USER MANUAL OF MODEL "LIFE"

Development Project of the Integrated Approach to promote and Environmental Restoration Rural Development in Morarano Chrome (PRODAIRE)


PRODAIRE-TIFETIAM

USER MANUAL
MODEL "LIFE"

Contents

Abreviations list

CDR	Rural Development Adviser
COVAMS	Community vitalization and Afforestation in Middle Shire
THAT'S IT	Agricultural Services Center
DGF	Forestry General Directorate
DRAE	Regional Directorate of Agriculture and Livestock
DREEF	Regional Directorate of Environment, Ecology and Forestry
GF	Land Bank
FRDA	Regional Fund for Agricultural Development
FL	local trainer
GTU / GUF	Group of Training Unit / Training Units Group
ITA	Integrated Training Approach
JCC	Joint Coordination Committee (Coordination Committee Spouse)
JICA	Japan International Cooperation Agency
LIFE	Lahasa Ifandrombonana ho Fampandrosoana sy ny Entimiaro tontolo iainana
MEEF	Ministry of Environment, Ecology and Forestry
MPAE	Ministry at the Presidency in charge of Agriculture and Livestock
MZ	Area Manager
PAPRiz	Project to improve rice productivity in the central highlands
PC23	Perimeter Colonial 23
PMU	Project Management Unit (Project Management Unit)
PRODEFI	Forest Integrated Community Development Project
PRRIE	Participatory Rural development and Resource management by Integrated Training for Equal Opportunity
STA	Specific Training Approach
TU / UF	Training Unit / Training Unit

Preface

Due to the significant deforestation in the watersheds, soil degradation increases and leads to a gradual decline of agricultural production of the region. Indeed, the departure of nutrients in the soil, silting and drying up of water are the adverse effects of this degradation. Therefore, rural development and soil conservation are closely linked and require special attention.

The Ministry of the Environment, Ecology and Forestry in collaboration with the Ministry at the Presidency in charge of Agriculture and Livestock through the PRODAIRE project of Japan International Cooperation Agency has developed an approach more practical, viable and accessible to enhance the synergy between conservation and development, following the model says " **LIFE** " or " **The** Ahasa
I fandrombonana ho F ampandrosoana sy ny ambanivohitra E ntimiaro ny tontolo iainana ".

The model "LIFE" has been developed to promote an integrated way soil conservation and rural development. It has been tested according to different methodologies to implement and put into practice by the PRODAIRE project. The model aims at popularizing the form of mass formations near continuous monitoring accompanied directly affecting the population at the base, the actions of conservation and development; while highlighting an equal opportunity to the population. It was designed in a very pragmatic way, and goes to the reality of people to just facilitate its appropriation, not only by ministries or large projects but also by local authorities, through the various structures in place at the common example

This manual describes the model 'LIFE', structures for its proper functioning, implementation of the terms and shows results while demonstrating the cost - effectiveness of measures based on local practices throughout the PRODAIRE project.

This model "LIFE" is part references for all soil conservation measures and rural development and can be applied throughout the country in different contexts and needs expressed. We hope that this model is a favorable response from you to the harmonious development of Madagascar.

Foreword

Purpose of this manual

The "Project of Development of Integrated Approach to promote Environmental Food and Rural Development at Morarano Chrome" (called PRODAIRE) started in February 2012. It aims to establish "a model for promoting integrated way soil conservation and rural development (LIFE Model [1]) "Whose implementation will be expanded in headwater areas degraded Madagascar. During the past 4 and a half years, we have accumulated experience through trial and error in the context of the establishment of the Model. This is simultaneously the expertise and different methodologies, as well as the impacts of the application of the model. Impact studies conducted in April 2014 and in May 2016 led to quantitatively measure the results of its implementation.

This manual presents the LIFE model and methodology of its implementation. There will be improved as and when circumstances until the completion of the final version of the "Manual of the LIFE Model User" expected in December 2016.

readers supposed

The main readers assumed in this manual are: users Model Madagascar, ie the ministries, their decentralized services, local authorities (municipalities etc.), donors and their projects (support organizations) , local and other NGOs. Overall, the book is for those involved in the planning and implementation of development projects, namely government officials from developing countries, staff or experts support organizations, staff NGOs, among others.

Structure of the manual

This manual is composed of a main structure consists of 4 chapters and appendices, as well as a companion volume.

1 st section of the main work is devoted to the presentation of the LIFE Model. Y will be explained the outline of the Model, its effectiveness based on some results of the application of the model and the mechanism to generate these results. The 2 th chapter describes the components of the model while the three th chapter explains how to set up the appropriate agency for the implementation of each element of the model for its application. The 4 th chapter on the implementation of the Model, ie d., how to implement the training and monitoring are the main activities of the Model. 5 th chapter shows the quantitative and qualitative results obtained from the application of the model in different condition of its implementation.

The attached documents complement these 5 chapters to help better understand and implement the Model.

The complementary structure includes 1) data collection, 2) manual fight against lavakas [2] 3) Manual for the spread of the fish with the LIFE model and 4) example of the Terms of Reference of the Model implementing agency. Data collection will detail the inputs required for the development of the model and the effects generated by this model. Document 2) summarizes the concrete procedure of the fight against lavakas under the initiative of the population while the document 3) describes how to popularize fish farming activities based on the motivation of local people.

1 Abbreviation of the title in Malagasy "Lahasa Ifandrombonana ho Fampandrosoana sy ny ambanivohitra enti- Miaro ny tontolo iainana" (the entire community activities for rural development and awareness of environmental protection)

2 collapsed area to slopes that becomes the cause of the flow of soil and sedimentation downstream.

LIFE Model Summary

The preview of the model as well as the passages for each subject in this manual are listed below. Figure 1 shows the model of the abstract.

If the model is briefly described?

The synthesis methods for **extension and effective implementation of soil conservation and rural development initiated by the people** in headwater areas degraded, largely spread in Madagascar.

seriously degraded area and Lavaka

The elements of composition model:

The elements that constitute the model are described below in items 1) to 3).

1) Structure extension **Circuit,** composed of area managers and local trainers, **the transmission of information to populations**	What extension structure? : *2-1 Chapter 2 (p.9)* How to set up? : *2-1-2 Chapter 2 (p.11)*
2) Work contents to popularize soil conservation, centered **reforestation** and **the fight against lavakas,** and **than on rural development,** selected for each area	What is the Business Content? : *2-2 Chapter 2 (p.14)* How to select these activities? : *2-2 Chapter 2 (p.16)*
3) Mechanism ensuring the sustainability of activities populations Provision of funds and materials through systems / organizations / existing markets	Explanation with concrete examples: *2-3 Chapter 2 (p.19)*

The Implementing Agency of the Model ensures the implementation of points 1) to 3) above mentioned.

Implementing Agency Model, ie d., ministries, their decentralized services, local authorities, projects, NGOs and others.	What is the implementing agency of the Model: *3-1 Chapter 3 (p.22)* How to set up the implementing agency? : *3-2 Chapter 3 (p.23)* With concrete examples: cases of local NGOs and the Regional Directorates: DRAE and DREEF

Regarding the application of the Model:

<table>
<tr><td colspan="2">It is the extension and location of content 2) aforesaid through the structure 1), through training for the populations and prose after this training.</td></tr>
<tr><td>The training for the populations are made
1) local, 2) using locally available resources, 3) starting to meet local needs, 4) by not selecting participants and 5) as much as possible to the majority population.</td><td>training Execution: 4-1
Chapter 4 (p.28)</td></tr>
<tr><td>The population monitoring activities is regularly conducted following the training.</td><td>Execution of monitoring: 4-2
Chapter 4 (p.32)</td></tr>
</table>

The results and impacts of the Model:

Within 4 target communes in the region of Alaotra Mangoro [3]

- More than 5,900 training sessions are organized and the number of participants up to 100 000 in total. ⇒ Many people have acquired technical knowledge on the various soil conservation and rural development.
- 67% of households practiced reforestation and 93% of households owning "tanety" training participants practiced reforestation on their "tanety".
- 48% of households have started and still continue a new activities for rural development (enhanced focus, lychee production or fish).

In the 8 common targets regions of Alaotra Mangoro and Bongolava [4]

improved stoves "Kamado" manufactured and sold by local trainers

Number of reforested feet populations: 2,385,000 feet

Number of sites where people have applied lavaka stabilization measures: 100 (of which about 85% are regularly maintained and managed by the people)

Number of improved stoves disseminated: 21,000 homes

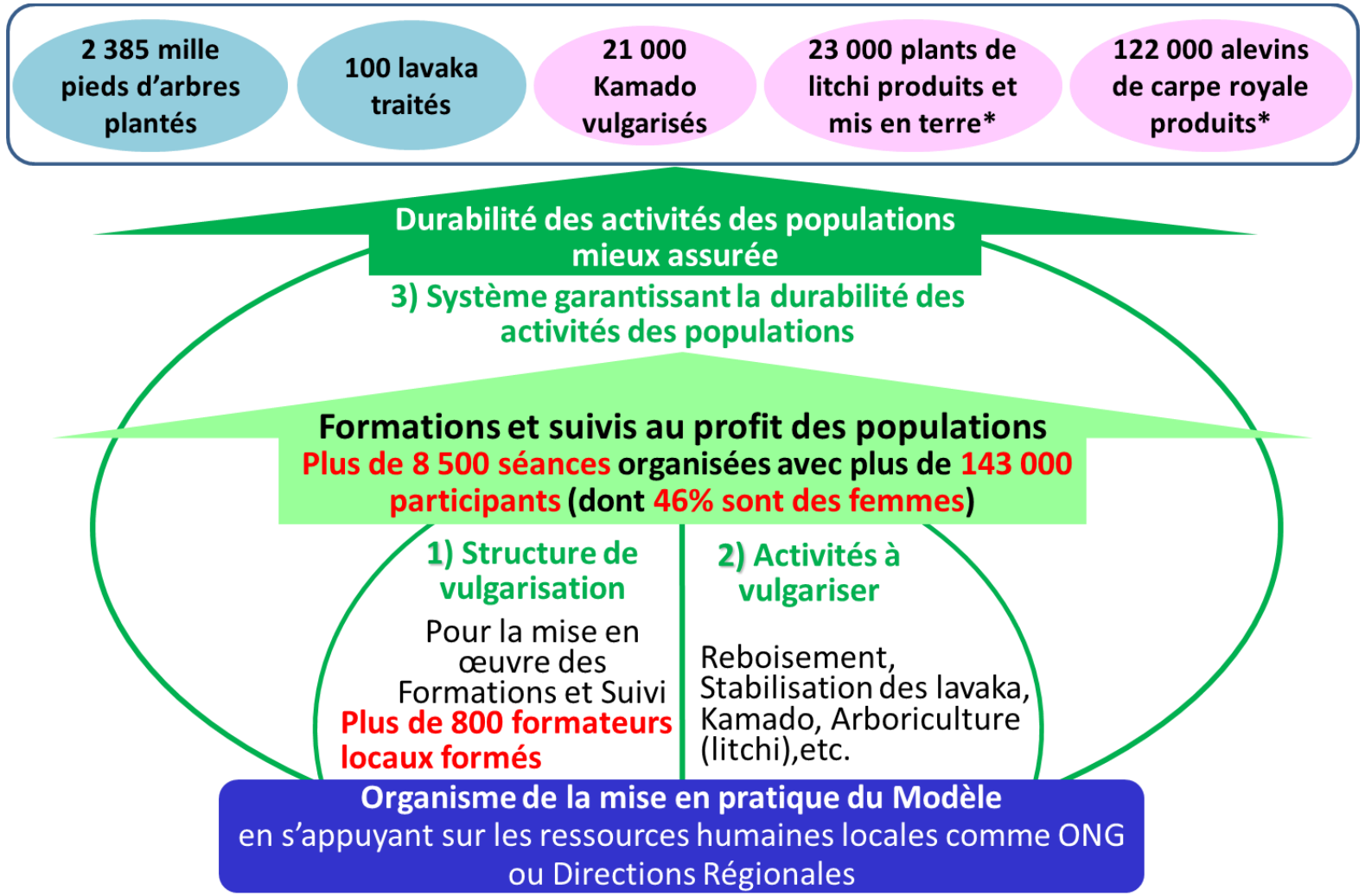
Number of feet lychee products and planted: 23 000 seedlings

The details : *Chapter 5 (p.35) and the data collection, additional work 1*

[3] Since the start of the first phase, the project covers 4 towns (Morarano Chrome, Ambodirano, Andrebakely South and Ampasikely) located in the PC watershed 23 extended around the Lake Alaotra region of Alaotra Mangoro. Then, from April 2014, the intervention sites were expanded in two other municipalities in the region namely Andilanatoby and Ranomainty.

[4] Since 2015, the project operates in 2 towns (Tsinjoarivo imanga and Ambatolanpy) of Bongolava region.

diagram 1 LIFE model and the combined results of Alaotra-Mangoro regions (2012-2016) and Bongolava (2015-2016)



* The results obtained in 4 towns of Alaotra-Mangoro when training on these topics were conducted.

Chapter 1: Overview Model "LIFE"

" LIFE "Stands for:

The Ahasa I fandrombonana ho F ampandrosoana sy ny ambanivohitra E nti-Miaro ny tontolo iainana (series
of Community measures to rural development and conservation
environmental)

【 Important point 】

The LIFE Model is a model **popularization** and **Sustainability of rural development and soil conservation,** conducted by local people who live or work in degraded areas.

popularization : across the **Mass training** based on the needs of local people and resources

sustainability : across the **Repetition** training and **Followed** after training

1-1 Approach and Model Features

1-1-1 Approach

The LIFE Model is based on the approach [5] **focused on training implementation for the benefit of all people in the target area.** These courses cover various areas and are carried through **extension structure developing local human resources.**

For the LIFE Model, the training is to strengthen the capacity of local populations; to show the possibility for local people and also to initiate and stimulate motivation. Also, it requires a follow-up stage after the training to observe changes and people's reactions, to better ensure the sustainability of their activities.

【 Important point 】

The key point for the implementation of the LIFE Model training **"To provide equal opportunities to people."** To ensure this equality training to local populations are conducted according to the following 5 principles.

Formation: (1) **Held locally:** organize training in the hamlets where resident populations; (2) **Uses locally available resources:** appoint trainers among the villagers and

value as possible materials that are hamlets; (3) **Meets local needs:** treat subjects expected by the people; (4) **is not selective:** anyone can want to participate and (5) **Aims the majority of people:** repeat the training as long as there's demand.

Take for example the case of reforestation. As part of reforestation projects in general, areas for reforestation are determined beforehand unilaterally. Reforestation is then performed by the workforce paid by projects with plants, also given by the projects. However, in the principles of the LIFE model, it is the local people in need of firewood / charcoal, which produce the plants and then put them in the ground, learning techniques need by local people, who have knowledge about these techniques. At that time, the chance of learning the techniques is available to all local populations,

[5] This approach is called Participatory Rural PRRIE -Development and Resources Management with Integrated Training for Equal Opportunities -. It was developed by the projects of the Japanese cooperation in Senegal and then in Malawi. A detailed explanation of PRRIE is available in Appendix 3.

equal basis. Moreover, that the LIFE Model considering it is only equal opportunities to participate in training, not equal outcomes for all.

Training conducted according to the principles 5 (here the manufacture of improved stoves) that everyone who participates is interested.

Technical support for the initiative of farmers to fight against lavaka, valuing locally available materials.

A detailed explanation of the birth of the LIFE Model is available in the attached document 2.

1-1-2 Model Features

【 Important point 】

In the LIFE Model:

- A communication network **to all populations of the target area** is put in place to organize training for the benefit of all these people.
- **The project not previously selected,** nor the people who are supposed to participate nor the practice of places popularized activities, as generally performed in watershed management programs.

The peculiarity of the Modeled lies in the fact that the project promotes and supports the activities of the initiative of local people stimulated through training.

Note that the LIFE Model is not the remedy for any situation. Areas that need soil conservation activities can not be all covered in the absence of landowners for example, or if the required technique is beyond the capacity of populations. In this sense it is possible and even recommended to combine the LIFE model with the typical approach to watershed management. The latter is applied to areas or specific activities considered urgent or difficult for single people while LIFE helps popularize the relatively simple but effective activities for watershed management (eg reforestation) covering a large area.

In addition, the system for the implementation of LIFE Model training aims not only reforestation and soil conservation. It also has the advantage of being applied to other various fields like other production activities, activities for the improvement of life or the adult education activities, etc. This model is also special thanks to his appearance on the establishment of a social infrastructure for local development. It can be applied to development programs in various fields.

The use of the LIFE Model as a method of providing administrative services for the populations in several areas could be the way to maximize the cost-effectiveness of local development programs.

Table 1 Difference between the typical project management of watersheds and the Model LIFE

	typical basin management slopes	**LIFE model**
Goal	Full management of specific basins and the struggle for the soil conservation	Basin Management and the struggle for land conservation, possible to be addressed by the target population in a large area
Main production area to be protected	fairly large area of rice fields with large-scale irrigation channels	rice-growing area of small dimensions, such as shoals to be found everywhere in Madagascar
Demarcation of the target areas of soil conservation	specific basins ignoring land holdings of local people and their dwelling places	Areas relating to land ownership and relationship with interest of every inhabitant
Agent of technical development	Dependent facilitators outside	Local trainers are selected from local people and are trained
target populations	Populations specific basins or those capable of conducting the activities of conservation soil in specific basins	All the locals in a wide range
Procedure for implementation	Implementation following the detailed planning the basin management	started by organizing massive and anonymous formations (non-selective and open to all) for the populations. The detailed plan is not prepared in advance but flexible measures are taken to results in line with project objectives.
areas intervention	A portion of the basin, said to be particularly protected	Wherever people lead productive activities

1-2 LIFE Model of Efficacy

【 Important point 】

Why the LIFE Model is effective?

This is because it is a model:

1) Which generates **tangible results quickly;**
2) Allowing **all people have a equal opportunity to participate;**
3) Which can be applied **An area extended;**
4) That applies **cheaper** with **a relatively high efficiency;**
5) who **ensures better durability** the activities of populations.

Lavaka maintained by people concerned

1) It's a **model that generates tangible results quickly**

The LIFE model allows users to **achieve tangible results after just a year after its implementation.** It is not necessary to conduct a comprehensive study (expensive!) Before application of the model, because the information on the local population will be acquired progressively as the training and monitoring are performed.

Examples of results **during 1 era year of implementation of the LIFE Model**

- About **381,000 feet** trees are planted in 4 towns of Alaotra-Mangoro
- About **130,000 feet** trees are planted, **2000 improved stoves** manufactured and **13 lavakas** treated in 2 towns Bongolava

2) It's a **model** allowing **the entire population to have an equal chance to participate**

The LIFE Model is based on the principle of **"Equality of opportunity".** To ensure this equality, training to local people, considered as gateway into the development process, are conducted according to five principles mentioned above.

Examples of results obtained on participation

Within 4 target communes in the region of Alaotra-Mangoro,

- **The household rate training participants of PRODAIRE compared to all target households (≒ 13 000), is 80% and 10,300 households** this area have acquired various techniques through these trainings.
- **93% of households owning "tanety"** training participants practiced **reforestation on their "tanety".**
- **Nearly 85% of households** training participants **put into practice at least one of the activities,** contributing to rural development and the improvement of living conditions (improved stove, lychee production or fish).

3) It's a **model** which can be applied **over a wide area**

The LIFE Model is focused on **simple activities:** training and monitoring that do not require special techniques. It is therefore quite possible for NGOs, local organizations and authorities to conduct these activities even in a large area, if adequate funds to cover expenses for these activities.

4) It's a **model** that applies **cost with a fairly high yield**

The LIFE Model guarantee **Interestingly enough cost-effectiveness,** thanks to :

- The massive mobilization of efforts of people as well as locally available resources;
- The very high rate of the practical activities by participants after weight training.

Examples of results related to the cost-effective

In the 4 towns of Alaotra-Mangoro,

- **The unit cost spent by the project for the reforestation and stabilization of lavaka** is respectively **114 MGA / ft** planted and **138.815 MGA / Lavaka** maintained by people or already stabilized.
- **The unit cost spent by the project** is estimated at **4.286 MGA / Kamado** Made by the people after the training, and the home to Kamado **reduce by 57%** consumption of firewood (equivalent **at 666 MGA / day / Kamado** in monetary terms).
- **The total cost spent** by the Project for training and monitoring activities fry production (Royal Carp) is **MGA 13,800,000** and **9 farmers trained** have **won MGA 27,150,000** on the sale of these fry in 2 campaigns.

5) This is a model that **ensures better durability** population activities

Model LIFE will allow the user durability of population activities after the end of surgery.

Examples of results on sustainability

In the Commons 8 targets Alaotra-Mangoro and Bongolava

- **About 800 local trainers** have been **trained** various techniques in all sectors or the hamlets of all for FKT **ensure anchoring and technical sustainability.**
- The implementation techniques popularized by the project through the local trainers are based on locally available materials to facilitate the continuation of activities by the people (with the minimum input of principle on the part of the project).
- **" The same approach for the entire population "**Allows you to participate **people 'really concerned'** by activity: for example, 85% of lavakas treated during training, stabilization actions are pursued by people.

1-3 mechanism for generating the results

As presented in the previous article, through the application of the Model LIFE, many people voluntarily begin soil conservation and rural development in a wide area. It shows not only concrete and measurable results as the number of reforested feet, made of improved stoves, lychee feet planted, etc., but also the relative impacts of change of consciousness and improving the living environment populations. In this part, it comes to analyze why and how these effects are produced, referring to the particularities of the Model.

【 Important point 】

Why the LIFE model generates results?

It's because he

1) gives concrete ways for
people to perform the activities that meet their needs

2) sent training to people
feeling the need

3) let the participants (not the project) the
choice on the form of the practice after training

4) causes the motivation to do
operating the extension structure

1) Leave the concrete means enabling people to perform activities meet their needs

To popularize certain activities among the population, must demonstrate past or feel the need for these activities. This is a prerequisite. Since the target LIFE Model the "upstream degraded areas," the people of these areas have previously felt the need to reforest their land on the slopes. In applying the model, we only offer the population the practical means to meet that need, through training. Once the concrete and practicable way obtained, people are quite capable of starting activities with their own initiative and as a result, for example, reforested land.

