$

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