Regarding afforestation, the need and the means to respond are easy to understand even for people. This is not the case for improved stove that is relatively difficult. Faced with the shortage of firewood / charcoal, people feel a strong enough need to reduce consumption. But they had no concrete picture of the way that could meet this need. This is why the PRODAIRE first showed people what concrete and practical means using information materials such as DVD that illustrates the improved stove. As a result,

people realized that the improved stove could meet their need and thanks to the transmission of these techniques by training, it was quickly popularized in the target areas.

2) Forward training to people feeling the need

Not all populations of target areas "wish reforest the slope." There are households without sloping land or possess those who possess but which already use for other activities. Some households do not intend to reforest despite their possession of land sloping available for reforestation. At that time, the conduct of training based on the five principles presented in 1 era page is to offer the opportunity to reforest concretely to households a need for reforestation on the slopes.

The LIFE Model extension structure is established with the principle of forward training in all localities of the target areas. This is a device that can reach all households in need of reforestation of their slopes. This structure therefore makes possible the implementation of "the training that all those who wish can participate," one of the five principles mentioned above. As long as the training is organized in all target areas, households interested reforestation will participate in their community. Since they voluntarily practice reforestation after training, this activity is frequently practiced around the target areas.

The same logic can be applied to the fight against lavakas. The implementing agency does not need to conduct studies on the sites of lavakas that people wish to stabilize. Simply disseminating information that "the implementing agency supports people wishing to fight against lavakas", through the extension structure (which is an information network between people and the implementing agency). Then, the request for support from the population feeling the relative need is transmitted to the implementing agency and it shows them the concrete means to fight against lavakas, organizing training for their benefit.

It is important to make clear all the populations that "all those who want to can participate in training" and send timely information on training. When this information reached the people, those who feel the need can benefit from training. Then, after training, they start the activities under their own initiative and the participation rate and the sustainability of activities to improved end.

3) Allow participants the choice of the form of the practice after training

Although people want to reforest, many of them are reluctant to do so on a common ground or group, that is to say, reforestation outside of their land holdings. Indeed, ownership of replanted trees is not easy for these cases and populations and difficulty understanding the motivation for reforestation. Also, the LIFE Model gives freedom to people to choose the form of their practice following the training, namely individual practice or in groups, by objective and motivation.

Regarding the production of seedlings, the majority of people prefer to install their individual nurseries in their home gardens or adjacent land intended for afforestation, to facilitate maintenance of nurseries and transport of seedlings. However, in small villages, where the relationship between households is narrow, it is also common practice the nursery. As for reforestation, most people also want individual practice on sloping lands that are their properties. In some Fokontany, there are still cases of reforestation on a common site such as a church or school plot, following discussions between populations. As these examples show, people maintain their vis-à-vis motivating the implementation of activities while choosing at every opportunity in the most appropriate form for them. If the implementing agency previously chooses the form of practical and necessary to people, their motivation is weakened and achieving independent and sustainable activities by the people can not be expected.

The LIFE model attaches importance to the principle that "there is no requirement for participation in training" and "the practice after the training depends on the initiative of the people." Adherence to these principles raises motivation and leads them lead

activities by themselves. Thus, it ensures a high participation rate and sustainability of activities after the training.

Different practices of individual nursery after training. People are free to choose practice that suits them, demonstrating their motivation.

4) Cause the motivation to run the extension structure

Section 3), describes the way to encourage the motivation of the people. Here we demonstrate the importance of the motivation of members forming the extension structure, especially the local trainers.

As part of the extension project, the general approach is to first choose the model farmers or leaders among the people and offer them the techniques and materials by assigning the role of farmer-model whose practice will then copied by the rest of the population (oil stain system). This approach is based on the assumption that the techniques are naturally transmitted to the surrounding population from this farmer-model. However, many cases show that this type of technical extension sees its end without even having passed the technical to the many surrounding communities for the simple reason that motivation vis-à-vis farmer-model of the active transfer of technology to other populations is inadequate.

In the LIFE model, it is the local trainers, residing in each training unit, which fulfill the role of farmer-model. The Project offers these trainers a clear and tangible motivation, more concretely, the remuneration for their work extension such as training or monitoring. Consequently, these local trainers, whom the techniques are transmitted first, feel a strong motivation to actively transfer these techniques to other populations. The techniques are well disseminated even among people from all over.

Thus, it was shown that giving concrete motivation for the extension system component members for the transfer of technology, allows the dissemination of targeted activities with many people in a relatively short time.

1-4 Domain to which the model can be applied and its limitations

【 Important point 】

As we advanced several times, the LIFE Model is "a model to promote integrated way soil conservation and rural development in upstream areas degraded" and its uniqueness lies in the promotion of voluntary activities many people over a wide area. Given this, one can not discount the results below through the application of the Model.

1) Development of new techniques
2) Organization of the population and improve their organizational capacity
3) product opportunities Multiplication
4) Reform of institutional frameworks

1) Development of new techniques

The LIFE Model selects from the contents to popularize techniques and existing knowledge dissemination through extension structure. The development of these contents to popularize therefore is not included in the model. In other words, the development of a new technique to transfer the population or a new teaching method for the last beyond the Model. These include, for example, development / improvement of silvicultural techniques or research / development related to the production of forest seeds. The fact that the knowledge and techniques to popularize already exist so that human resources to disseminate in the targeted areas, is a prerequisite for the application of the Model.

2) Organization of the population and improve their organizational capacity

The LIFE Model is not intended to form organizations or populations to strengthen the organizational capacity of the latter. The existence of organizations of people not among the preconditions for its implementation. Nevertheless, as the model emphasizes the need felt by the people and their initiative, the organization of the people can be supported, if the people themselves consider it necessary through the practice of their activities.

In the example of the fight against lavakas, there are cases where people organize spontaneously after training. These people share the roles within the group and engage voluntarily monitoring and maintenance of the facilities in place in lavaka. Similarly, for fish farming, associations of people have been trained to obtain the funds necessary for the practice following the training. That in these examples, the LIFE Model does not address the organization of the people, but their offer reasons to organize.

3) product opportunities Multiplication

For LIFE Model tested in the region of Alaotra Mangoro, content to popularize as annuity products are selected into account more or less of market needs. However, the domain model does not include the acquisition or the multiplication of opportunities, when the products targeted are truly multiply through extension. The cultivation of large scale, like that of annuity products, and operation of the circuit of external markets of the area, require the establishment of the value chain. It is not realistic to believe that each profession forming this channel (traffic professions, transport, distribution, retail sale, etc.) would be implemented mainly by local people, LIFE Model targets. This establishment is indeed an external factor. This is why the LIFE model, targeting the independent activities of local people, does not include the acquisition or expansion opportunities.

However, the use of existing systems to improve the sustainability of population activities and the establishment of a system for the supply of materials needed for these activities on an economic basis come within the scope of the Model.

4) Reform of institutional frameworks

The LIFE Model is considering widening and improving the sustainability of the activities of the people using the existing systems namely the legislative system, policy or subsidy system. In practice the model, it is possible to analyze the institutional framework and to inform people through the extension structure on the effective use of this method framework, but not to radically reform the framework itself. Moreover, although it proposes the effective practice model by taking advantage of existing structures, there are no plans to revise the existing structures for better implementation of the Model. For example, although the presence of the development workers at the community level is indispensable for the effective development of the Model,

Chapter 2: LIFE Model Elements

The elements that constitute the model are described below in items 1) to 3).

Components of LIFE Model

1) extension structure training for the populations and monitoring their activities following the training
2) Content of activities on soil conservation and rural development, disseminated among populations through the extension structure 1)
3) Mechanism ensuring the sustainability of the activities of the people

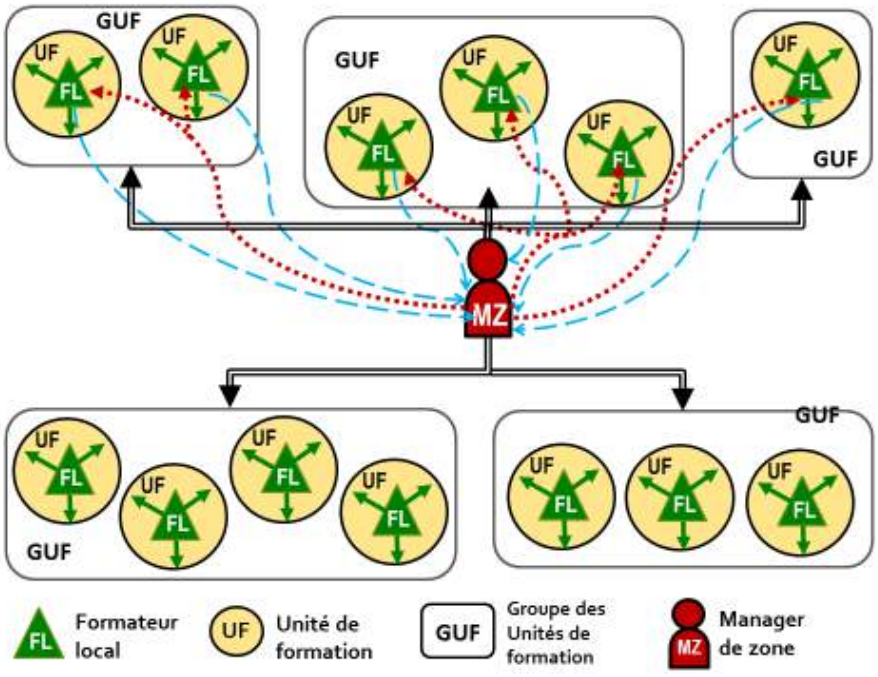
Examples PRODAIRE or practices of each component are described in the Appendices.

2-1 Extension Structure

【 Important point 】

The extension structure of the LIFE Model is that intended to deliver services to people in target areas, such as training or monitoring and the exchange circuit information with people. This structure is composed of the following 2 players.

- **Local trainers (** FL) : Selected people, they lead training and monitoring the benefit of other people.
- **Managers Area (** MZ) : They support the training and monitoring conducted by FL and manage them.



FL Transmits the information to the people, implement training, collects information
Give information to MZ

MZ Form FL, follows the activities of people with CA, FL and manages their activities
Supports FL in the implementation of training in UF

Scheme 2 LIFE Model extension Structure

2-1-1 Description extension structure

(1) Training Unit and local trainers

【 Important point 】

The smallest geographical division of the extension structure is referred to as **forming unit,** which is a training thread. Local trainers **are chosen from the population of that unit** for each training topic.

A **forming unit** groups of households within the scope in which a local trainer can transmit information to other households on foot. The number of households that includes a unit will vary depending on the type of agglomeration, agglomerated or dispersed houses, it will be assumed as between 10 and 200. The training units are determined by considering the natural conditions (distance, lay of the land etc. .) and social (ethnicity etc.) in order to meet the following conditions: to transmit timely information on dates and training content to all households within the unit and allow all people the wish to access and participate in training.

At the time of the determination of the training unit, it is possible to divide a residential area (an area or neighborhood) containing many households in several training units or consider a unit grouping households in different areas housing, even as existing constituencies as Fokontany[6] or neighborhood would be considered. In some cases, a remote hamlet of others, contains few households (under 10) is an independent unit and training local trainers can be selected there.

The **group forming units** is a unit for sharing information among local trainers. It is a group training units within the range where a local trainer can circulate on foot in one day.

Among the local trainers for a group of education units, one is selected to be in charge of information for each group. It transmits information from the area manager to other local trainers group. This group initially is unity meeting in case of convening local trainers by the area manager and secondly it is the training thread for the benefit of local trainers so that they can become trainers. The number of training units in a group of forming units varies according to the access condition between the units.

(2) Implementation of area managers

【 Important point 】

Area Managers are assigned to each unit of intervention, detailed below. They are the pivots of the transmission of information, connecting people, local trainers and implementing organizations (Figure 2).

The main roles of area managers are to manage and support local trainers. Because of their important task of visiting the training units, the number of units that a manager is responsible depends on the geographical conditions and the mobility manager. To facilitate communication with the population, which is essential for the implementation of the extension structure, it is preferable that those selected as area manager familiar with the natural and social conditions of its area (the inhabitants of the area for example).

[6] The Fokontany consists of a gathering of several hamlets, this is the unit of the administrative division of Madagascar after the Commons.

(3) Response Unit and Development Strategy

【 Important point 】

In order to establish the extension structure, the "intervention unit" and "the development strategy of outreach activities" are defined on the basis of the objective / duration of the implementation of the Model, the size / geographic conditions of the target areas, the budget and other settings.

Response Unit

The intervention unit is considered as the unit for the implementation of the extension structure composed of area manager and local trainers. It corresponds for example to the administrative division such as the city or the Fokontany and geographical division as the sub watershed and is then divided into training units. In principle, a zone manager is assigned to each response unit and manages the outreach activities of this unit. If the town is defined as intervention unit, it is possible to give the role of area manager to existing councilors in the municipality [7].

Development Strategy outreach activities

This is the question on the method of developing outreach activities, that is to say, either covering the entire target area from the start, either by making an extension outreach activities gradually in the area target.

In the 1 era strategy, all training units are set simultaneously in all intervention units of the target area, and the number of local trainers is quite important from the beginning. To this end, the allocation of several area managers may be necessary to manage these local trainers in a wide response unit. Such a strategy can be adopted by projects that target limited areas with a solid budget for results determined in the short term.

In contrast, 2 th strategy, that extension activities gradually extend the multiplying As the number of training units, is adequate for a long-term extension addressed by administrative organs (for example), with a limited budget.

When establishing the extension structure, it is more convenient to combine these two strategies depending on the population density or geographical condition of the intervention units.

2-1-2 How to establish extension structure?

【 Important point 】

It is the implementing agency of the model that implements the extension structure. The method must take into account the equal access of target populations for training and monitoring, regardless of the geographical and social differences.

The staff of the implementing agencies (here DRAE and DREEF Bongolava) during 1 ère contact with target populations

Figure 3 below shows the stages of the development process of the extension structure. The principles for each stage are summarized below and the examples of practice PRODAIRE in Annex 4.

7 In the case of Madagascar, certain regions or districts have human resources who occupy the function of councilor at the municipal level, called CDR (Rural Development Adviser) or AVB (popularizer of Base Agent).

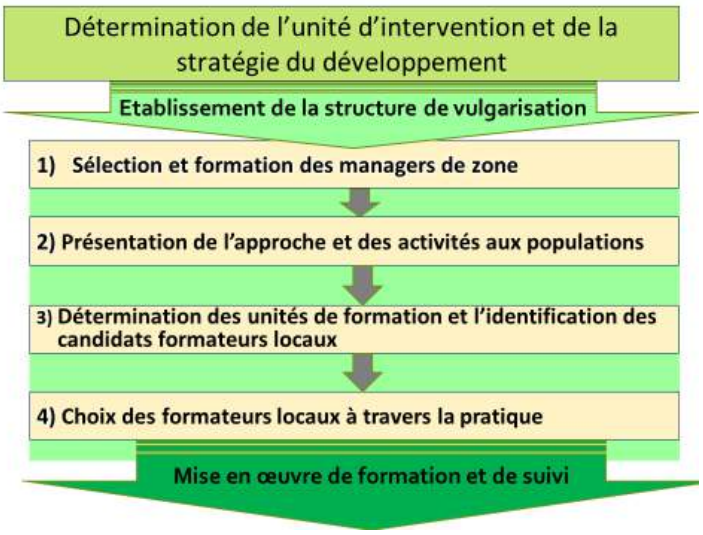


Figure 3 Process of the establishment of the extension structure

(1) Selection and training of area managers

【 Important point 】

The implementing agency selects a / the manager (s) area and strengthens their capacity on extension techniques as much as those in management / organization.

A / the manager (s) zone is / are selected (s) in each response unit. The following are two options for this occasion:

- Valuing existing human resources (eg, the development officer at the municipal level as Rural Development Advisor. CDR) already practicing the extension activity among populations according to their Terms of Reference;

- Make new hires among residents of the respective response unit.

The extension activity will be facilitated by enhancing existing development agents who are already employed as communication and trust with the people in the target areas were probably already consolidated. However, as they also ensure their work in the city or to the relevant ministerial institutions, in most cases, they are not available to work fully as area manager. In this case, their pay is determined by the amount of work they do as a manager.

As the newly hired managers, it is possible to make them work full time under manager with correspondingly higher compensation[8]. Nevertheless, they have to start in the process of implementation of the extension structure by establishing the relationship of trust with the people of assigned areas, which is a disadvantage.

The implementing agency shall, through training or on-the-job capacity building of area managers on technical, relating to activities to popularize, and their technical management / organization of activities for extension. The key points for the training of area managers reside in their thorough understanding of their role in the practical implementation of the LIFE Model, which is **"Support and understand the people who are the main players."** The implementing agency should lead managers to be able to put this principle into practice in their field activities. For this purpose, it is essential to synthesize the roles to be filled by the area manager in the Terms of Reference and to tell them clearly. Seen the

[8] In the case of PRODAIRE, beginners managers are paid 220 000 MGA / month for at least 20 days of actual work and experienced managers of 3 years, 270 000 MGA.

time to change the consciousness, the implementing agency must support permanently managers in understanding and observation of the above Terms of Reference.

The activities mentioned in (2) and (4) below are virtually supported by area managers. These activities are also part of the handshake process between the manager and the populations of its intervention unit. The implementing agency supports and directs managers so as to establish the relationship of trust and communication with the population.

(2) Introducing the approach and activities to people

【 Important point 】

Primarily it is for area managers to present the method and content of outreach to populations at appropriate locations to collect them in Fokontany or in residential areas. On this occasion, understanding by the population of these messages is important.

- Support is focused on the transmission of various techniques for soil conservation and rural development, through training.

- These locally required courses are open to all who want it.

The populations are informed of the appointment of a local trainer for each activity, having the tasks described in Scheme 2 (p.11). For example, if reforestation and improved stove are the techniques to spread, a local trainer is appointed for reforestation and another for the improved stove. The requirements for being a trainer is the interest in the activities and the volunteer spirit. It is important to make clear from the start the people's rule that "even after the appointment of a local trainer, if the person does not fulfill its role, another will be appointed in his place."

(3) Determination of training units and identification of local trainers candidates

【 Important point 】

The training units are first determined by geographical conditions as well as the access condition in the unit of intervention. Then local trainers candidates are identified in each training unit.

The training units and training units groups are determined based on information collected from the population during the presentation of the Project, and geographical conditions as well as access to the intervention unit. Primarily, the training unit includes the extent to which a local trainer happens to flow off without difficulty by visiting each household. However, if there are some restrictions for the transmission of information, namely the difference of ethnicity or social class, it is necessary to determine the training unit taking into account the social conditions of this kind further geographical condition.

In trying to inform the majority of the population of each training unit during the awareness session, some local trainers candidates who volunteer or are recommended by locals be shortlisted.

(4) Selection and certification of local trainers through practice

【 Important point 】

Through practice, local trainers are selected from several pre-selected candidates. Once selected, they receive the written certification and other populations are informed.

To make the decision on the choice of local trainers from the candidates, they are required to actually work as a local trainer to the area managers to observe and confirm their will and their way of working.

A local teacher is chosen for each activity, such a candidate will be selected as reforestation trainer and another for the improved stove. The selection result is announced to the people of the training unit. These are also informed that support for activities related to reforestation or improved stove is now conducted mainly by local trainers for the respective themes.

In addition, local trainers are paid based on the number of training / actions implemented. However, the amount is set at a reasonable price[9] stressing that it is an activity based on the spirit of volunteerism.

2-2 Content activities to popularize

【 Important point 】

These are the themes of education for the populations, ie, activities to popularize among the population through the said extension structure. Since LIFE Model's objective is "promoting an integrated manner of soil conservation and rural development in areas degraded", theme popularize can be classified into two categories: those relating to the conservation of soil and those relating rural development (Figure 4).

Figure 4 Contents of activities to popularize according to the LIFE Model

[9] In the case of PRODAIRE, the remuneration of local trainers is set in consideration of the daily allowance of agricultural workers from the target area. The amount is 5 000 MGA / day, which is 10 000 MGA for 2 days ie the day of the preparation and the training.

2-2-1 Activities for soil conservation

【 Important point 】

In the LIFE model, it is reforestation and the fight against lavakas, initiated by people, who are at the center of activities to popularize in the field of soil conservation.

We note in several regions of Madagascar common problems related to:

- Forest degradation and the tendency to nudity of much of the land or the slope of the summit due to fire / forest exploitation;
- The appearance of upstream lavaka.

Because of the degradation of these areas upstream, the natural function of the retention of water and soil conservation is so disturbed causing flooding and drought, the important silting of rice fields and agricultural water networks downstream or in the lowlands, with a detrimental effect on agricultural production. To cope with lavakas and erosion surfaces due to the tendency of denudation of the slopes, the main cause of the flow of soil, it is appropriate to popularize reforestation and fight against lavakas from many populations areas of large area. This is why the LIFE Model is particularly reforestation on degraded slopes and the fight against lavakas,

Thousands of individual nurseries created throughout the target area through the implementation of the LIFE model

actions against lavakas by people on their own initiative with locally available materials.

How to choose the species for reforestation and stabilization lavaka sites?

【 Important point 】

1) For reforestation on degraded land in slope, tree species are selected
that correspond to the soil conservation objective of the target area, while considering requests from the people.

2) The lavakas targeted for stabilization are those who are training request object
on the fight against lavakas. So they are chosen by the people themselves.

The selection of reforestation species is through simple studies: interview with the DREEF of the target zone and confirm with the population. The number of beneficiaries of training can be multiplied with the introduction of tree species of interest to all households (eg Moringa), regardless of the disposition of the land.

The peculiarity of the fight against lavakas in the LIFE Model is the fact that: targeted lavakas are not chosen by the implementing agency of the model but unlike the populations that transmit requests for training on stabilization lavakas defined by ellesmêmes. These applicants are those who suffer some damage from targeted lavakas, so that when this request, they already have the motivation for the fight against lavakas. This is indeed the important point in this struggle on the initiative of the people.

2-2-2 Activities for Rural Development

Activities for Rural Development, disseminated among populations differ by implementing objective and the target area of the Model. However, the contents of the selection criteria of activities for rural development can be determined taking into account the principles of the LIFE model, which gives importance to "the chance of learning techniques to all populations of the target area, equal security "and" the interest and need of the people. " These criteria are as follows.

【 Important point 】

1) Activities related to the improvement of living conditions and income, which can be practiced by all, regardless of financial means

2) Activities already practiced in the target area by many people who feel the need to improve their technical

3) Activities relating to the manufacture of products that can become the specialties of the area and thus generate economic impacts

The type 1 activity) is indispensable for the implementation of the LIFE Model, which attaches importance to equal opportunities. That said, the implementing agency of the Model chooses at least one activity that all households in the target area are able to practice, not dependent on the economic situation of the household or estate (including land), and then popularizes as an activity for rural development. The type of activity 2) is the main source of income of people in the target area and the need for improving productivity is widely acknowledged. Type 3) indicates the manufacturing activity are already known as specialties of the area or could become so.

How to choose the content to popularize in the field of rural development?

【 Important point 】

The contents will be determined to popularize and planned based on the results of the preliminary study and simple and the circumstances of the people, as the growing season, and being careful not to accumulate training activities on a very limited period .

When determining the contents to popularize, we must first grasp the prior information on the preview / potential target areas, and the need of the people, we proceed to an interview whose contents are described below a) b).

at) With regional directions target regions, which are involved in the development rural, ie those - agricultural development, forestry, livestock, fisheries etc. - collect information on the potential of areas with promising products to market, the problems, the support from the other projects / organizations etc.

b) With the Agricultural Service Center (CSA), check the need for training people (Number of applications by subject, etc.), contacts on the part of traders (for agricultural products), the existence and location of human resources for each area, etc.

c) with populations and development workers at the community level, see their need on the basis of information collected in a) and b)

A large study is not imperative to determine the contents to popularize.
It is simply necessary to the "choose provisionally" on the pre-study basis and simple, consisting of a) to c) mentioned above and with reference to principles 1) to 3) following. Training topics are then provisionally selected and implemented on a trial basis to a limited extent in order to observe the reaction of people after the training and issues related to implementation. Based on these results, the contents are finally popularize targeted.

For the choice of activities Rural Development, here are helpful and concrete evidence, based on the experiences of PRODAIRE.

1) Activities related to the improvement of living conditions and income, which can be practiced by all regardless of financial means.

Find this type of activity is easy to say but hard to do - as they say "criticism is easy, art is difficult." We propose here to necessarily introduce the production of improved stoves as an activity in the field of rural development that completes the reforestation activity for the conservation of forest resources. The LIFE Model is a model applied to Madagascar in upstream degraded areas where reforestation is a strong need and where the heating / charcoal shortage is really serious everywhere. This explains the strong need for improved stove that leads to reduced consumption of firewood / charcoal. The home developed by Japanese volunteers is manufactured with relatively simple materials such as soil and clay easy to get technical, even the poorest rural populations. Production of improved stove proves significant for improving the living conditions of local people, as it allows them to reduce expenses.

improved stove (Kamado) popularized by PRODAIRE
which manufacturing technique is simple and feasible only with locally available materials.

- **Start the intervention by the popularization of improved stove -**

If trainings start in the new areas of intervention with the popularization of improved stoves;

- This would facilitate the creation of a relationship of trust with these people because the improved stove interested many people as it is accessible to everyone and is very easy to achieve:

- This will set up the information networks that are not restricted to a part of the population but cover them all.

2) Activities already practiced in the target area by many people who feel the need to improve their technical

These activities are easily identified when preliminary studies a) and b). This type of activity is in fact the main industry of the area (eg rice or poultry). That said, the need is high and it is therefore likely that other projects or organizations are already conducting support actions in these areas. Some cases show that better suited or more advanced techniques have already been sought by other agencies but remains the extension of these techniques to the population. In this case, we can put into practice the model in a way

complementary form of collaboration which consists for example in the distribution of (part) techniques developed by other bodies, through the model of the extension structure.

The PAPRiz (Project for Improving Productivity Rizicole the Central Highlands of Madagascar) JICA supports irrigated rice in the same area targeted by the PRODAIRE. Today, a collaboration between these two projects is underway to popularize the techniques developed by the PAPRiz using information networks with the people, established by PRODAIRE.

3) Activities relating to the manufacture of products that can become the specialties of the area and thereby generate economic impacts

The difference between the 3 activities) and activities 2) is such that: the first are not widely disseminated despite their potential while the latter are already widely practiced by people in the target area. The "potential" here means the fulfillment of conditions, namely i) the techniques of already established production, ii) the application found in local markets or cities and iii) the appropriate production ecosystem perspective farm of the target area.

Activities 3) are also vaguely targeted for preliminary studies a) to c). However, unlike the activities 2) it is difficult to judge in populations need and the ability to carry out these activities, because of the limited number of people who already practice. Thus, the extension throughout the target scope is not planned from the beginning. Only the pilot training is organized into training units or areas where some populations are already practicing the activities in question and the conditions and production tools needed for their practice, are in place. These drivers allow you to check the degree of implementation by the populations and the extent of their training demand. According to the results,

Training on planting litchi plants

Progenitor of royal carp

Around Lake Alaotra, these are breeding royal carp and culture of lychee that have the potential as a specialty of the area. The PRODAIRE therefore supports the extension of these activities.

After having identified the activities to popularize, a training implementation plan is developed specifying the period and the steps of each formation. The example of this plan is given in Annex 5.

Other things to consider when determining content to popularize

- Avoid, if possible, the activities for which training will be held during the culture period (ie d., Rainy season).
- It is best to select activities whose practice coincides with the period during which the populations of financial resources (eg just after the rice harvest).

- Avoid accumulate training activities on a much limited period.

2-3 system ensuring the sustainability of populations of activities

For the reasons below, the approach of the LIFE Model itself ensures the sustainability of population activities triggered through training.

- **Repetition of training and regular monitoring after training** contribute to the technical anchor in target individuals. To confirm the effectiveness of the model, we conducted a periodically evaluation. (Cf. data collection)
- The popularized techniques are based on **locally available materials**
- **Local Trainers** are trained in various techniques in all areas or villages in the target area.

It is important for the implementing agency to set up a system that may further support the sustainability of population activities, in parallel with the implementation of training and monitoring.

【 Important point 】

The following systems can contribute to improving the sustainability of population activities:

(1) Use existing systems namely domestic legislative, policy and subsidies ;

(2) supply system on an economic basis of the materials needed for activities populations.

(1) Use of existing systems

1) The Land Bank for the issuance of land certificates

The land certificate issued by the Land Bank contributes to the sustainability of population activities in the sense that it creates motivation for reforestation. (The summary of land certification system is summarized in Annex 9.)

Most land in the upstream area of the target model, are not recorded. In most cases, people customarily claim their ownership of the land. Now these customary rights are not officially guaranteed. Many people show their desire to get the land certificate in order to ensure their property rights.

To be eligible for land certificate, the land must be occupied, used or developed. This is why people are thinking about enhancing their courses, for example by reforesting the order to then obtain the certificate. The system of issuing land certificates thus has some influence on the motivation on the insurance of the sustainability of reforestation. Some concrete cases, some families have reforested land to obtain their land certificates, according to the interview of the Land Bank staff to Andrebakely southern region of Alaotra Mangoro. Thus, support for the creation and operation of Land Kiosks generates effects determined in relation to ensuring the sustainability of reforestation.

An awareness session for the promotion of land certificates

Office Inauguration of the Land Bank to Morarano Chrome

Cost-effectiveness of the implementation of the Land Bank for the implementation of Modeled

Since the establishment of a Land Bank requires a large initial investment, it is not considered effective from the standpoint of cost-effectiveness analysis for the "Model for promoting integrated way soil conservation and rural development in upstream areas degraded. " However, regarding the Owners ATMs already in place and operational, leveraging their help to ensure the sustainability of activities and support their operation is taken into account, if necessary. The result is that working with ATMs of Land can become an effective option, but only for those who are already in place and in use.

2) Using the Regional Agricultural Development Fund (FRDA) and Service Center Agricultural (CSA)

The sources of funding contribute to make them more sustainable activities. the FRDA [10] is considered one of the likely sources of financing it is the CSA is responsible for supporting the technical aspects of FRDA. The workflow CSA [11] and the process of payment of FRDA are shown in Annex 10.

Possibility of access to financial institutions

For generating activities of short-cycle income, such as rice or fish farming, the use of banking institutions such as microfinance institutions (MFIs), is also possible in addition to the FRDA. Financing conditions differ between institutions. But if he is to profit activities, the benefits outweigh the interest, having strong potential to bring together, with the support of banking institutions financing, (part of) the funds needed to launch or enlargement and to pursue more stably. In the document Annex 11, the illustrated examples of aquaculture activities conducted through access to CSA and banking institutions are treated.

Nursery pond where the fry is sold between 200 to Ar 300 Single

[10] The FRDA is a fund established in each region by the government to subsidize the activities of agriculture, livestock, fisheries and also agro-ecology as the watershed management activity.

[11] The CSA is an NGO based in each district, and acts as an intermediary between farmers and providers of the service. When independent farmers or grouped at the town or district applying for a grant from the FRDA, they must go through the CSA.

It is necessary to collect during the same period of the project, information on possible funding mechanisms, such as FRDA and banking institutions, and to transmit this information to the people so as to benefit from the grant of FRDA or funds provided by these institutions.

(2) Consider providing the necessary materials based on the local market The implementing agency must clarify the conditions for the continuation of activities popularized by the people, even after the end of his speech. It must then prepare the conditions while Model practice. If obtaining the necessary materials for the activities is difficult for people, we must find the means by which people can source these materials after the withdrawal of support. The establishment of such a system is introduced in this part through the examples of reforestation and livestock royal carp.

1) Provide the necessary materials for reforestation through local markets Seed and sheath for the production plants are indispensable materials for the continuation of reforestation by local people.

For semen, the collection is possible in the medium and long-term sites, it is more appropriate to forward this collection method during training. This also ensures the sustainability of the activity of reforestation. After the project, the people who have acquired the art may collect the cash seeds they want to plant.

The pot for seedling production does not circulate much in Madagascar and the people have great difficulty in obtaining them. Thus the following 2 proposals were made in light of the post-project to ensure supply to the population.

- Insert the circuit market through local merchants dealing with agricultural materials as a distributor that controls the ducts manufacturers, carry them to the target areas and sell them to markets. It may be in different retail outlets or wholesale to local stores. (See Attachment 12)

- Introduce the use of alternative sheaths such as poly vinyl tube or bag that are available to local markets in Madagascar training content on the production of plants. Information on prices and locations can be obtained is transmitted to people.

In addition, it encourages people to painstaking production plants for sale to others.

2) Provide fingerlings for fish farming through agents in the target area around Lake Alaotra, the PRODAIRE conducted training producers fry for extension of fish farming royal carp. To provide the products from producers fry to fish farmers [12] he is testing the sales channel through NGOs as an intermediary.

Specifically, it is the NGOs that provide marketing for producers fry. They sell well fingerlings to farmers or groups wishing to start fish farming. Moreover, the demand for fish farmers, NGOs offer at the same time training in fish farming. These fish farmers individual or group needing fry and begin the fish indeed have the following three choices:

at) Buy fry directly from producers in their ponds;
b) Buy fry through intermediaries and have come home;
c) Form a group (association) of fish farmers, buy fingerlings through agents
Using the funding of MFIs and have them delivered to their homes by these agents.

The supply of fingerlings system being tested in the Project, is detailed in Annex 13.

[12] Fish farmers are farmers who keep livestock of royal carp fry to the size marketed. We can distinguish them from fry producers.

Chapter 3: Implementing organization of the LIFE Model

【 Important point 】

- The implementing agency of the Model ensures the development of the extension structure, the implementation of training on the topics of activities that should be disseminated (content popularize) and following up with people in the area target.
- These organizations, besides the ministries, their decentralized services, local authorities, projects and NGOs, we can also add the populations of organizations (eg. The cooperative association, the association of water users).

Along with the structuring of the model, we also set up an implementing agency of the model for the realization of its components 1), 2) and 3) presented in the previous chapter.

Sometimes the implementing agency Model (hereinafter the implementing agency) is not the same as that which provides the funds for the implementation of the Model. In developing countries like Madagascar, it is possible to assume the case of the practice of the Model by government departments or NGOs that receive funding from donors. For the latter, this manual will serve as the Terms of Reference which will be proposed to the implementing agencies of the Model.

3-1 Roles of the implementing agency

The expected of the implementing agency roles are summarized below. They were identified based on the model of the principle that, as a reminder, is **"To ensure access for all populations to services such as training"** and to achieve the objective of the Model **"Promote soil conservation and rural development."**

【 Important point 】

expected roles of the implementing agency

(1) AWD information to people

(2) Management training

(3) Monitoring the activities of people and analysis of improvement measures

(4) Strengthening the capacity of area managers and local trainers

(5) Cooperation with other institutions and with existing structures

(1) AWD information to people

In order to ensure access for all populations to services such as training, people need to know the existence and necessity of such services. This is why it is inevitable to structure the function of transmitting information regarding services such as training to all populations of the target area through the extension structure. The implementing agency determines the means of transmitting information using the area managers and local trainers, choosing opportunities and media to use while considering the geographical conditions / social and constraints like budget. Even after determining the information transmission circuit

(2) Management training

Compared to other extension projects working in an area and a number of identical target population to those of the LIFE model, the geographical spread through training and the number of training and human resources deployed sessions are greater in the case of the implementation of LIFE Model. Therefore, human resource management, materials,

Payment to local trainers

Budget and information is essential for the success of the training activities. Since the amount of the total budget for the implementation of the model is usually fixed, that the expenditure related to the management increases, the budget allocated to services for the population decrease to the same degree. This explains the need for efforts to implementing agencies to reduce the cost of management. This could be done for example by the use of local human resources the service charge is less, or by simplifying the formula and the necessary procedural management.

(3) of population activities monitoring and analysis of improvement measures In order to further promote the activities of people, initiated through training, these courses tracking is essential. Monitoring can simultaneously expand these activities and improve their sustainability. This is indeed taking the following actions in cycle: direct / indirect collection of information from the population after the training, the analysis of these data, the implementation of additional support activities and revision if necessary the plan (content, method of execution or period) following training, and so on.

(4) Strengthening the capacity of area managers and local trainers Improving the ability of managers area and local trainers, extension officers, is essential for the Model of practice. This is "the ability to achieve the objectives of the implementation of the model (that is to say the extension of soil conservation activities)" and "the capacity for responding to problems on sites. " They have to learn not only the technical on activities to popularize (eg reforestation), but also communication technology with people and know-how in training organization. Especially for area managers, it is essential to instill their role is "to support and understand the people who are the main players."

Discount certificates local trainers in Kamado

(5) Cooperation with other institutions and with existing systems Collaboration with other institutions or existing systems could contribute to the expansion of population activities and their sustainability. The implementing agency's role is to make a study of these systems and institutions to clarify how people could benefit and to transmit this information to people in target areas.

3-2 How to set up an implementing agency of the LIFE Model

This section discusses the prerequisites and benefits of case ' implementing agency Model (NGOs and administrative bodies) on the basis of experiences of PRODAIRE. The objective of this Section is not to compare the two types of implementing body. It is rather to show that the model can be implemented by different types of organizations.

3-2-1 Promoting local NGOs

(1) Prerequisites for the practical implementation of Model NGO

【 Important point 】

It is possible to use NGOs for the implementation of the Model, if the target areas satisfy the following conditions.

- The extension structure by administrative institutions do not exist or do not work.
- The decentralized administrative bodies, which are close to the people, - the decentralized services of ministries, local authorities etc. - have neither Terms of Reference relating to the extension, nor the human resources to the implementation of the Model.
- NGOs with experience on the populations of services such as training, entrusted by administrative bodies or donors, are present in the target areas.

A common extension structure in the country, does not exist in Madagascar and the situation of provision of development workers at local level differs depending on the experience and the will of the town, as well as the presence of donor funds.

In areas where neither the decentralized departments or municipalities have no officer extension of development activities among the population, it is more practical to consider the possibility of establishing a model of the application structure oriented local NGOs. NGOs that have experience performing support activities for the populations in the field of soil conservation and rural development are desirable.

(2) practice of Structure Model by NGOs

The example of the application structure Model by NGOs is shown in Figure 5

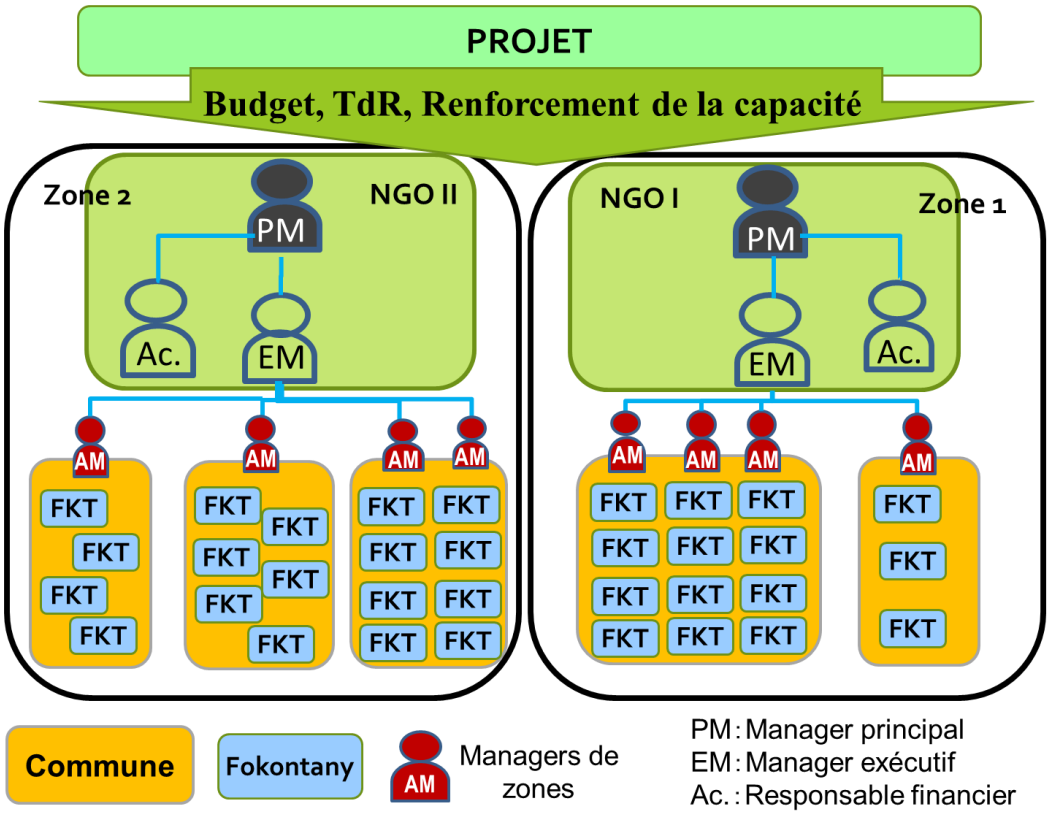


Figure 5 Figure of the application structure model, focused on NGOs

The task of each officer of the NGO is as follows.

Senior Manager (PM) : Responsible for the execution and management of all activities related to the practical implementation of the model, based on the Terms of Reference and financial plan, as determined by the Project and NGOs

Executive Manager (EM) : Manager and Supervisor of all activities relating to training and monitoring by pressing / manager zone managers and local trainers on field

Financial Manager (Act.) : Responsible for financial management that is to say, budget management and expenditure relating to training and monitoring activities as well as obtaining / managing materials needed for training

Activities related to the model of practice are conducted at sites primarily by these NGO staff. The description of their roles, essential for the realization of the model is shown in Annex 6. An example of the actual Terms of Reference NGO written by the Project is attached.

3-2-2 Enhance administrative bodies and the existing structure

In some areas, there is a / agent (s) of development (eg CDR) committed (s) by most municipalities. In such cases, the model can be put into practice by the decentralized services, namely the regional office or local authorities such as the municipality.

(1) prior and desirable condition in the case of appointment of administrative bodies as enforcement agency Model

【 Important point 】

When the following conditions are satisfied, it is possible to apply the model with the administrative bodies.

- To the supposed administrative agency personnel who can fill the main roles of manager, executive manager and financial officer, positions described in the case of collaboration with NGOs, is available.
- There are (already) staff that is responsible for the exchange of information between people and the administrative body and can fulfill the role of area manager.

As noted in Table 2 on the following page, the practical implementation of the model by administrative bodies is interesting in terms of costs and sustainability of activities. The capacity of these organizations is however limited to adopt the simultaneous development strategy of extension activities in a fairly large area, because of the small number or the insufficient availability of their staff.

The advantages of administrative bodies are valued when the model practice of the zones are progressively extended indefinitely.

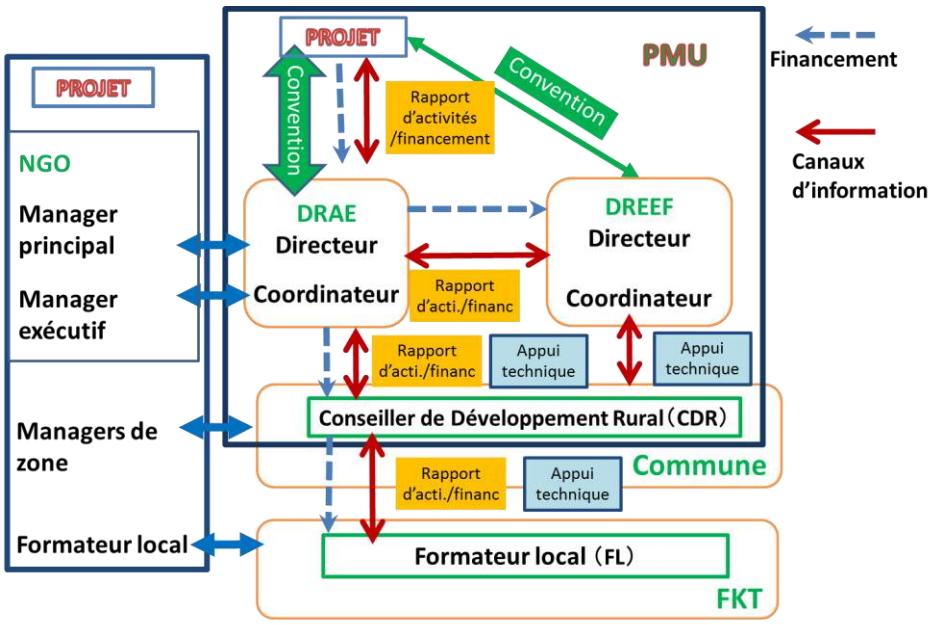
(2) practice of Structure Model by administrative bodies

Scheme 6 shows an example of the structure Application of Model-based administrative bodies, namely, the Regional Directorates of Agriculture and Forestry (DRAE and DREEF).

In this example, the directors of these two directions are positioned as key managers. The role of executive manager entrusted to the coordinators appointed by each direction and that the paying agent, occupied by the chief accountant of the Regional Department of Agriculture.

The town can also be a model practice of the structure, if it has a / the person (s) responsible (s) that is / windbreaker ensure the functions of the officers of the NGO, mentioned

high as well as a / agent (s) which ensures (s) the transmission of information between people and the county.



Scheme 6 practice of Structure Model by administrative organs
existing (regional directorates of agriculture and forestry)

3-3 Advantages and disadvantages of both types of implementing body

Table 2 summarizes the advantages and disadvantages that can be observed in the model of practice by NGOs or by the existing administrative bodies (decentralized departments, municipalities, etc.)

Table 2: Overview of advantages and disadvantages

Sector and area of activity	Unlike administrative bodies, NGOs have no limits or in relation to areas of activity or with respect to intervention areas (in which they provide services) - limit as the administrative division This is why they manage to develop activities even if they cover multiple areas such as rural development or a large area of several local authorities. In other words, they manage to develop activities without being influenced by the limits on the areas / zones to target.
Human ressources	NGOs can quickly provide the necessary human resources in accordance with the objective of the project or the size of application of the model, whereas with administrative bodies, their staff is not always available to work fully as it also provides labor services of each organ.
Cost	With NGOs, the cost necessary for the application of the model will be higher.
Establishment of the extension structure	In areas where communal development agents are widespread, the model can be put into practice with the same method and the same application structure, promising easy expansion model.

Control of performance	In the case of collaboration with NGOs, the performance of the implementing agency is easier to control. For example, one method is to specify in the contract deliverables and performance, and if these are not met, penalize such as termination of the contract with these NGOs. The performance audit is against difficult for the structure-based existing agents employed by the decentralized services and other projects.
Sustainability of services	With NGOs, activity among the population will end automatically when funding NGOs sees its end. As for administrative bodies, even after stopping financial support from the outside, expanding outreach and population monitoring activities are possible to achieve as tasks assigned to them.

It is therefore recommended for funders (TFP, Project, etc.) to select the type of the executing agency according to objective, sector, duration, and size of the intervention areas and the availability NGOs or existing administrative bodies in these areas.

In the case of an obligation of results for a limited period, as the case of many projects, it is possible that these objectives are achieved by applying the model only with the administrative bodies or existing systems. Indeed, the size of the areas and target populations of applying the model is determined with respect to the ability of the contribution of the existing organization in terms of staff and availability for the implementation of the Model. When it is the administrative body that is exploited must set goals, paying attention to these points.

Chapter 4: Implementation of training and monitoring

4-1 Implementation of training for the populations

【 Important point 】

The implementing agency prepares formations according to the procedure detailed below with reference to the annual implementation plan training with the example presented in Table 5-1 of Appendix 5. Then it monitors the delivery of training.

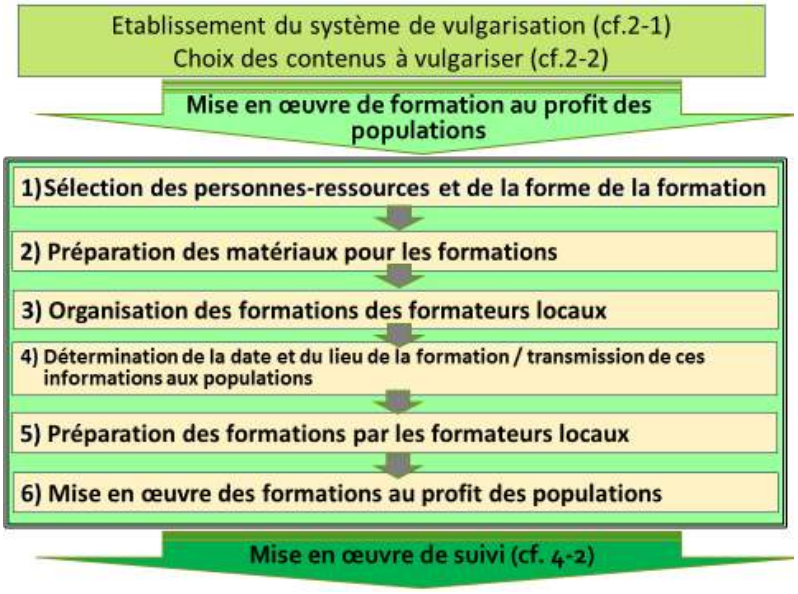


Figure 7 Procedure for the implementation of training for the populations

Appendix 7 shows the PRODAIRE helpful practices to ensure proper training approach.

(1) Selecting contacts and choose the form of training

【 Important point 】

- The resource persons are those residing within the target area or near, having previously learned techniques to be popularized among the people and practicing.
- According to the training content, in some cases, the contacts form the area managers and local populations directly or trainers.

The "resource people" fulfill the role of instructor at the training area managers and local trainers, as well as the role of technical adviser to area managers. We must therefore identify in advance the resource persons for each training topic on the basis of information provided by the CSA at the time of the preliminary study, and information obtained by the area managers circulating in all target areas. The resource persons are candidates eg technical staff of local NGOs and concerned ministerial institutions, which are found around the target areas and populations that have already acquired the techniques in question with other projects.

The "choice of the form of training" means the determination of the persons conducting the training for the populations. According to the principles of the Model, it is the local trainers who conduct training in each training unit. However, they fail sometimes to fill the role of the trainer as soon as it is a topic requiring a higher technical level. In this case, it is the

contacts or area managers, to whom the technique required is transmitted by the resource persons, who lead the training.

(2) Preparation of materials for training

【 Important point 】

To facilitate the practice of learning outcomes by people, **it promotes the use of readily available materials on site (** in the hamlets where the courses are held) or nearby.

For each training topic, the necessary materials are determined in consultation with resource persons knowing the technical and zone managers familiar sites. What matters is to " use as much as possible materials that can be obtained locally "following the 5 principles of training the LIFE Model. In other words, **must minimize the materials supplied and delivered by the implementing agency and make the most of the materials that can be provided on site by the population.** The division of responsibilities between the implementing agency and the population is determined according to the above principle, and taking into account the orientation / target / budget of the implementing agency of the natural condition of the area and economic situation of the population. The example of PRODAIRE is shown in Table 7-1 of the document annexed 7.

Sometimes some materials provided by the implementing agency must be sent in time (before training) to each training unit. To reduce the cost of training, look for the cheapest means of transport, but adequate for the type / volume of materials to transport and the situation of access to training units.

(3) Organization of training local trainers

【 Important point 】

- To provide training for the populations, local trainers have a first training of trainers in each group training units by the area manager or contact person.

- It is very important to instill the concept of training "practice" (not theoretical) local trainers during the training. Indeed, practice with populations of some way ensures transmission techniques.

During the formation of trainers, simulating the formation to drive in each forming unit, and it is checked the methods / materials required in addition to the transmission of technical local trainers. When the materials needed for training for populations are not large, we take this opportunity to pass each local trainer.

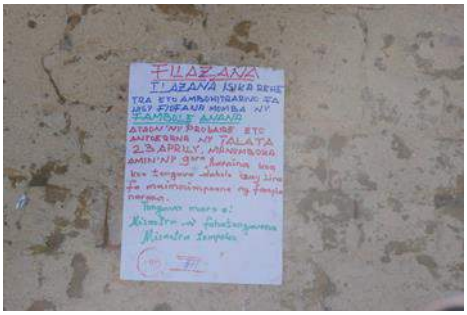
Training of trainers by an agent of the DREEF
(Plants of Production)

Training of trainers by an officer of the NGO
(Fighting against lavaka)

(4) Determination of the date and place of training and the transmission of this information populations

【 Important point 】

- The implementing agency is looking for ways to spread information about the training with all populations of the target areas in order to ensure their equal opportunity to participate in training.
- The date and time of the training conducted in each training unit are defined following the discussion between the local trainer and populations.



local trainer for announce the formation

The date, time and location of the training conducted in each training unit are defined following the discussion between the local trainer and populations. According to the principle that training should aim for majority of the population, the date and time for the gathering of many people are determined by consulting the people. Training is normally held in a conspicuous place and frequented by people to awaken their interest. For some topics, the training location is set automatically. Namely such training layering lychee (the location of mother-feet) and that of fish (the fish pond's location). The local trainer announces the date, time and place appointed to his area manager and if the transport of materials is required,

The implementing agency is responsible for informing the population

One of the roles played by the implementing agency is to ensure the information of populations on training through the area managers and local trainers. It is essential to develop the information transmission strategy that requires little expense. This will be achieved by taking advantage of such information network already established between populations or the periodic gathering of people in places already defined (market, village meeting).

(5) Preparation of training by local trainers

The materials mainly supported by the population are prepared with local trainers. These are the materials needed to practice and are available on site. These are the raw materials (earth, sand, clay, wood, etc.) and simple tools (the sieve, the pot, the agricultural implement etc.).

Gaines data to people in exchange coupon distributed to each household

Materials for the manufacture of improved stoves prepared by local trainers display prepared by the

(6) Implementation of training for the populations

【 Important point 】

- In order to involve the vast majority of people in training, simple execution of training rules are defined and communicated to stakeholders.
- The area managers sometimes attend training provided to people by local trainers, but they are directed to stick to their position as observers.
- In some cases, it is desirable that training on a specific theme to be repeated for several consecutive years.

As described so far, the training of people is a "training in which all who wish can participate", so that the following rules are defined and anchored in area managers and local trainers.

- When most people are not available to attend the training, as the case of a death in the area, training will be postponed to another time.
- When those interested in training are too numerous to participate in training, additional sessions will be scheduled.

As soon as one or some of the following conditions is / are filled (s), it is desirable that training on a specific theme are repeated in the same training units for several successive years.

- Aiming implanting certain techniques at the population level or gradually transmit technical
- Consider increasing the number of people practicing the techniques specified in a wide area
- Popularize activities that require relatively time to gain public confidence

8 The attached document summarizes the important points that need attention on each training like on reforestation or on stabilizing lavaka.

Training layering lychee

Training on composting in 7 days

4-2 Implementation of monitoring population activities after training

【 Important point 】

- **To popularize and implement the techniques and activities in populations, tracking their activities following the training becomes essential in addition to the same training.**
- Knowing through monitoring, the execution location of their activities will lead to improving the content and training method of execution to be held thereafter.
- It is mainly the area managers and local trainers that put practical implementation monitoring. The implementing agency meanwhile analyzes the results of this monitoring and develops methods solving problems that people encounter or training improvement measures.

(1) Objectives monitoring

After the training given to people, their activities are monitored in order to verify if they practice the techniques learned during the training or not and if they encounter any difficulties during practice. In addition, monitoring aims to the following 1) to 6):

1) Support activities populations by giving them advice and complement
   Technical transmitted during training or proposing solutions to problems encountered ;
2) In order to stimulate the improvement of the next training, gather good practices such
   the development and standardization of techniques learned during the training, by the method from the population, among others;
3) Collect information that examine the need for new inputs
   promotion and implementation of activities;
4) Check the information on training reach all populations;
5) Strengthening the capacity of local trainers by area managers through the implementation
   the monitoring assembly;
6) Promote communication between area managers, local trainers and
   populations to establish the trust relationship.

In addition, monitoring is also an opportunity for the enforcement agency to seize the activities of local trainers, passing by the area managers, and pay these trainers depending on the volume of work performed.

area manager moving towards the hamlets for monitoring

Monitoring, support, information by visiting activities made by households

(2) Method of implementation monitoring

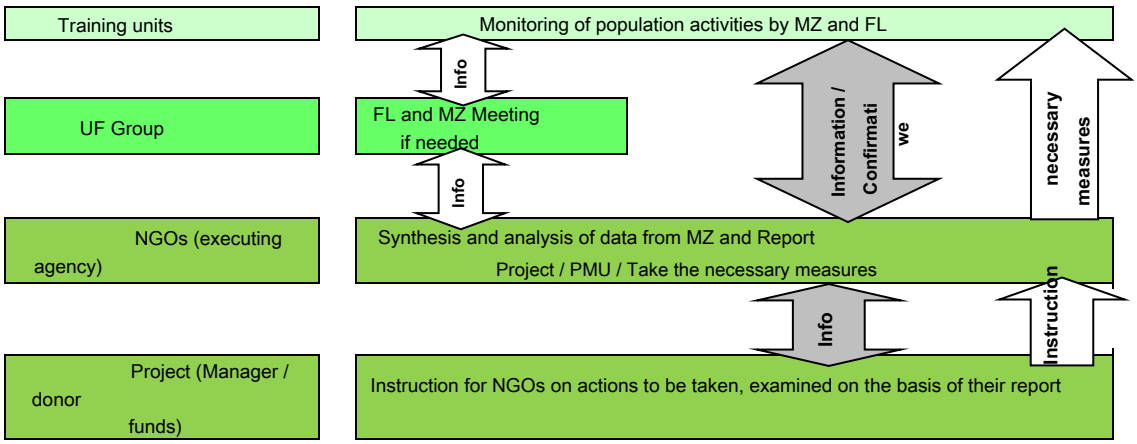
These are the area managers and local trainers who implement monitoring by discussing directly with the people and examining their activities and accomplishments on sites. On this occasion, the implementing agency should lead the zone managers to assimilate the following:

1) Do not focus on specific individuals but open the conversation with the majority
possible populations, including those that do not participate in training;
2) Do not collect information unilaterally but listen to the opinion of carefully
people to understand;
3) In case of problems, develop possible solutions with the local trainers;
4) Regarding the problems they can not solve, refer to the implementing agency
or resource persons and ask them instruction or advice.

Monitoring is conducted regularly. Its frequency is determined by mobility zone managers and the number of training units which are assigned to them. Under the PRODAIRE, each manager supports less than 40 average training units and visit each unit at least once a month.

(3) System monitoring

Figure 8 shows the concrete example of the monitoring system. What is important in the development of the system is effective and opportunity for exchange of information between area managers and the implementing agency. The implementing agency organize to regularly receive the report of area managers during meetings and telephone on the situation of population activities and issues. This information is collected and analyzed and the necessary measures to improve are then examined and educated local area managers and trainers to be applied.



MZ: Zone Managers FL: Local trainers UF: Training Units

Figure 8 Example of the monitoring system using NGOs as body execution of the LIFE Model

Learning by the filling of the FL "notebook correspondence "which is one trackers

Follow through direct talks with populations

PDCA cycle for performance monitoring and training

As argued above, the LIFE Model uses the results of monitoring of population activities to improve the method of execution and content of upcoming trainings and followed. The "next training" mean here those organized in the coming fiscal year to be in the same areas or in other areas. In addition, the "improvement of training content" not mean the introduction of more advanced techniques but content review for the perfecting of the population level of practice after training and sustainability activities. The following improvements are possible, among others.

- The materials and materials necessary for the practice (eg. The substitute of the sheath for the production of plants or diversification of essential materials for the production of improved stoves.) Are adjusted according to the practical situation following the training.

- The "population inventions" which are specific customizations techniques learned related populations during training, are included in the content of training. (Eg. Different models of improved stoves)

Exchanges between the NGOs to share the solution problems and good practices populations

The repetition of the PDCA cycle - Plan, Do, Check, Act -, which constantly improves training content, promotes both increased number of target populations popularized by activities and sustainability of activities (See Figure 9).

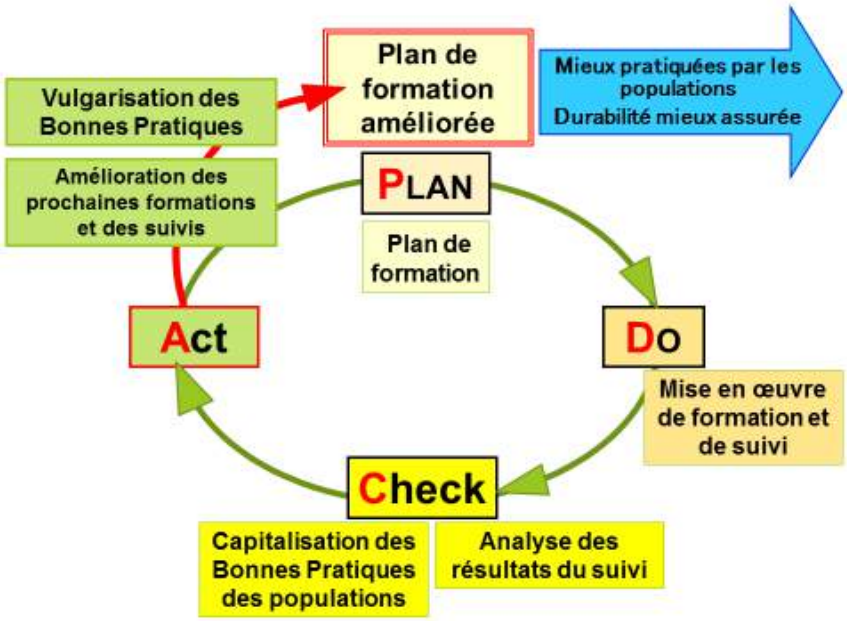


Figure 9 PDCA cycle that ensures continuous improvement training and followed

Chapter 5: Results obtained through the implementation of LIFE model

This chapter describes the effects caused by the implementation of the Model, in order to convince readers that are potential users of the model, its efficiency through the concrete results and objectives of the application of the model in the two target regions Project: Mangoro Alaotra and Bongolava.

5-1 Results obtained in initial 4 municipalities in the region of Alaotra Mangoro

The PRODAIRE, through the practice of the LIFE Model, popularizes the activities of soil conservation and rural development through training and follow-up with people, since August 2012 in 4 towns [13] in the region of Alaotra Mangoro. Impact assessments have been conducted there in April 2014 and May 2016. These studies were designed to assess quantitatively and qualitatively the impacts of project activities achieved until these dates. Details of the method and the results of these studies are presented in the collection of data (complementary Work 1). Based on these studies, the actual results and impacts obtained from the application of model are summarized in this subchapter. Note that these studies relate to the results of activities in the initial 4 common during 4 years.

(1) Location of people's participation in training

As shown in Table 3 on the next page until the end of January 2016, over 5900 training sessions were held and the total number of participants is around 100 000. It should be noted that since January 2015 there is more training implemented by the Project except on the fight against lavakas or production of fingerlings in these 4 towns.

The results of the study conducted in 2016, the rate of households that participated in the training of PRODAIRE compared to all target households was 80.0%. As the courses are conducted in all training units, those on reforestation and improved stove particular recorded a rate of household participation of 74.6 %% and 74.1% respectively. As for training on the layering of lychee, 58.1% of households have participated despite the limitation of target areas for this training, linked to the availability of stock plants.

Table 3 Result of training in 4 towns initial targets

(Period between 1st August 2012 and January 31, 2016)

Training subjects	Number of sessions	Num re parti pants		
		Men	Women	Total
1. Reforestation	2894	24483	18941	43424
2. Fight against lavakas	126	1219	316	1535
3. Production of the improved stove	1232	9364	11593	20957
4a. Layering lychee	747	5916	5121	11037
4b. Production of lychee	229	6198	5208	11406
5a. Breeding royal carp *	25	412	243	655
5b. Production of fry	42	361	172	533
other **	626	5920	5025	10945
Total	**5921**	**53873**	**46619**	**100492**

* The training was conducted in 10 different sites.

* * In addition to these activities, trainings on the following topics were held between the start of the project and in April 2014: composting in 7 days, conservation farming, market gardening, upland rice, poultry and livestock pork. In addition, training on the fight against bush fires is also in collaboration with the Regional Directorate of Forestry.

[13] The study focused on the 12,883 households in the 32 fokontany of 4 towns (Morarano Chrome, Ambodirano, Andrebakely South and Ampasikely) in the region of Alaotra Mangoro.

(2) Practices by populations and their impacts, following training

1) Soil Conservation Activities

reforestation

Table 4 shows the comparison of the participation rate of 3-year reforestation activities before and 4 years after starting the PRODAIRE. For production plants, the rate of households practicing doubled in all target areas after starting training. Among households participating in training, about 76% of them have produced seedlings after training. As for reforestation, the rate of households engaged increased by over 25% in all target areas and about 80% of participating households replanted following the training. Regarding households owning "tanety" 92.9% of the participating households reforested their "tanety".

Table 4 Evolution of the practice rate of reforestation activities by households of 4 common initial targets

	Before the project (for 3 years)	After starting of the project [14]
% Of households that have produced plants	29.5	63.3
% Of households participating in training that produced plants	34.7	76.1
% Of households that have reforested	40.3	67.4
% Of households participating in training who reforested	45	80.0
Households% of owners of "tanety" participating in training, who reforested	48.9	92.9

Through reforestation activities undertaken by people, approximately 2,070,000 feet were planted for 4 years, as shown below in Table 5. Each household in the target areas and have planted 160 feet on average. Moreover, like most tree species, except for the moringa, were planted on the slopes, it is estimated that about 994 ha of "tanety" were planted with these activities by people in 4 years. In addition to soil conservation effect through reforestation on the slopes, the planting of Moringa 2 feet on average per household contributed to the nutritional improvement through its edible leaves. Moreover, for the past 2 years, about 6.3% of all households (that is to say nearly 800 households) sold seedlings of tree species listed in Table 5 and got some income (on average 47 026 MGA / 2 year). Once put into production in the near future, eucalyptus and grevillea contribute to solving the serious problem of heating / charcoal shortage.

tableA u 5 Evolution of the number m ber of replanted feet and the area re b oisée within 4 co mmunes targets

Species	2015/16 [15]		2014/15 [16]		2013/14 [17]		2012/13 [18]		Total	
	Number of feet	Sup. (Ha)	Number of feet	Sup. (Ha)	Number of feet	Sup. (Ha)	No. feet	Sup. (Ha)	Number of feet	Sup. (Ha)
eucalyptus robusta	440973	220.49	501582	250.79	438501	219.25	354,895	177.45	**1735951**	**867.98**
eucalyptus citriodora	80,867	40.43	112 532	56.27	30 807	15.4	0	0	**224 206**	**112.1**
Grevillea	18601	7.44	13 993	5.6	27,653	11.06	18 515	7.41	**78762**	**31.51**
Moringa	5422	3.61	8450	5.63	3604	2.4	7209	4.81	**24685**	**16,45**
Pine	0	0	463	0.23	4674	3.12	0	0	**5137**	**3.35**
TOTAL	**545863**	**271.97**	**637020**	**318.52**	**505239**	**251.23**	**380 619**	**189.67**	**2 068 741**	**1031.39**

[14] For plant production (first two rows), the rates are calculated with the results of two successive campaigns 2014/2015 and 2015/2016 while for reforestation (the last two lines), the results relate to four successive campaigns 2012/2013 to 2015/2016.

[15] Results of the final impact assessment study conducted in May 2016

[16] Results of the final impact assessment study conducted in May 2016

[17] Results of the mid-term impact assessment study conducted in June 2014

[18] Results of the mid-term impact assessment study conducted in June 2014

Fight against lavakas

Until the end of January 2016, the training was conducted in 49 sites. In other words, the stabilizing actions are driven by the population of 49 lavakas. The results of the impact assessment study conducted in May 2016 shows that in 33 of the 37 sites [19] visited the affected populations regularly pursuing the maintenance and follow-up after training, doing additional reforestation around the lavakas and by setting up, adding or strengthening anti-erosion devices, among others. On 4 lavakas unmaintained, 3 were already stabilized and lavaka was abandoned during the stabilization. Indeed, these activities reflect a strong involvement of people who recognize the effectiveness of its maintenance and monitoring actions undertaken against the flow of soil. In particular, the soil flow prevention effect by anti-erosion devices is short term visible to people. That is why many of them are apparently convinced of the effect of these anti-erosion devices installed during training. It was also found that once convinced of these benefits, people start to go after training fight against lavakas.

Another key impact of training on the fight against lavakas lies in the fact that training has enabled many people (who did not know until then that lavakas could be controlled) to realize that they were themselves slow the expansion of these lavakas that threaten their lives. The acquisition of this knowledge aroused the active involvement of the population in the fight against lavakas, as illustrated by the training needs of the fight against lavakas addressed to the Project or the actions initiated directly by the people without asking for external support.

2) rural development activities

In the target areas of the project around Lake Alaotra, the production of improved stoves, production of lychee and livestock royal carp were popularized as activities in the field of rural development.

Production of improved stove

Of all households in the target areas, only 1.9% of them had experience in the production of improved home before starting the PRODAIRE against 51.6 %% after starting the project, as of May 2016 . of all participants in Project training, 69.2% of them have made the enhanced home after training. The number of homes and improved products following the training in target areas is approximately 15,400.

The advantages of the use of improved stoves are:

- Reducing the volume of firewood / charcoal used (The verification study clarified the possibility of reducing the wood up to 60% with the change of the traditional home of 3 stones improved stove. This figure means a saving of

  6.8 kg of wood per day per household, which is 2400 kg per year. If converted to the purchase price of wood is equivalent to more than 240,000 Ar).
- heat preservation for a longer duration;
- Improving the environment inside through the smoke reduction;
- Perfecting the kitchen safety
- Improving the living environment due to the reduction of time and effort spent looking for firewood.

Kamado different shapes, fabricated by farmers after the training, adapted to their needs.

Moreover, there are cases where people improve or invent various forms of homes suitable for different uses and 3.1 % household (that is to say approximately 400 households) even managed to earn on average 32 265 MGA selling them after training by the Project.

[19] Of the 49 sites where the training was held on the fight against lavakas, the study was conducted only in lavakas sites having spent at least one rainy season after training.

Production of lychee

Before starting the PRODAIRE, households have already experienced lychee production is 6.9%. With training, this rate increased to 54.1%% on the date of May 2016. Approximately 7000 households have indeed produced lychee plants by layering and planted 17 000 feet.

The impact of training on the increase consists of the general interest on the litchi culture among the population. The lychee was indeed a fruit tree more or less new to these areas. In fact, 57.3% [20] Household target areas have expressed their intent to purchase of litchi seedlings and about 260 households, that is to say approximately 2.0% of all households, have already begun the sale. Around Lake Alaotra, the period of harvesting fruit is different from that of other regions of Madagascar, so that the production of litchi fruit has a sales potential. In a few years when planted litchi trees start producing fruit, lychee become a promising specialty of the region.

Layering lychee

Breeding of royal carp

harvested fish

Despite the limited conditions for the practice of activities (preparation ponds or paddy field, the need to feed, etc.)
44.2% of participants in training have practiced this breeding. Of the households in all target areas, 3.8% practice and 90% of them came to harvest. The volume of harvested fish varies between 3.1 and bucket at least 15 buckets to the maximum, making it 1.6 buckets per household on average. For households with fish, this volume ranges from 7 fish to a minimum and 600 maximum, making 140 on average. The total sales per household is between 15 000 MGA minimum and 1,800,000 MGA maximum; with 360 000 MGA on average.

Nowadays, the number of fish in Lake Alaotra, channels or paddy fields, significantly decreases due to environmental destruction or overfishing. In this context, the news on the successful breeding of royal carp by training participants on this theme soon spread among the surrounding population and vis-à-vis interest in fish farming has increased both in the target areas. The number of people who built the ponds by their own initiative and wishing to purchase fry increased. The Project has launched the training on the production of fingerlings of the royal carp from the 2013/14 season. This training resulted in the successful production of about 120 000 fry at the 2th season 2014/9 15. In addition producers royal carp fry won 27,150,000 MGA MGA on the sale of fry in this season.

Ponds for fry production, fitted by a farmer

In addition to the figures above, the encouraging results were also obtained in the 2 towns expansion in the region of Alaotra Mangoro, where the project operates from
2014. The data collection (additional book 1) summarizes the results of the model of practice in these other target municipalities.

[20] Following the results of the impact assessment study conducted in April 2014

5-2 Results in 2 municipalities in the region Bongolava

The PRODAIRE expanded its areas of operation since June 2015 in nine Fokontany in both towns and Tsinjoarivo imanga Ambatolampy of Bongolava region. Impact assessments were conducted there in 2016. These studies have aimed to quantitatively and qualitatively assess impacts achieved project activities in these expansion areas. The assessment is based on a sample of 202 households derived from 2205 target households

(1) Location of the participation of people in training

As shown in the table below, more than 577 training sessions have been held and the total number of participants is around 12,847.

It is clear that the participants are interested in the reforestation of around 56% followed by the use of improved stove Kamado of around 38.39%. This shows the importance and the close link between these activities in the lives of the population in this region view environmental degradation and scarcity of timber forest products.

Table 6 Result of training in 2 co m Munes (period June 2015-April 2016)

Training subjects	Number of sessions	Name ber share icipants		
		Men women		Total
Reforestation	207	4098	2301	6399
Fight against bush fires	6	229	217	446
Fireplace improved Kamado	182	1830	2268	4098
Stabilization Lavaka	55	600	26	626
technical package PAPRiz	8	48	0	48
Total	**458**	**6805**	**4812**	**11617**

In short, the study showed that 65% of households have participated in at least one training session on reforestation and **55%** training on Kamado.

(2) practices by the populations and their impacts, following training

1) Soil Conservation Activities

reforestation

The table below shows already the will of the people to carry out this activity. For production plants, the rate of households practicing almost doubled in all target areas after starting training. As for reforestation, about 86% of households have reforested in the 2015/16 campaign following the trainings.

Acacia planted tanety

Table 7 T the practice of the activities reforestation

	Species	before PRODAIRE	2015/16
Production plants Eucalyptus		37.6%	**60.9%**
	Acacia	12.4%	**51.5%**
Planting	Eucalyptus	55.4%	55.0%
	Acacia	20.8%	44.1%

Table 8 Estimated number of foot s planted by training participants on reforestation

Eucalyptus species		Acacia	Total
Number of trees planted	95,983 feet	33 675 feet	129,658 feet
Survival Rates	67.0%	73.4%	-

In summary, the seedlings survival rate is quite high despite the conditions of the premises. People have set up protection techniques seedlings planted as firewalls, planting cassava between the trees.

Fight against lavakas

The trainings were conducted in 13 sites and stabilization actions are driven by people over 13 lavakas. The results of the conducted impact assessment study shows that in 12 sites visited, 9 lavakas are maintained regularly and already stabilized. The populations regularly pursuing the maintenance and follow-up after training, doing additional reforestation around the lavakas.

Training of trainers on the fight against lavaka

44.0% Households affected by silting lavaka through rice fields, thus increasing the need and the demand for training on the fight against lava in the area. It is clear that these activities reflect a strong involvement of people who recognize the effectiveness of its maintenance and monitoring actions undertaken against the flow of soil.

2) Rural Development Activities

Production of improved stove

development actions in this area has focused on the use of home improvement kamado. Of all households in the target areas, only 12.6% of them had experience in the production of improved home before starting the PRODAIRE against 43.1% after starting the project.

In short, at least 43.6% of households usually use Kamado and one counts of **2000** improved stoves manufactured since training.

5-3 LIFE Model Cost Effectiveness

This last part of the manual is devoted to the question regarding the cost-effectiveness of the Model. The following cases are examined as well. Here the "cost" includes all expenditures incurred by the Project and does not include the contribution by the people. The reason is that it is important for Model users know about the budget required for its implementation.

Table 9 Description of two cases

	CASE 1	CASE 2
Sites	4 towns of Mangoro Alaotra	2 towns Bongolava
targets	12,883 households	2205 households
criteria of choice of watershed sites	PC 23	good accessibility (common located along the main road)
Run Time *	4 years (3 years training / monitoring and for 4 th year follow-up only)	1 year (training / monitoring)
Implementing Agency	local NGOs based in the region	directions regional (DRAE and DREEF)
Structure extension	6 zone managers (MZ) at local level, NGO and recruited by approximately 660 local trainers	3 Rural Development Advisers (CDR) of the target towns and about 90 local trainers

* practice time Model before the final impact assessment survey

It is important to understand that the simple comparison of the results of these two cases is meaningless since the model was put into practice in very different conditions. Rather, it is an analysis that aims to show that "the Model applies cheaply with a relatively high yield under different circumstances."

Detailed analysis of the cost effectiveness and the corresponding methodology are presented in the collection of data ("Data Book") that includes the complementary work of the manual.

5-3-1 CASE 1: 4 municipalities in the region of Alaotra Mangoro

Table 10 summarizes the expenditures recorded by the project to get the results of the activities of the people presented in subchapter 5-1. The points mentioned below deserve to be taken into account to better understand this table.

- The amount of "Total (A)" is the sum of project expenditure used to popularize and anchor the respective activities in the table in populations.
- The sum total of "MZ of Salary", "NGO's staff of Salary" and the "Fuel motorcycles" includes expenses not only for the implementation of awareness, training and monitoring but also for the implementation of the extension structure following the steps in 2-1-2. Since it is difficult to accurately apportion these costs to 5 popularized activities, the amount for each class of contributions is estimated for each theme of activities depending on the number of training sessions for everyone.

Table 10 Project contributions to the implementation of the LIFE Model

(Unit: MGA)

Category contributions	conservation activities soil		Activities to improve co_nditions vi e		
	Reforestation	Stabilization Lavaka	Fireplace improved	Layering lychee	Fry production
Sensitization	1 time / FKTs at start of activities				
relationship public & DVD Screening	0	93,225	1272775	0	0
Training	2894 sessions	126 sessions	1232 sessions	747 sessions	42 sessions
Honorary trainer	29,581,151	1914484	12,610,026	7858185	7053500
Materials for training	98,505,800	849200	0	5803542	5427900
Subtotal	*128 086 951*	*2763684*	*12,610,026*	*13,661,727*	*12481400*
Followed of the activities of the populations	1 time / UF / month by FL using the MZ to track all activities				
Honorary local trainer	27049301	956169	13,054,353	6875072	332012
Area Manager (MZ)					
Salary MZ	20,755,379	733684	10,016,822	5275357	254758
Fuel motorcycles	44,218,602	1563088	21,340,485	11238963	542753
Subtotal	*64,973,981*	*2296772*	*31,357,307*	*16,514,320*	*797511*
Implementation Model					
Salary of the staff of the NGO	*15,651,107*	*553253*	*7553432*	*3978014*	*192106*
TOTAL (A)	**235761340**	**6663103**	**65847893**	**41,029,133**	**13,803,029**

The following sections are detailed in the data collection, additional Books 1, to better understand the Tables 10 and 13:

- '2. Description of the evaluation study of impacts', v) Cost-effectiveness analysis (for the contents of each category of inputs);
- '6.Tableau the unit cost of the contributions of the Project (for unit costs such as fees according to the implementing agency).

Table 11 shows the main contributions of the people in the practice of each activity after training. These contributions in kind or in the form of labor, given by people on their own initiative, contribute greatly to improving the cost-effectiveness of the implementation of these activities, as presented in Table 12. The model with LIFE his approach that stimulates spontaneous activities populations will enable users to obtain very convincing and tangible results in relation to their expenses.

Table 11: Population Contributions for achieving popularized activities

Category Contribution	Soil Conservation Activities		activities inch ur improving d Living conditions		
	Reforestation	stabilization lavaka	Fireplace improved	layering litchi	Fry production
Hand entire work	Production and Development land plants	Establishment and maintenance of stakes or weirs / Reforestation	Making homes	layering of the work until the planting	Pond construction / production of fry
Materials	Earth, sand, manure, seeds, necessary tools	Materials for stakes or weirs, Plants, Tools Needed	Clay, earth, sand, ash	Earth, sand, manure, Tools Needed	Fish food, necessary tools
Other	Land for reforestation				Earth and water ponds / Obtaining certificates

Materials for improved focus, prepared by local people

Seeds of Eucalyptus and Acacia collected by one of the local trainers

T TABLE 12: Results of the activities of participants in training by rap p ort to the project inputs

	Results of the activities of participants training (B)		Unit cost spent by the project: (A) / (B)
Reforestation	feet planted	2,068,741 feet	**114 MGA / ft**
	Reforested area *	1031 ha	**228 585 MGA / ha**
Stabilization Lavaka	Treaties during training	49 lavakas	-
	Which maintained by the popula - local or already stabilized tion	**48 lavakas**	**138 815 MGA / lavaka**
Fireplace improved made		15,362 homes	**4 286 MGA / fireplaces**
Layering lychee	Seedlings planted	17,077 plants	**2 403 MGA / plant**

* These figures are indicative. The number of feet planted converted reforested area also includes plants used for relining.

Regarding seed production, the total cost spent by the Project for the training and monitoring related to this activity is 13,800,000 MGA. 9 producers have been trained and have gained about 27,150,000 MGA on the sale of fry in 2 campaigns.

5-3-2 CASE 2: 2 municipalities in the region Bongolava

As mentioned above, the LIFE Model was applied only for 1 year in the region Bongolava before getting the results presented in subchapter 5-2. During this period, the regional directorates have put into practice the model by running the budget entrusted by the project. Table 13 summarizes the project inputs each category for each popularized activities. The populations of contributions are the same as for the CAS 1.

Table 13: Project contributions to the practice of the LIFE Model area Bongolava

(Unit: MGA)

Category contributions	Soil Conservation Activities		Enhancement Activities living conditions
	Reforestation	stabilization lavaka	Fireplace improved
Sensitization	1 time / FKTs at start of activities		
relationship public & DVD Screening	0	13649	89351
Training	207 sessions	55 sessions	182 sessions
Honorary trainer	639893	1547164	552943
Materials for training	4733380	0	0
Subtotal	*5373273*	*1547164*	*552943*
Population monitoring activities	1 time / UF / month by FL using the CDR to track all activities		
Honorary local trainer	66159	6472	42369
allowances			
CDR	1316274	128 768	842958
Staff the DRAE & DREEF	1553295	151955	994750
Fuel for CDR and DRAE & DREEF	733500	71 757	469743
TOTAL (C)	9042501	1919765	2992114

The major results obtained from these contributions are shown in the table below. It should be noted that the sizable honorarium of lavaka trainer helps increase the unit cost spent to stabilize lavaka. This is actually a trainer that brought Alaotra Mangoro, which made this high expenditure. But it is well justified to properly convey to the staff of the regional offices and the CDR, not only the technical but also the approach to the fight against lavaka. Gradually, as the number of lavakas treated increases, the unit cost decreases concerned.

T ABLE 14: Result s participants in training activities by rep o rt to the project inputs

	Results of the activities of participants training (D)		Unit cost spent by the project: (C) / (D)
Reforestation	feet planted	129,658 feet	**70 MGA / walk**
	Reforested area *	64.83 ha	**139 480 MGA / ha**
Stabilization Lavaka	Treaties during training	13 lavakas	-
	Which maintained by the popula - local or already stabilized tion	11 lavakas	**174 524 MGA / lavaka**
Fireplace improved made		2074 homes	**1 443 MGA / fireplaces**

* These figures are indicative. The number of feet planted converted reforested area also includes plants used for relining.

5-3-3 Cost Settings

To complete this analysis, it is useful for future users of the model to clarify the factors influencing the costs (Table 15).

Table 15: Factors Affecting on costs

Category contributions	factors
Sensitization	- Number of targeted Fokontany - sensitization method (using a video theater or a headlamp with a generator, for example) - video room rental fees, if used
Training	- Number of training units depends on the number of households / unity and strategy practice of the model (all locations or only the central town, for example) - Number of sessions to conduct each step and theme of training per training unit (eg 3 sessions for each reforestation forming step training unit) - the fee amount Technical Trainer or the contact person in charge of training for local trainers (including travel and subsistence allowances) - Amount of Honorary Trainer Local, which will be determined based on the daily wage applied in the target area - Price of training materials prepared by the Project * - Travel costs of materials that depend on the distance to the acquisition and distribution and transportation means
Population monitoring activities	- Number of training units - Monitoring Frequency for training unit (once / month / unit, for example) - Meetings are held by local trainers group training units - Amount of the fee Local Trainer
Manager area	- Number of municipalities and targets Fokontany - Manager of the amount of wages zone - Amount of compensation CDR - Amount of fuel motorcycle / car which depends on the distance to ensure the activities assigned to Zone Managers (or CDR) and the Executive Manager (or the staff of Regional Directorates) for the implementation of Model**
Implementation and management model	- Amount of wages Main Manager, Executive Manager, Financial Manager - Amount of compensation of the staff of Regional Offices

* Table 7-1 of Annex 7 shows the training materials prepared by the PRODAIRE and costs

* * The example of the Terms of Reference of the activities entrusted to NGOs and the regional management is given in the companion volume 4.

Annex Document

Appendix 1: Project Overview PRODAIRE

Specific Objective Project

The specific objective of the project is to establish a model to promote integrated way soil conservation and rural development in upstream areas degraded.

Model composition Elements

Among the elements constituting the model, there are the following 1) to 3).

1) extension system, allowing the implementation of training for the benefit of populations and monitoring of their activities
2) Contents of the soil conservation related activities and rural development disseminated through the extension structure 1)
3) Mechanism ensuring the sustainability of the activities of the people

Along with the structuring of the model, we also set up an implementing agency of the model for the realization of items 1), 2) and 3) above.

Through continuous improvement, the model will be better prepared for the situation in Madagascar. During this process, the model will be simplified and the cost required to put it into practice reduced. The cost-effectiveness will be well advanced.

Period Project

First phase: January 2012 - March 2015 (about 37 months) Second phase:
April 2015 - March 2017 (about 23 months)

Emphasis will be placed in each phase as follows: 1 era Phase: The test and the establishment of the model as well as preparation of dissemination 2 th phase Finalization and dissemination of the Model and the draft program of applying the model

Project sites and populations

1) Municipalities initial targets for 2012: Morarano Chrome, Ambodirano, Andrebakely South and Ampasikely (12,883 households) in the region of Alaotra Mangoro
2) Public extension targets from 2014: Andilanatoby and Ranomainty (3635 households) in the region of Alaotra Mangoro
3) Towns extension targets from 2015: Tsinjoarivo imanga and Ambatolanpy (3100 households) in the region of Bongolava

Implementing Agencies of the Malagasy side

1) General Directorate of Forestry of the Ministry of Environment, Ecology and Forestry (MEEF)
2) Directorate General of Agriculture and the National Program Coordination Unit Watershed Irrigation and the Ministry at the Presidency in charge of Agriculture and Livestock (MPAE)
3) Regional Directorate of Environment, Ecology and MEEF of Forests Alaotra Mangoro and Bongolava
4) Regional Directorate of Agriculture and Livestock of MPAE to Mangoro Alaotra and Bongolava
5) 6 common targets of Mangoro Alaotra

Organizational Structure Project

Figure 1-1: Organizational Structure of the Project in the region of Alaotra-Mangoro

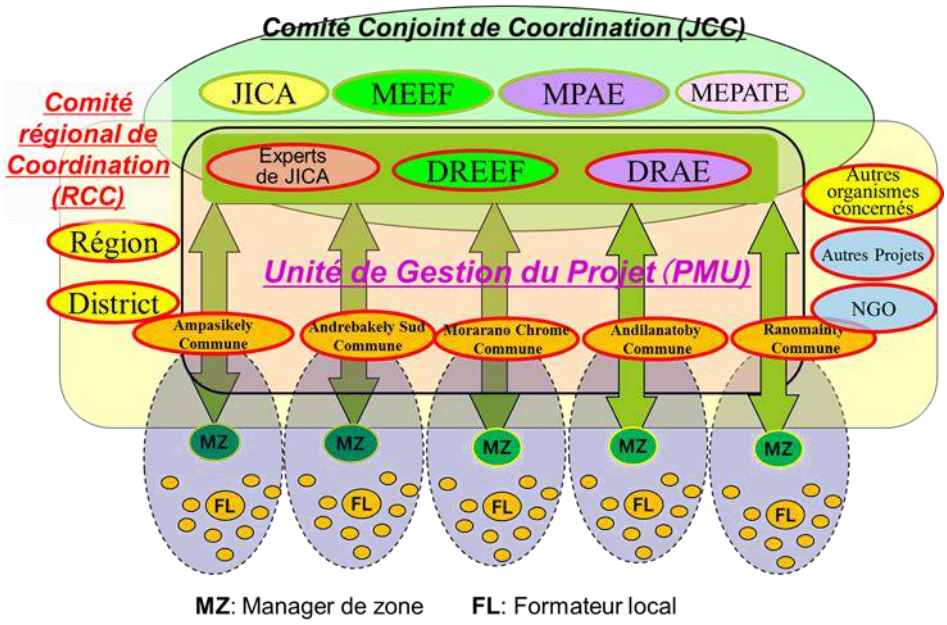


Table 1-1: Functions and Members of CGC, RCC and PMU

	functions	Members
JCC	The Coordination Joint Committee (JCC) is the organ of decision making for the Project. It will meet at least once a year or when needed. The main functions of the TCG are: (1) Review and approve the Annual Operation Plan to be formulated by the Project in accordance with the Minutes of Discussions; (2) To review the overall progress of the Project and the activities carried out particularly in the abovementioned Annual Operation Plan; (3) To review and exchange views on major issues or resulting from the Project and recommend corrective measures; (4) Facilitate coordination with the authorities thereon, and (5) Perform the PDM (Logical Framework Project), based on the Project's progress and changing circumstances.	MEEF, MPAE, MEPATE DREEF Mangoro Alaotra Mangoro Alaotra DRAE DRAE DREEF Bongolava Bongolava Japanese JICA Expert JICA Madagascar Office
RCC	The Regional Coordinating Committee (RCC) aims to exchange opinions or experiences to improve the efficiency of the model established by the project and to disseminate it in other areas. It is not considered decision making body but rather the board. The main functions of the RCC is to (1) Share the progress and experiences of the Project (2) Provide advice, assistance and recommendations to the project, (3) consider how to use the results of Project. The RCC is required in principle to the capital of each region annually.	DREEF and DRAE, Mayors target Region District towns Other regional departments Other projects and NGO Project Team
PMU	The Project Management Unit (PMU) is the practice group implementing the project and the important core of the project. The main PMU functions are to (1) Develop and revise the Plan of Operation (PO), in accordance with Logical Framework Project (MDP) based on the location of the Project and suggestions from the Coordination Joint Committee (JCC) , (2) Develop corrective action on problems arising out of or related to the implementation of the Project, (3) share information on the status of project activities at local level via reports from NGOs or CDR, (4) Evaluate achievements project activities, (5) Develop Quarterly Report of Monitoring and Evaluation and project progress of State Annual Report (6) Develop a draft of the MDP when needed according to recommendations of the JCC, (7) facilitate coordination with authorities thereto and stakeholders at regional and municipal level. Each month the PMU was held at the capital of each region.	Mangoro Alaotra: DREEF DRAE Mayors and subcontracting NGOs target communes of JICA Expert Team

Appendix 2: LIFE Model Birth

The LIFE Model is based on the approach developed known as the Participatory Rural PRRIE -Development and Resources Management with Integrated Training for Equal Opportunities
-, whose origin is the model developed by the project PRODEFI - Community Development Project in Senegal Integrated Forest - (2001-2008).

During the 2th PRODEFI phase, accelerated reforestation activities and local development by the population was found, although the number of target villages was limited to 30. This acceleration is due to the effects caused by direct training for the populations, performed following the 5 principles of PRRIE approach. This result was started in 2007 "Project of Community Revitalization and reforestation central Shire (COVAMS)" in Malawi, the extension method is based on PRRIE.

Training of trainers on the bund framework against erosion (PRODEFI)

Training on plantations Management (PRODEFI)

Initially adopted as COVAMS PRODEFI an approach called integrated training approach
- "Integrated Training Approach" (ITA) - according to which curricula are organized in response to the needs of people checked in each village. Most local populations of target areas COVAMS having welcomed the technique of soil conservation of cultivated land, the Project has developed an approach called specific training approach - "Specified Training Approach" (SPA) -, holding specifically effective training topics.

Although the tendency to high levels of practice by the people being observed, following the next training first approach, ITA - since it enables understanding of the specific needs of each area - this is not an ITA more cost-effective compared to the SPA training approach. Thus the COVAMS with the overall goal to develop its activities over a large area adopted the SPA training and has continuously conducted its activities.

As for PRODAIRE, with the result recorded during the preliminary study, which confirms the need reforestation of local people is strong, training in seedling production and reforestation are made early in the project as a "cascade training "according to the SPA training approach. Simultaneously, several topics were discussed at the beginning as "training on demand" according to the ITA training approach. But gradually as the situation around Lake Alaotra, target area is clarified, the PRODAIRE rose from the ITA training SPA training targeting specific themes, promising and highly demanded by the people (eg. Home improved fight against lavaka, lychee).

Furthermore, in order to popularize the topics concerned through the implementation of training delivery structure, the model of the design element, the project was first set up the "structure at 3 levels." For each of the three levels of administrative unit - that is to say, 1) the common, 2)

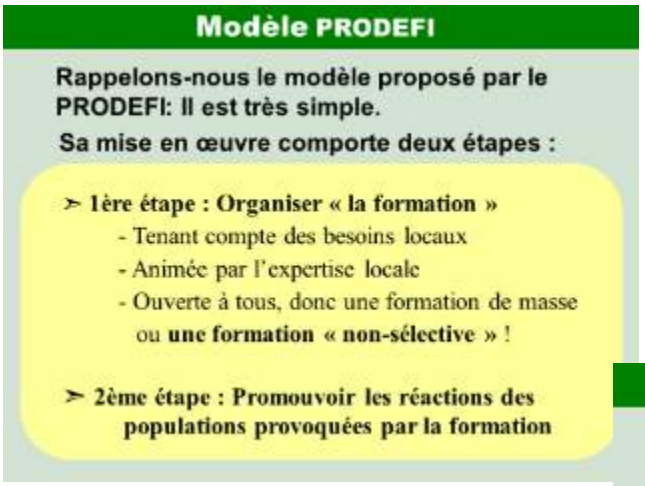
Fokontany and 3) residential areas (area / village) inside the Fokontany - The City DJ, the Fokontany Animator and Farmer Leader are respectively set up.

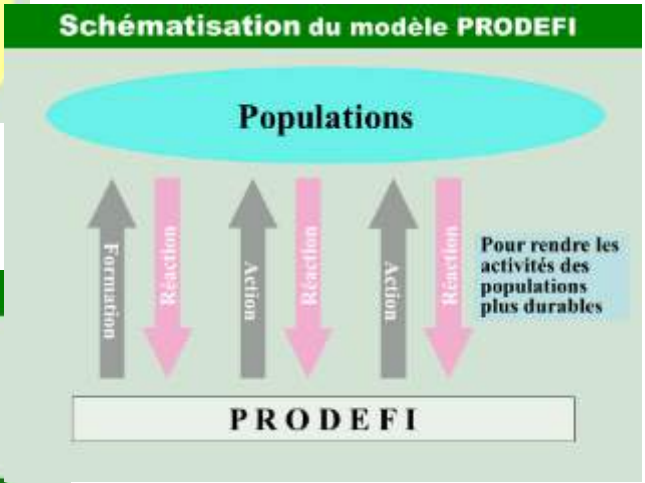
Now the bad functioning of the monitoring of population activities and the transmission of information due to the following reasons were identified.

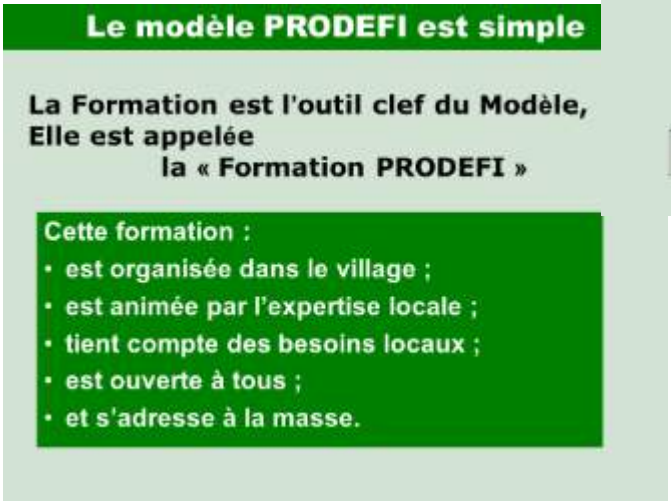
- the existence of many independent and sometimes distant hamlets within the Fokontany
- the complex network of communication between actors, due to the intervention of the facilitators at the Fokontany

This is why the project has changed from a "2-level structure" consisting of the Manager area (Municipality of former Moderator) and the Local Trainer (former Farmer Leader). The position of the facilitator at Fokontany has been deleted. In addition, these trainers premises are no longer selected according to the administrative division but to the distribution of settlements and populations. In other words, the extent easily be accessed by a Local Trainer has been defined as "training unit".

In addition, Trainers Local people in the training units were grouped close together in the "group formation units" to ensure a more fluid communication. This unit is other than the group allowing fluid communication between managers Area and Local Trainers. Thus, the "training unit" mentioned above, functions as the unit where training is organized for the benefit of the people.







Appendix 3: Approach PRRIE

Meaning PRRIE

PRRIE is an abbreviation for " P articipatory R ural Development and R Management by esource I Training for ntegrated E qual Opportunity "which means" Participatory Rural Development and Resources Management with Integrated Training for Equal Opportunities ".

Then we analyze the meaning of PRRIE by breaking the password.

First, "Participatory Rural Development (Participatory Rural Development)," indicating what is being considered through the application of PRRIE. The latter is in itself an approach to regional development with the subjective participation of the people by raising up their initiative. Then "Resource (Resource)" means not only "materials" such as "natural resources" or "agricultural resources" but also "human resources". This therefore suggests the essential point of PRRIE, which is the development / implementation for the benefit of human resources on unknown sites or potential capacities of local people.

The general idea that rural areas are occupied by ignorant farmers and no diploma is contrary to reality. In fact, there are almost everywhere, either farmers with effective knowledge by the method they themselves invented, or farmers who have acquired techniques to extension services launched earlier in a selective manner so "patchy". Furthermore, agricultural development officers are sometimes affected, without the means and motivation to enable mobility to travel between villages. There are also people who have never had the opportunity to study despite high potential and strong motivation in contributing to local development. That said, human resources which are not put to use are unknown mass. The use of human resources thus in type can be considered to allow the promotion of best cost and efficiency.

The "Integrated Training (Integrated Training)" indicates that PRRIE focuses on different courses in various fields. Generally, rural development is aimed not only the primary sector such as agriculture and other activities or production / economic such as processing / sale of products and others, but also covers other areas such as health, education etc. The adapted to this reality of rural training necessarily address topics of various fields.

However, in some cases it is more efficient to deal with targeted training topics. The implementation of training on targeted themes is called "Specific Training Approach (Specific training approach). The cases demonstrate the effectiveness of this approach are clarified below.

And finally, "Equal Opportunity (Equal Opportunities)" is another essential point of PRRIE. The characteristic of the formation according PRRIE lies in the equality of opportunity which is defined as cardinal rule. It is well, however, that the concept of equal opportunities does not necessarily provide equal results for all, which is only a boundless ambition. We can say that on this point PRRIE, it is a realistic way of thinking.

Additional Principles Madagascar

In Madagascar, the land ownership is mostly private, so that the possession of land and the area of the property depends largely on the family. That is why in the case of training for all, the objective of equal opportunities can not be achieved without offering at least 1 training theme that has no connection with the possession of land (eg . cultivated land).

Among this type of theme include, among others, the improved stove for the kitchen, which can be found in all families, or arboriculture small scale, can be performed on a small area of land . The selection of topics is necessary after entering the needs of people in each area as well as the demand in the market, etc.

Procedure PRRIE

The procedure for executing PRRIE is roughly as follows: (1) establish a social structure ("Social Infrastructure (Social Structure)", which allows the training and support people after the training; (2) practically start training and provide the necessary support after observing the reactions of local populations with respect to training.

First, we must establish the social structure "Social Infrastructure (Social Structure) which is the mechanism used to send training populations. In several countries, the administration affects development and other officers in each area while there are not enough. Furthermore, the communication channels between each domain and populations overlap in general. Thus, without reform, it is difficult to achieve equal opportunity in education.

This is why the access road to the population mass is to be established mainly through local authorities if they work, or otherwise by organizations that have a more stable structure extension namely the Ministry agriculture and others. This social structure "Social Infrastructure (Social Infrastructure)" once established can be used for various fields in order to stimulate the development of the effectiveness of the entire administration.

We must seek the form of the appropriate organizational structure for each country or region depending on various factors (the system of government / local authority, the size / ethnic composition of the local community, geographical distribution, existing human resources etc.). Since training covering various areas are organized in most cases coordination with the ministries / departments / agencies involved in these areas is also essential. If we want to implement the training for the benefit of the mass in a fairly large area, there are not enough trainers available. That's why local trainers are selected on site who will be trained on relatively easy techniques.

Training is conducted in accordance with the following 5 principles: "locally"; 'Using locally available resources "; "Starting to meet local needs"; "By not selecting participants" and "for the most people possible." Adherence to these principles at the stage of implementation of the training is mandatory.

Specific Training Approach (Specific training approach)

The basic form of training implementation according PRRIE is the "Integrated Training (Integrated Training)" which covers various fields. It is possible however that the "Approach Specific Training (Specific Training Approach)", whereby certain areas and techniques are determined to be popularized, is also adopted. However, unlike ordinary extension projects undertaken by the government or other agency, which previously determine some techniques to popularize, the latter approach may be adopted by PRRIE only under condition of a high level of interest of the people or the importance felt by the population. improved efficiency of the extension with this method can indeed hope.

The skills needed to PRRIE

The adoption and implementation of PRRIE require in all 3 skill levels. 1 st is the designer that structure extension structure. The 2 th is the manager who plans training in each area and is responsible for coordination, as the trainers and finally the 3rd level, the local trainer who runs each training.

Appendix 4: Examples of PRODAIRE for the establishment of the structure popularization

1. Structure extension in the region of Alaotra Mangoro

In the case of the practice of PRODAIRE in the region of Alaotra Mangoro, the town is the intervention unit and at least one area manager was selected for each joint (Figure 4-1). In large relatively accessible and highly populated municipalities, the Project has implemented several area managers and deployed activities by creating many training units from the start. While in difficult to achieve common, the Project chose the strategy that training units are created gradually from hamlets easy access to deeper areas.

The average number of households per training unit is 62 for a maximum of 203 and a minimum of 04 in the region of Alaotra Mangoro. As the average number of training units together in a group training units is in the range of 03 to 04. The maximum number is 07 and the minimum number, 01.

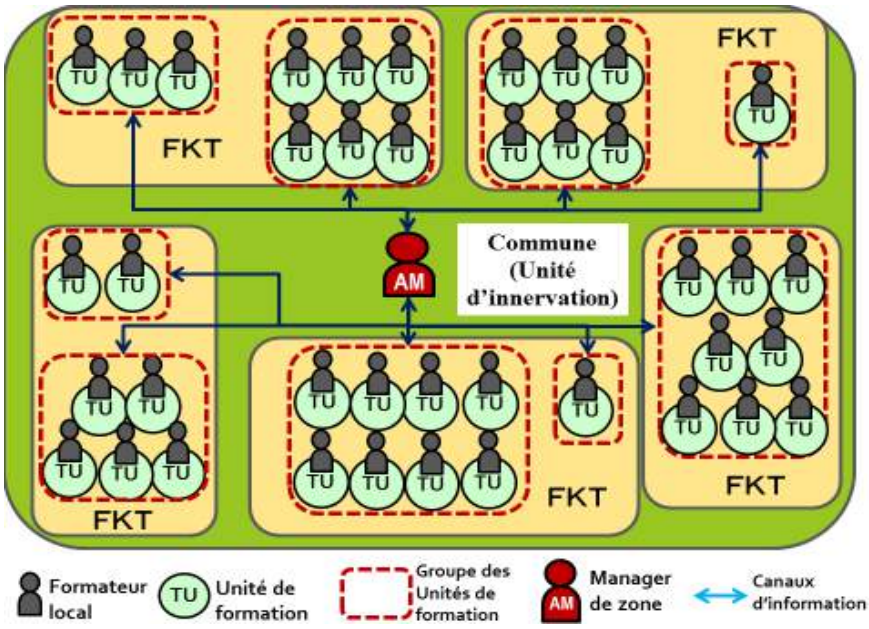


Figure 4-1 Structure extension prepared by the PRODAIRE

area managers, assigned to each common target, are provided motorbikes to facilitate their mobility. The number of training units supported by an area manager differs considerably between the minimum of 11 and maximum of 64. This difference is explained by the following factors: the distance between the central Fokontany Town, which becomes the fulcrum for the manager and its forming units, the access condition between the units and the order of priority of the zone relative to the other. This "priority area" differs depending on the objectives of the implementation of the Model. Since the main target of PRODAIRE is "degraded area upstream" its priority area is the upstream basin and means rather than downstream.

Table 4-1 shows the role of local trainers and area managers.

Table 4-1 Role of local trainers and zone managers Title

	functions
local trainers (FL)	- Transmitting information on training and follow-up to all households of the training unit (UF) - Implement training in a UF - With the population of his UF collecting problems relating to the practical activities after training and pass this information to his area manager - Within its UF, conduct follow-up activities after training
zone managers (MZ)	- Transmit information between the implementing agency and the populations of forming units (UF) assigned - Organize training of trainers for local trainers (FL) - Support the implementation of its training in UF - Conduct monitoring of population activities with FL - Strengthening techniques FL on the job - Manage the LF (including the selection and dismissal of FL) - Assume an intermediary role between people and resource persons or support organizations and give them the information

2. How to set the extension structure? : Practice the PRODAIRE

(1) Selection and training of area managers

Mangoro Alaotra region

The PRODAIRE recruited a / the manager (s) area for each county. These managers are selected through file reviews, interviews and practical exam according to the criteria as follows: a) reside in the common target, b) able to communicate with the people, c) intends to devote himself to local development, d) be aged 23 to 45 and

e) have completed at least secondary education.

Region Bongolava

All municipalities in the region already have at least one CDR, these are the CDR who were recruited as area manager. The CDRs are paid for work performed under the terms of reference established through discussion between the project, the regional directorates (enforcement agencies) and CDRs.

Code of conduct vis-à-vis the populations

To clarify the attitude among the population, the PRODAIRE has developed in favor of implementing agencies staff and area managers of the code of conduct annexed to the additional work 4. It is a tool that allows players involved consolidate and remember their position that they "support and understand the people who are the main players" in all circumstances (at meetings or on other occasions).

(2) Introducing the approach and activities to people

Example concrete steps Awareness (Case NGO Ezaka Vaovao)

- Courtesy visit to the head and Fokontany Tangalamena for the capital of Fokontany (request to make a Tam Tam in the village)
- Courtesy visit to the village chief or chief of sector and Tangalamena (request a meeting with the peasants)
- Tomtom with megaphone on PRODAIRE in the sector or hamlet
- Meeting with villagers to explain the project (information - communication about the project, PRRIE explanation, etc.) and DVD projection, if possible.
- date of request for proposal for a practical demonstration (making the improved stove or practice of eucalyptus seedlings) with farmers
- Targeting future LF throughout the education session and demonstration on Kamado and / or reforestation

From the experiments of PRODAIRE, use of audiovisual media during the presentation of the activities is very effective. In the villages with a video room, DVD on the improved stove and the fight against the lavaka are circulated after authorization of private owners. The image of improved stove has attracted the interest of the people. Indeed, the people have a great need to reduce the volume of firewood and charcoal but had no knowledge on the practical measures, which increased their demand to training. Regarding the fight against lavakas also the fact to show that it is

possible for the same population to fight against was used to change their fixed idea that "there is no way to stop the natural phenomenon of lavakisation themselves."

It is indeed to give people a concrete picture of the activities to trigger their intention to follow this training. When training is carried out by meeting the demands of the people, the following effects are expected: the contribution to the preparation of training as the supply of materials, the most active participation in training as well as high practice levels after training.

(3) Determination of training units and identification of local trainers candidates PRODAIRE In the case of, first, the training units were temporarily more or less determined by the geographical division as the residential area (Area) or separate hamlet in the Fokontany. The Fokontany was then set as group training units. **Then during the implementation of training for the populations, large-scale training units and those in which homes are scattered over a wide area, are divided according to population demands and circumstances.** This division training units aroused insurance more equal opportunities for people's participation in training, due to the easy transmission of information to people and improving their access to training.

(4) Selection and certification of local trainers through practice

Example of selection criteria for local trainers (NGO Case Ezaka Vaovao)

- Attend the outreach session in order to know the Project (approach, goal ...)
- Be proactive in order to give explanations on the approach
- Show interest in protecting the environment by facilitating the decision on the date of the demonstration session
- Show the ability to transmit information to the villagers so that they prepare all the necessary equipment and materials for training and that they can see that the future local trainer (FL) is poured into his village development activities.
- Being either appointed by the Manager area or the majority of Fokonolona or simply volunteer to be FL after the roles and responsibilities of the explanations given by the FL zone Managers during the awareness sessions in villages.
- FL attend the training session in order to become a trainer later.
    - Provide training sessions while respecting the five principles of the formation of the LIFE Model and able to fulfill the various administrative documents relating to the completion of training and followed by PRODAIRE requested.

Annex 5: Examples of PRODAIRE for the content of the activities to popularize

Work contents disseminated through the extension structure (region Alaotra Mangoro)

Activities for soil conservation	Activities for Rural Development
 About 90% of participating households reforested following training	 Manufacturing improved stove, which does not require spending any materials or high tech
 For 90% of lavakas treated during training, stabilization actions are pursued by people	 practical fruit growing in the garden because it does not require particular field conditions (crop land or sloping, etc ...)
 Training on the fight against bushfires in collaboration with DREEF	 Catching fish royal carp, which is also the specialty of the area of Lake Alaotra

As for the content on rural development, the executing agency will select the activities according to the criteria (1) to (3) and examples of PRODAIRE presented below.

(1) Activities related to the improvement of living conditions and income, which can be practiced by all regardless of financial means.

In addition to the manufacture of improved stoves, the PRODAIRE popularized in the region of Alaotra Mangoro, growing trees whose fruits or leaves are edible or usable as medicines or other. This activity is also possible to practice by most households. This becomes problematic in that time, it is the means of obtaining plants. In accordance with its principles of equal opportunities, the PRODAIRE adopted one of two methods:

a) Provide technical and minimum of materials that allow production plants to all training participants;

b) Distribute seedlings to all participants during the training.

The choice between a) and b) is made taking into account the technical production of selected species, level of difficulty, availability of seedlings, the size of areas / target populations, the available budget and other.

The PRODAIRE popularized the culture of lychee and moringa in areas of Lake Alaotr. For the cultivation of lychee, transmission technique of production plants by layering, distribution of litchi plants and transmission technique of planting were conducted during training. As for the cultivation of Moringa, the project has passed the technique of plants production by distributing seeds and sheaths to the participants during the training.

Moringa planted in the yard

(2) Activities already practiced in the target area by many people who feel the need improving their technical

For the extension of this category of activities, PRODAIRE collaborated with other projects:

- PAPRiz (Project for Improving Productivity Rizicole the Central Highlands of Madagascar) JICA to popularize the techniques of irrigated rice, developed by PAPRiz using information networks with the people, established by PRODAIRE.
- Project of French aid to popularize improved techniques of poultry farming and pig farming using already developed by this project manuals.

(3) Activities relating to the manufacture of products that can become the specialties of the area and thereby generate economic impacts

Around Lake Alaotra, where PRODAIRE operates, it's breeding of the royal carp and culture of lychee that have the potential as a specialty of the area.

Regarding the first, fish farming pilot training was organized in several areas where some populations already have fish ponds or manage to prepare themselves. Although the people's interest in fish farming accroisse quickly after training, the project has led to the conclusion that the major problem encountered during extension is the stable supply of fingerlings. Therefore, the Project decided to support the production of fingerlings and organizes training on techniques concerned with the condition that recipients are able to prepare themselves suitable ponds. As for the extension techniques of breeding the royal carp (the carp from the nursery until the requested size market) it is assumed that sellers give technical advice to farmers. At the same time, we experience working with banking institutions, as described in Annex 11.

As for the culture of lychee, early training on the layering were organized only in areas where the mother plants are available. But later, we proceeded to the distribution of litchi seedlings to ensure equality of opportunity for people in areas without mother plants. The culture of lychee and has two aspects that are both "(3) the specialty of the region" and "(1) the activities that can be practiced by all."

Choice PRODAIRE with the activities for rural development

Following the principles and the process shown in 2-2-2 and for the reasons mentioned above, the PRODAIRE finally targeted, in addition to reforestation and the fight against lavakas, manufacture of improved stoves, litchi and culture livestock royal carp, as activities to popularize in the target areas around Lake Alaotra. Moreover, in the region of Bongolava it popularizes there reforestation, the fight against lavakas, manufacture of home improvement and technical irrigated rice, developed by PAPRiz. Table 5-1 shows an example of the training implementation plan.

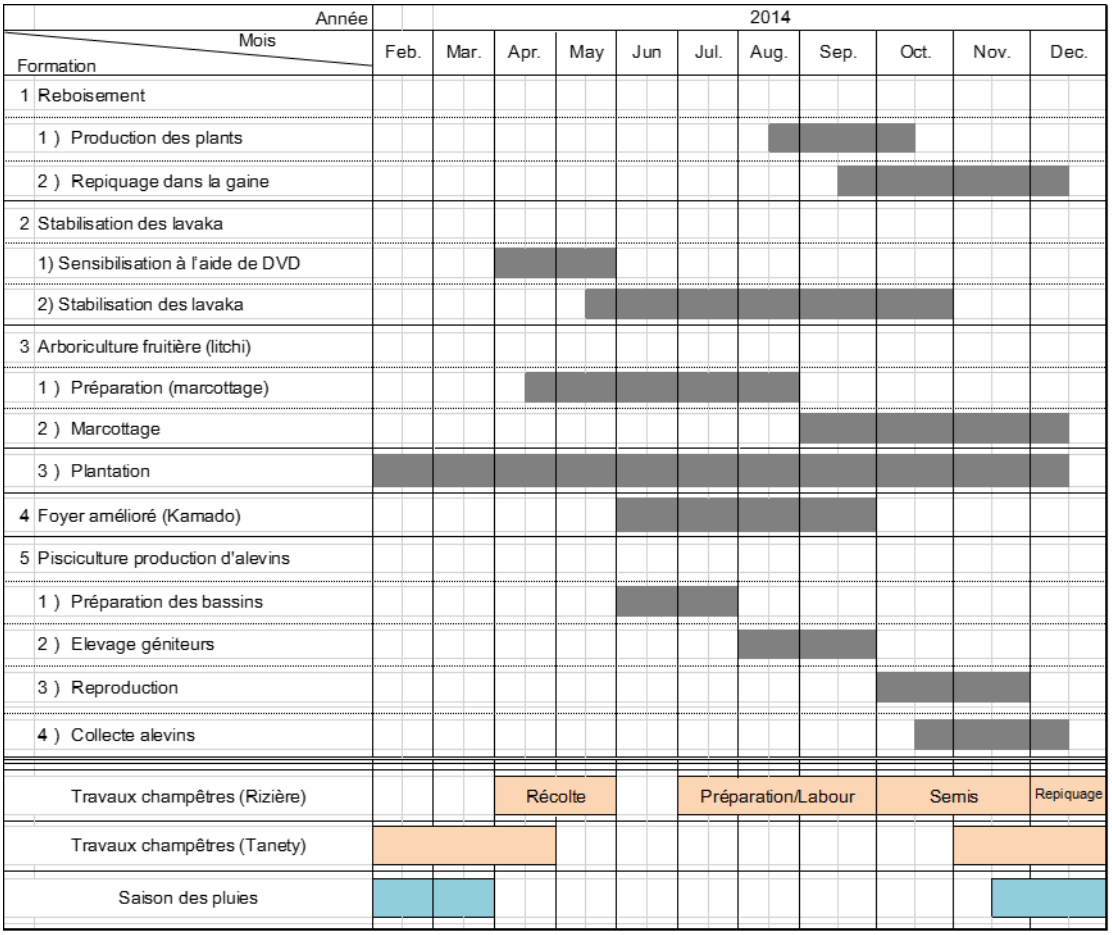


Table 5-1 Example of training implementation plan

Appendix 6: Role of NGOs in implementing the Model

In the municipalities in the region of Alaotra Mangoro, where PRODAIRE developed his model, no communal development officer is assigned. Moreover, because of the financial condition of the towns is difficult, the use of staff supervision and management of extension activities is not easy. The Terms of Reference counterpart institutions - the Regional Directorate of Forestry and the Regional Directorate of Agricultural Development - contain no extension activity among the population. But there, there are NGOs that have experience performing support activities for the populations in the field of soil conservation and rural development.

Next 5 expected roles of the execution of the model organism, described in "3-1 Role of the implementing agency" supports conducted by the Project and the implementation method of NGO work are explained below.

1) Transmission of information to the people

The transmission of information between NGOs and the population is carried out according to the circuit shown below in Figure 1. The key points to facilitate the transmission of information are: a) the mobility of area managers, b) communication between local trainers and managers of areas and c) the exchange of information between area managers and NGOs described hereinafter.

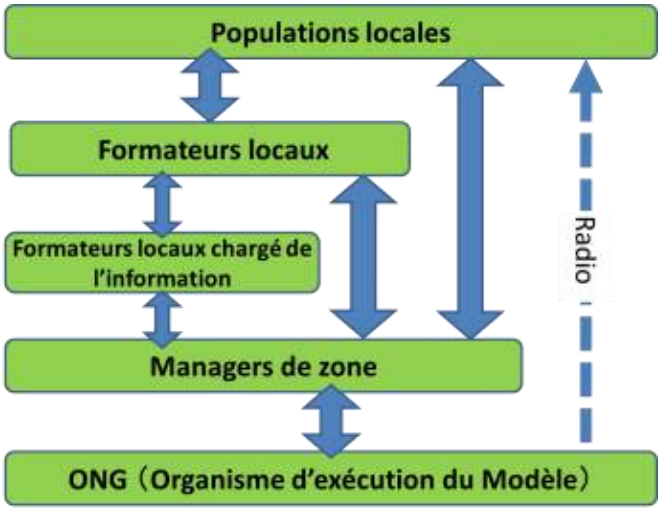


Figure 6-1 Circuit transmission of information to the people

To transmit information to people easily

at) Mobility area manager Since the area managers fulfill the central role in the transmission of information to people in target areas of the region of Alaotra Mangoro, the project provides mobility paying their motorcycles. These managers have the task of visiting the training units assigned at least 1 time per month to communicate directly with the people. Each manager is responsible for 5 Fokontany on average, which is about 35 training units. The route of the bike a month per manager is 120 km on average.

Our managers run throughout the same area under the rain.

b) Communication between local trainers and managers Some areas of training units within the target areas, such as remote hamlets, are not covered by the telephone network. That is why the contact area managers with local trainers directly face to face. Moreover, these two actors employ communication books kept by local trainers, especially when these are absent during the visit of his manager. We note in this notebook planned training dates, the report on the training results [21] visits Dates of area managers to monitor, among others. This makes it possible confirmation of last posts on both sides at every visit area managers from local trainers.

c) Exchange of information between area managers and NGOs
Communication between area managers and NGOs is mainly carried out through periodic meeting of NGOs and the use of a communication book. This book is kept in the offices of NGOs and areas used by managers for the purpose of reporting the results of training and followed. With this book and periodical meeting (often weekly), NGOs can monitor the activities of area managers.

2) Organization and management of training activities

In the target areas in the region of Alaotra Mangoro, NGOs manage the training activities conducted by about 400 local trainers so that each zone manager following training conducted by 80 local trainers on average, as applicable. The courses are particularly concentrated at the beginning of the rainy period in which it is likely to have to hold up to 900 training sessions per month.

For the ordinary level of NGOs in Madagascar can organize and manage the large number of training, standardization and simplification of work on the organization of training become essential. It is the implementing agency to be responsible to make such standardization and simplification with the information and reports received from NGOs. Regarding the organization and management of training activities, the project has given NGOs indications as Terms of Reference (companion volume 4).

3) of population activities monitoring and reviewing the training plan

Through the results of monitoring activities of populations by area managers, NGOs collect cases of good practice at the population level and use them to improve future training and to improve monitoring.

In the target areas in the region of Alaotra Mangoro, cases of good practice were noted following up to now. They have been sharing with NGOs and other area managers during regular meetings and were presented to people in other areas throughout the later followed led by the area managers.

Example of good practice in the region of Alaotra Mangoro

a) Posters indicating important timings related to the reforestation activity is found where a Fokontany posters indicating important timings related to the reforestation activity (seed collection, planting etc ...) were created and boarded by local trainers, according to the request of the people. People have filed this application to local trainers as they occupied by daily work, apparently tend to forget these timings although they already understand the content and techniques of reforestation activities.

b) Arrangement "win-win" between the populations for the organization of training

Free

In areas where the project has stopped conducting training, it was found from time to time make arrangements for organizing free training or carried out without the support of the project through

[21] Training theme, date of organization and number of participants (men and women)

negotiations between populations. The typical example is the formation of layering lychee. The local trainer receiving the demand for training on this subject has negotiated with the mother plant Owner lychee to use it for training. The reward for the owner was to receive a certain fixed proportion of the produced marcots and technical support by the local trainer in the production of marcots. This type of example shown negotiation between people, based on a win-win relationship, is found in some Fokontany some municipalities.

4) Capacity building of area managers and local trainers NGOs constantly enhance the ability of area managers, kernel extension structure and reinforce these managers in turn the capacity of local trainers on the job.

Skills required of area managers

The expected capacity of area managers are 3.

at) Carrying out activities on land following the principles of Model LIFE The area managers practice their activities on the sites in accordance with the code of conduct (see annexed to the companion volume 4) prepared by the Project incorporating the views of NGOs and managers area. NGOs support area managers to conduct their activities in accordance with this code of conduct.

b) Learn the techniques for content to popularize and direct local trainers and populations

In general, it is the NGOs that transmit the technical area managers by organizing technical training for their benefit before training among the population. Their technical knowledge and continue to be strengthened by NGO personnel or human resources involved through training on the job.

c) The administration and management training and monitoring activities while respecting the need and desire of the people

In order to strengthen the capacity of area managers, executive managers of NGOs are in charge of supervising these through training on the job.

5) Collaboration with other institutions and existing systems

A Mangoro Alaotra, NGOs enter into the collaboration with the Bank of Africa (hereinafter referred to as "FOB") for the supply of fingerlings. They are first intervened as an intermediary for the producers for the sale of fry and then as a provider of training to farmers or groups of farmers who intend to start rearing fingerlings.

As an agent for the sale of fingerlings, NGOs provide training on fish fry and sell them to farmers or their groups who intend to start rearing fingerlings. Fry for sale are purchased from their producers and sold to other farmers wishing to start fish farming price including shipping / training and the benefit of the agent.

In addition, in order to benefit from the BOA funding, the fish farmers group are requested to attend training for fish to form an association with at least 4 members. This funding is granted following the deposition of the certificate of training issued by the NGO participants of the training in fish farming, and receipts relating to the establishment of the association, issued by the District Office.

Appendix 7: Practice PRODAIRE for the implementation of training and

Followed

(1) Selecting contacts and choose the form of training in the case of PRODAIRE, a single survey was conducted to identify existing contacts in the target area before the training implementation.

The resource persons and area managers have trained people directly to the following topics: Livestock royal carp and fry production of the same species. Regarding training in reforestation and production of improved stove, it is the local trainers who filled the role of trainer. As for the culture of lychee and the fight against the lavaka were the resource persons who led the early training to populations.

Nevertheless, the local trainers are being trained on these two techniques in order to enable them to lead them. Thus, this training will later be initiated by local trainers. That said, the actors responsible trainers change over time and according to the training topics.

(2) Preparation of materials for training

Table 7-1 on the next page shows the materials provided by the PRODAIRE for each training topic.

These materials will be transported in each training unit prior to the implementation of training. For this transportation means have been mobilized by renting tractors in the chief towns of Fokontany and sometimes bicycles, or using motorcycles zone managers.

(3) Determination of the date and place of training and the transmission of this information to the people

The transmission of information on training to populations is an important work of local trainers. The means available to them are as follow:

- Posting visible places for all people;
- Distributed to all households coupons / free participation invitations to training;
- Announce by door-to-door;
- Announce to public places where gathered many people, sometimes to the market or to church for example.

Some activities that require financial or property resources (eg fish) can not be practiced by everyone. However, even for training on these activities, efforts should be made to accommodate everyone who wants to participate without selecting participants and giving information on training for all populations within the training unit.

(4) Implementation of training for the populations

In the case of the first training by local trainers, or when in doubt about their capabilities, area managers involved in support depending on the circumstances. Nevertheless, it is the local trainers who lead training in principle while the area managers are sticking to their position as observers. Speaking to participants, managers must absolutely not raise objections concerning technical and technical level of local trainers. These managers should measure their words and behaviors that might arouse any suspicion vis-à-vis peoples technical local trainers. The implementing agency shall ensure compliance with this principle by area managers.

(5) Implementation of the follow-up training for the populations (in the case of the NGO HO AVY SOA)

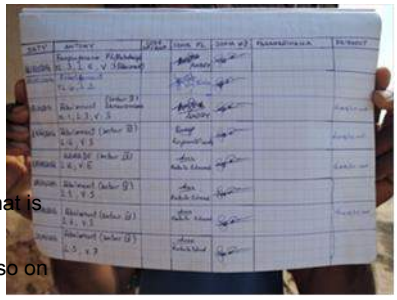
1) concrete Tracking Method :

a) The method will vary according to the zone manager (MZ) enabling it to streamline its path, and according to the requirement of access to certain forming units (UF). In the intervention unit where there is more

a zone manager, the zone has been divided according to a geographical boundary to streamline the path of each manager and facilitate their mobility.

For example: To the manager who operates Ampasikely he UF 20 and 9 groups, but one group forming units (GUF) compound of 3UF is Ampandriantsara, a Fokontany located about fifteen kilometers. For this group, therefore, it is organized to follow up in a day, that is to say that these 3 UF will be followed in a day. For the 19 other remaining UF over 7 groups, it has plenty of time to visit UF, even at 1 UF daily.

By cons, for the MZ working in the "AREA_II" of Morarano Chrome (subdivision of the intervention area), it is 55 UF in 15 GUF, its tracking method would be more efficient by making one day a GUF may -being 2 days for some GUF involving many UF. So for other managers with ten GUF and over twenty UF, it is more effective to devote a day tour per group. However, the manager does not remain at the group level; but visit all UF though it will take him a day or two to finish the UF group.



b) It is therefore necessary to set a sample rate direct follow-up visit not exceeding 10% of the target population, for example a UF 100 households, the number of households to visit had to be at the most 10.

For the next visit, the same procedure applies, but with different content samples, that is to say, other households that were not visited last time, in addition to special cases requiring follow continued. Choose another sample of households m2 and m3 and so on until all UF is fastened.

2) Operation of monitoring :

The tasks to be undertaken by the Area Managers during live monitoring.

at) Once at UF, come with local trainers (FL) each UF and visit
local authorities to greet and inform them of the reason for the visit which is especially monitoring.

b) Check with the FL activities in UF.

c) Visit some households and talk with them (these are sample No. 1 or m1)

d) Provide advice and appropriate for these households answers.

e) After the visit, sit with FL and write the recommendations in the logbook

f) Then to count the activities with the correspondence book.

g) Pay FL noting in notebook invoice number and the corresponding description
payment. (Meeting, Training, Monitoring, Information and Investigation.)

h) Set the date of the next visit and mention this date in the logbook.

i) Proceeding with the following UF (according to the program)

3) conversation contents with the populations

at) Information on the conduct of training and
participation in training

b) Or not to receive materials offered by the
project (if any)

c) Identification of possible difficulties

d) Advice answering the needs of
the caller.

e) FL presentation if necessary.

f) Encouragement, awareness.

g) Identification of good practices and people
Contingent resources

Discussion with a household practiced kamado (in the village)

Monitoring can be themed for technical and general appearance to the aspect information, communication, awareness. For example, the manager may seek the reactions of the population about the theme kamado or lychee.

Table 7-1: List of equipment for training and costs

	Reforestration (household)		Training layering lychee (By layering)		Kamado (home impr e)		Lavaka (for training)		Pisciculture (for training)		DVD Distribution	
Unit price	Eucalyptus robusta	30.000 Ar / kg	cost of	1,000 Ari		Ari	Round wood of Any	Ari 3000	Breeders	45,000 Ari	VCD	1,500 Ari
Amount	(200.000plants / kg)	0.0025 kg	marcotting	1 palnts		units	species: eucalyptus	12 units		12 units		1 units
	500plants / household	75 Ari	(layering)	1,000 Ari		0 Ari	...	36000 Ari		Ari 540,000		1,500 Ari
Unit price	Moringa oleifera	30.000 Ar / kg	plastic bags	20 Ari		Ari	Gaulette (smaller	400 Ari		Ari	Curburant	10,000 Ari
Amount	(2.500plants / kg)	0.0020 kg	(plastic bags)	1 units		units	round woods)	30 units		10 units	generator	units
	5plants / household	60 Ari		20 Ari		0 Ari		12000 Ari		0 Ari		Ari
Unit price	poly pipe	2,000 Ari	string (twine)	20 Ari		Ari	equipment veggie	200 Ari		Ari		Ari
Amount	(Φ8cm, 239g = 61.86m,	0.0025 role		1 units		units	tal Sisale	10 units		units		units
	2.000Ar)											
	1 Area manager = 2 Actual	5 Ari		20 Ari		0 Ari		Ari 2000		0 Ari		Ari
Unit price		Ari	pots (sheaths)	95 Ari		Ari	vetiver	50 Ari		Ari		Ari
Amount		units	20cmx30cm	1 units		units		50 units		units		units
		Ari		95 Ari		0 Ari		Ari 2500		0 Ari		Ari
Unit price		Ari		Ari		Ari	pine	100 Ari		Ari		Ari
Amount		units		units		units		50 units		units		units
		Ari		Ari		0 Ari		5000 Ari		0 Ari		Ari
Unit price		Ari		Ari		Ari	grevillea	50 Ari		Ari		Ari
Amount		units		units		units		50 units		units		units
		Ari		Ari		0 Ari		Ari 2500		0 Ari		Ari
Unit price		Ari		Ari		Ari	jatropha	50 Ari		Ari		Ari
Amount		units		units		units		20 units		units		units
		Ari		Ari		0 Ari		1000 Ari		0 Ari		Ari
cost		**140** Ar / household		**1,135** Ar / marcotte		**0** Ari		**61,000** Ar / training		**540,000** Ar / training		**1,500** Ar / training

Appendix 8: Essentials for training on reforestation and Stabilization lavakas

(1) Training on reforestation

The important points of this training are:

- Organize training in all training units, even in downstream areas where there is no slope

- Select the appropriate tree species to the objective of soil conservation of the slope of the target area, while considering demands from populations
- Transmit techniques to any reforestation cycle -to start with seed collection, preparation of nurseries, seedlings production and implementation earth- to ensure the continuation of reforestation activities by people, even after cessation of support from the implementing agencies of the Model

- Inserting into the content of the formation, the use of alternatives to sheath for plant production as well as the manufacture of conduits with poly vinyl tubes
- **Leave free decision to each participant to prepare his nursery individually or in groups after training and also to choose where he will plant**

In the region of Alaotra Mangoro, Eucalyptus Robusta is the most planted

In Bongolava region, Acacia grows good

Under the PRODAIRE, all the techniques package for the complete cycle of reforestation is transmitted to people by 2 or 3 training sessions spaced. The main targets tree species are eucalyptus, grevillea and pine for the region of Alaotra. Moringa has also been introduced as it is possible to plant in the yard of the dwelling households. As this example shows, the number of beneficiaries of training has increased with the introduction of tree species worth all households, regardless of the disposition of the land. The contribution of the Project at the time of completion of training is limited to technical, to ducts for the production of plants or materials for making alternatives, as well as seeds.

Why organize training on reforestation in the same locality for a few successive years?

- The PRODAIRE organized training on reforestation 3 years in a row for the effective assimilation of technology by the people. To diversify the tree species and techniques during this period, the number of treated species was increased and techniques of seed collection and production alternatives sheaths were introduced from the second year following requests populations.

- For activities (eg. Reforestation, production of improved stoves) whose effects are made visible through the practice by many people over a wide area to produce impact in the field of soil conservation or environmental restoration, training is carried out on a few years and efforts are worn mainly to increase the number of riders.

- Moreover, among the populations around Lake Alaotra, some feel a great distrust of the extension of reforestation projects and we can not expect their active participation in courses from the 1st year. It is therefore necessary to first establish a relationship of trust with these people and then to promote their participation in training. In order to overcome also this type of problems, the PRODAIRE organized training on reforestation for 3 successive years.

(2) Training on the fight against lavakas

Training on stabilizing lavaka is organized according to population demands while trying to target more people who are interested in stabilizing lavaka. Moreover, even a single interested person may request the implementation of this training. This training includes the following four steps:

1-Meter lavaka to see the materials needed for training; Social 2-Preparation or preparatory meeting; 3 Technical Training on stabilizing lavaka 4-Monitoring / lavaka maintenance.

Moreover, the probability of monitoring and ongoing maintenance after training increases by demonstrating simple techniques provided to these populations suffering the damage caused by the lavaka. In addition, it is essential to convey the techniques of practical struggle with the materials that are available around targeted lavakas to facilitate the post-training interview. Other items and the procedure for the organization of training on this topic is detailed in the supplementary Work 2 "manual of the fight against lavakas".

4 steps of forming on the fight against lavakas

1 era step: Targeting Lavaka

2 th stage: Preparatory meeting with the affected populations

3 th stage: Technical training on Stabilization lavaka

4 th step: Monitoring / Maintenance (adding weirs)

Appendix 9: Insurance Mechanism of ownership by the Land Bank

1) Land Type and purpose of the issuance of land certificates

According to Law No. 2005-019, land in Madagascar are divided into 5 categories: 1) Private Bond Certificates (PT), 2) Private Property Not Titled (PPNT), 3) Land Domanial (TD), 4) Public Domain (DP) and 5) Land managed by specific laws (TGLP).

These types of terrain, the terrain category 2) which is the subject of issuing land certificates by the Land Bank. For the ground search is admitted, he must be occupied, used or valued (Article 34 of Law No. 2005-019).

2) Flow of issuing land certificates

The steps for the issuance of land certificates are presented in Figure 9-1.

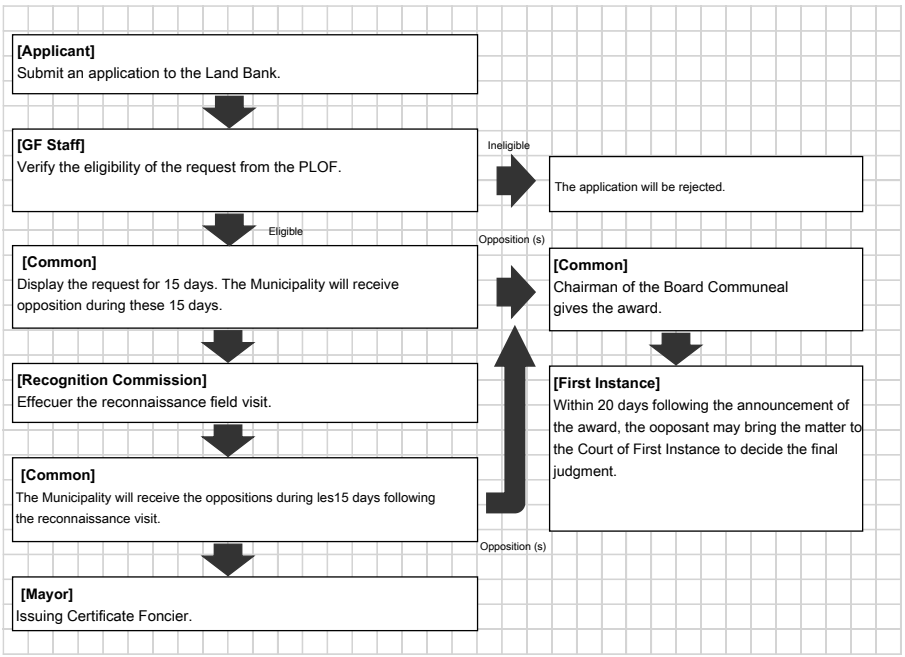


Figure 9-1 Flow of issuing land certificates

(Source) Prepared by the PRODAIRE team from Law No. 2006-031

GF staff explaining the procedure for the issuance of land certificates

land certificate requests displayed in GF

Appendix 10: Using the Regional Agricultural Development Fund (FRDA) and the Agricultural Services Center (ASC)

The diversification of sources of financial support helps to make activities more sustainable communities. In this part, the FRDA, supposed to be one of the sources of funding, and the CSA, responsible for supporting the technical aspects of FRDA are presented.

FRDA

The FRDA is the fund established in each region by the government subsidizes the activities of agriculture, livestock, fisheries and also agro-ecology as the activity of soil conservation. Although FRDA is not installed in all regions, if the model is applied in an area where it is installed and operational, the use of this system would ensure better sustainability of the activities of soil conservation carried out by people.

THAT'S IT

The CSA is an NGO based in each district, and acts as an intermediary between farmers and agricultural service providers. Its main functions are:

1) Linking as an intermediary demands of farmers and offers services to meet those demands
2) Study on the sources of funds on the provision of services
3) Support to farmers for contract monitoring and evaluation related to the provision of services
4) Support farmers to process requests and contribution to improving the services
5) Provides information to farmers

Regarding the relationship with FRDA, when independent farmers or grouped at the town or district to request the grant FRDA, they must go through the CSA. The latter is responsible for activities including: the Board if grant from the FRDA by (groups of) farmers, the preliminary study of submitted application packages and support for the selection of service providers.

Workflow FRDA and CSA

The workflow of the CSA and the FRDA payment process are shown in schéma10-1.

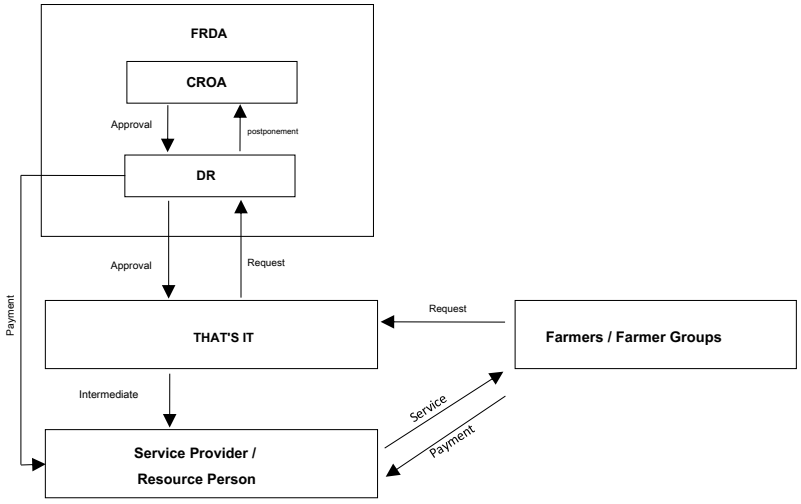


Figure 10-1 Workflow CSA and payment process of FRDA

(Source) Developed by the team PRODAIRE from the brochure prepared by the Ministry of Agriculture on CSA and FRDA and interviews with coordinators of the FDA of the Ministry of Agriculture and the regional office in FRDA region Vakinankaratra

(Note) The CROA (Regional Steering Committee and Allocation) is the organ of FRDA decision taken regional level.
DR (Regional Directorate) is the administrative implementation unit FRDA regionally.

Appendix 11: Example of the development of fish farming activities with the use of Agricultural Services Center (CSA) and banking institutions

Example of using the CSA and the BOA

This section explains the practical method of fishing activities by example illustrated the case of the use of support to farmers by the CSA and microfinance by the BOA.

According to FAO, the number of royal carp fry in store for breeding in rice fields is 25 maximum per are. In the municipalities in the region of Alaotra Mangoro, the area of paddy field that has a family farm is about 20 acres [22] on average. The appropriate number of royal carp fingerlings can raise and is estimated at 500.

Assuming the purchase price of a royal carp fry 200 MGA the amount needed for the purchase of 500 fry is 100.000 MPE. If we add manure prices for pond development in the rice fields and the price of the additive to nutrition to high before harvesting fish, fresh breeding in rice-fish rises to 200.000 MPE.

How to get this amount of initial investment, which seems difficult for small farmers? Here, the means for farmers, supported by the CSA, to benefit from the financing by the BOA is described.

Micro credit for farmers BOA is 2 types: individual financing and funding for farmers' associations. With the first type BOA requires guarantees real and as land, rolling stock (car or tractor). BOA recommend the second because no hardware warranty is required to provide of funding the small farmer associations.

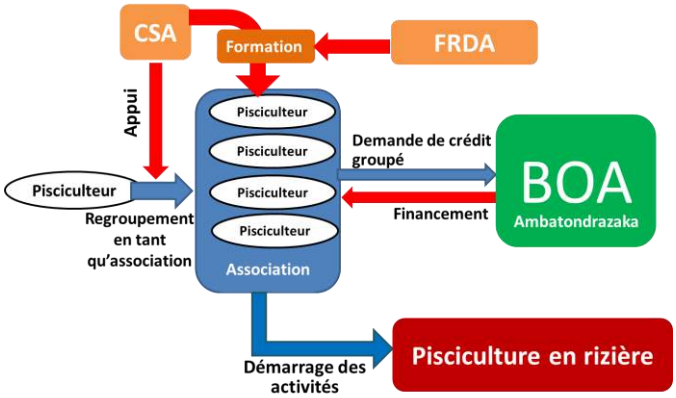


Figure 11-1 populations fish farming activity leveraging the CSA and BOA

Farmers seeking social finance must form associations composed of at least 4 members. By coming together, they must establish among other status and internal regulations to deliver to the district level. These associations are official when the district office issue them a receipt. The CSA would support the district farmers for this series of formalities necessary for their institutionalization (11-1 diagram).

The thus institutionalized group farmer receives training fish conducted by trainer sent from the CSA. If the group takes advantage of the FRDA system, part of the training costs will be covered by this fund. The eligibility conditions requested by the BOA is the institutionalization of the association and participation in training; farmers' group file the certificate of training and the district of the receipt with the BOA with the funding application. This is the surety of the group which is the guarantee of repayment to the FOB. Each group member should well remember that.

Example of fish farming with NGOs as agents

Furthermore, in 3 municipalities in the region of Alaotra Mangoro, targets PRODAIRE the system with intermediary sales agents was discussed. Indeed, the NGOs propose, as intermediaries of fry producers, training for the families / groups of fish farmers can sell their fry. In this case, the agent buys fry with producers and sells them at a price including fry costs, transport and fish farming training and the benefit of the agent. The certificate of participation in training,

[22] This corresponds to 2 makazato (1 makazato = 10 acres) according to local area unit.

additional funding request files from the BOA by the group of farmers is delivered by NGOs (Figure 11-2).

According to the real value of fishing activities executed through the PRODAIRE technical support, a royal carp grow to 400g on average in 150 days of rearing to the rice field and the survival rate is 80%. Therefore, raising 500 fry the rice field actually 150 days 400 royal carp each weighing 400g on average. If the sale price of the royal carp from the producer, is estimated at 6,000 MGA per kilo, the amount of the sale becomes that time 960,000 MGA (6000 MGA / kg x 0.4kg x 500 x 0.8 fry = 960,000 MGA). Assuming that the interest rate of the BOA for 5 months is 10%, the amount of reimbursement reached 220,000

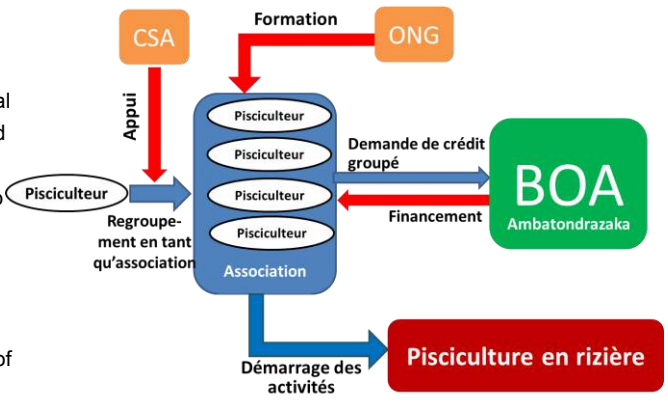


Figure 11-2 Practice of fish by people using agencies

MGA, leaving 740 000 MGA net profit (the expected benefit ratio then reaches 77%).

Table 11-1 shows said series of formality and procedure for fish farming. What needs attention is the fact that the laying period of royal carp happens only once a year (October-December) and if it is unsuccessful, it must wait a year. Thus, the procedure must be started at the appropriate time to leave enough margin to receive funding for the BOA in time.

Table 11- 1 Procedure for the request of the financing of the BOA to the fish farming activities

Mois	Octobre	Novembre	Décembre	Janvier	Février	Mars	Avril	Mai	Juin
Contact d'autres paysans pour devenir membres de l'association									
Elaboration du statut et du règlement intérieur									
Dépôt de la demande d'inscirption en tant qu'association auprès du District									
Particpation à la formation sur la technique de pisciculture et réception du certificat									
Soumision de la demande de financement à la Bank of Africa									
Déblocage du fonds prêté par la BOA									
Aménagement de la rizière pour la rizi pisciculture et déversement des alevins									
Elevage des alevins de carpe royale									
Moisson du riz									
Récolte des carpes royales									
Période d'élevage des poissons (150 jours)									

Appendix 12: Reflection on the continuous supply ducts for the plant production, local people through markets

The sheath for plant production does not circulate much in Madagascar and the people have great difficulty in obtaining them. Thus, the following proposals are made for permanent supply to local populations. Moreover, the purchase and distribution ducts by government or donor funds are not considered as an option because although this method is effective in the target area for the duration of projects, it n ' not ensure stable supply in the long term.

Proposition structure permitting the circulation duct for the production of plants

The structure permitting the circulation ducts contains two functions. The first function, distribution is to place the order sheaths manufacturers and transport them to the target areas. The second function is the sale of the ducts to the populations of the target areas.

It is desirable that the 1 era function is ensured by existing merchants who process agricultural materials. In Madagascar, the command to ducts manufacturers is made possible only with a relatively large amount of control and an advance payment to manufacturers. Therefore, organizations or individuals fail to fill valve function unless they have the investment capacity and credibility to some degree. We do not exclude the possibility of giving to NGOs valve function, but it would not be reasonable, given their characteristic that they are not primarily organizations investing their own capital. In addition, for traders who are already distributors of agricultural materials,

Concerning 2 th function, that of the sale, two options can be considered as a means of establishing the sales network: selling to local markets -the ducts are purchased by individual farmers visiting these markets - or the establishment of the distribution chain up 'every locality - ducts are made there and sold in response to requests grouped the inhabitants of the locality.

When the option of selling within each locality is practiced, the establishment of a network of traffic ducts to each locality is essential. While the extension of PRODAIRE structure works, it is possible to distribute and sell the ducts using its network and its human resources as local trainers. However, maintaining this network is not assured after the departure of PRODAIRE. Moreover, circulation ducts to all localities generates additional costs such as transportation costs or the middle margin, so that the establishment of this structure is not necessarily easy.

Moreover, with the option of selling to local markets, the preparation is relatively easy. It may be that treating agricultural materials stores sell sheaths with other goods. In addition, the weekly markets around the country gather many surrounding communities, so that the ducts will sell well to people, who will be both informed of their availability in these markets. In this case, there is no need to worry about the transportation and distribution as each buyer bring himself ducts bought at the market to its locality.

Considering all these factors, the most realistic option and without difficulty lies in the following option: identify first, traders or companies can become distributors ducts and then encourage them to sell, either directly the local market, or from local stores in that ducts are sold wholesale.

Appendix 13: Example illustrated the system of supply of fingerlings for the fish

Training of fry farming families

Around Lake Alaotra, the need for raising the royal carp, promising as local industry is very high. Still, the local source of supply is limited and fry the fish is not popularized, despite its relatively high potential. This is why the PRODAIRE its efforts towards the formation of fry producers.

Since various aid agencies, including FAO, have made efforts to popularize the technique of producing fingerlings of royal carp, one can assume that there are resource persons trained on this technique in targeted areas the application of the Model.

The conditions necessary for the production of fingerlings of the royal carp are described below. Of all the people in the target areas, the implementing agency has identified, through the extension structure, families wishing to produce fry, following the presentation of all these conditions.

- The family owns or manages usable ponds whose structure is suitable for the production of fry. This is several ponds including pond broodstock (at least two ponds 10m x 10m), the pond for laying (1 5.5m x 5.5m), and the nursery pond (about 2).
- The pond is located in a place with a stable and controllable source of water throughout the year.
- The family has the ability to properly feed the brood throughout the year.
- It is desirable that the family has experience in fish farming.

The next step is to establish a system that makes it possible to organize training followed consultations with trainers selected from among the resource persons of the area for the benefit of families who want and meeting those conditions. Trainings and consultations are seen as opportunities to disseminate the techniques in question from many people as possible, and must therefore be open not only to the families involved but also to all target populations.

- Training on the preparation of the pond: teach the method to pond management, repair in case of imperfection of part of the structure of the pond
- Training on selecting sires: organize training on the distinction between females and males, the level of maturity of the parents, the method of measuring the weight and size etc. at the time such transportation spawning targets ponds
- Training on reproductive spawning and spawning: teach the method of reproduction in the spawning pond pouring two males to a female during the nesting season usually starting around the month of October, the method of laying on the litter called "kakaban" and the egg collection

- Training rearing fry: teach the method of rearing the fry newly hatched after egg collection and the transportation of fingerlings for sale
- Consultations by the resource persons if needed: 1 or 2 times between broodstock selection formations and spawning then 1 time between training on reproduction and that the breeding of fry or between the latter and transport for their sales

System providing fry

In the 3 municipalities in the region of Alaotra Mangoro, Project target, the fry producers were trained on the techniques mentioned above. This section explains the system of supply of fry produced by producers to farmers [23] based on the experiences of the Project.

In this example, it is the NGOs that take the role of the agent to fry producers and sell fingerlings to farmers or groups wishing to start fish farming. In addition, pursuant to the request of the fish farmers, NGOs offer training on fish farming. These fish farmers individual or group needing fry indeed the following 3 choices:

[23] Farmers who raise the fry of the royal carp marketed until the size is called fish farmers to distinguish them fry producers.

1) Buy fry directly from producers; 2) Buy fry through agents and have come home; 3) Forming an association of fish farmers, buy fingerlings through the agents with training

to access funding from MFIs and have them delivered at home by officers.

1) is a fry average purchase for fish farmers who buy directly from producers visiting. Fish farmers can get the fry to the lowest price. In this case, the cost and risk of transporting fry up their fish ponds and rice fields are supported by buyers. This is the appropriate form of procurement to farmers living around the pond producer nursery.

2) is however the purchase form for fish farmers who are able to buy fingerlings with their own funds and living relatively far producers. Fish farmers buy individually or in groups of fry these producers residing more or less far, through the agents. The cost and risk of transporting fry up their ponds or rice fields belong to these agents. The amount spent by the agent as well as their earnings are thus added to the price of the fry.

3) Finally the purchase form for fish farmers, who are considering obtaining financing for MFIs to purchase fry etc. and who live relatively far from fry producers. In this case, at least four fish farmers come together to form an association. As mentioned above, they may benefit from funding of MFIs for their group, with support agents[24] such as CSA or NGOs, and come to buy fish fry and other materials. The expenditure made by the agent and earnings are thus added to the price of the fry.

T ABLE 13-1 purchase Vehicles fry and sample fares

Offers sale / terms	For sale by producer	Sale through the agent	Sale through the Agent together with the support for access to credit.
Terms of the purchase of fingerlings	- Bought live fry among producers - Supports cost and risk of transporting fry buyers	- Purchase individual or grouped at the Agent - Delivery to the buyers - Supports cost and risk of transporting fry Agent	- group purchase formed with at least four fish farmers - Delivery to the buyers - fish farming training with these buyers with certificates of participation issued by the Agent - Supports cost and risk of transporting fry Agent
Unit price Estimated fry	200 MGA	300 MGA	350 MGA

[24] The agent dealer fry is not necessarily the NGO can be individuals or groups performing the functions mentioned here.