

**“Implementation of Sustainable Farming Practices in
Trinidad’s Northern Range Communities”**

ATN/ME-11488-TT

**Report of
Technical Coordinator
(For the period Nov. 16, 2009 to Nov. 15 2010)**

Submitted by

Allan N. Williams

Technical Coordinator

The Cropper Foundation

November 23RD 2010

TABLE OF CONTENTS

Background	1
An Approach with Potential.....	1
Understanding the Project Components	3
The Baseline Assessment.....	4
The First Stakeholder Workshop	8
Implications for Project Intervention	9
Conclusion.....	10
Annex 1: Key Activities of Technical Coordinator	12
Annex 2: The Community of Actors.....	13
Annex 3: THE “LALLY PRINCIPLES”	14
Annex 4: Potential Intervention Profiles.....	15

Background

The Cropper Foundation along with the Multilateral Investment Fund (MIF) of the Inter-American Development Bank (IDB) initiated the project “**IMPLEMENTATION OF SUSTAINABLE FARMING PRACTICES IN TRINIDAD’S NORTHERN RANGE COMMUNITIES**” (ATN/ME-11488-TT). The motivation for the project was sound, being a follow up on the Northern Range Assessment (National State of the Environment Report 2004 for Trinidad and Tobago¹). As that Report so ably stated:

“If we want to maintain this biodiversity within Trinidad and Tobago we must make a concerted effort to properly value these resources and account for their conservation and preservation within any management strategy employed to help achieve sustainable development”.

The goal of this project is to pilot alternative farming practices in two watersheds of the Northern Range - the Tacarigua/ Caura and St. Joseph watersheds - that can assist in improving the returns and sustainability of agriculture for small farmers, while mitigating negative impacts on the environment and affected downstream communities.

The specific objectives are to:

- a) Examine how to sustain livelihoods based on hillside agriculture within the Northern Range, while protecting the resources of the ecosystem and alleviating downstream impacts;
- b) Support the social and economic development of selected communities;
- c) Collect valuable baseline information to facilitate present and future participatory applied research and analysis; and
- d) Understand how to replicate the approach and disseminate learnt lessons stemming from the project.

The main objective of the Technical Coordinator was to provide technical inputs, support and guidance to all project components in order to ensure smooth implementation of the project in accordance with the Plan of Operations approved by IDB/MIF and the modus operandi of The Cropper Foundation². This Report fulfills an end-of-contract (Year1) requirement of the Technical Coordinator.

An Approach with Potential

While the target areas were regarded as critical watersheds, the Project carrier was encouraged to regard the target areas as **landscapes**. The landscape approach requires that we consider the physical and biological features of the area together with the institutions and people who influence the area and the cultural and spiritual values of the area. This may appear to be

¹ Northern Range Assessment 2005. Report of an Assessment of the Northern Range, Trinidad and Tobago: People and the Northern Range. State of the Environment Report 2004. Environmental Management Authority of Trinidad and Tobago. 184pp.

² See Annex 1: Key Activities of Technical Coordinator

unnecessarily complex, but it does reflect the reality on the ground as detailed in Box 1. In fact, the project documentation, the participants in its Steering Committee and the recognition of the changes that were occurring in these areas all recognized from the outset that farming practices involved:

- € an economic aspect (*the net income to the farmer*),
- € an agronomic aspect (*the benefit/cost of resource use*) and,
- € a conservatory aspect (*maintaining the capacity of the resource to provide this and other landscape services*) given the specific location.

The project was also encouraged to view the farming communities as having some “entitlement” rights, due to their proximity to this resource base and their dependence on the same to sustain their livelihood.

The Project therefore sought to negotiate a shift in the management approach of these first responders from that of resource appropriators to that of a resource sustainers.

The Major benchmarks in our process were:

- € Base Line Assessment Report
- € Intervention Design Model (*Ways and Means*)
- € Workshops on Priority Setting (*Negotiations*)
- € Demonstration plots
- € Evaluation and Dissemination of the model

Hopefully the lasting impact of the project would be to inspire farming communities to use strategies that would increase productivity, stabilize farmers’ incomes and contribute to maintaining the eco-system services of the area.

Box 1: La Sieva in danger

In a report by Yvonne Baboolal, published in the Guardian, February 28, 2010, the author laments the apparent tragedy that “growth” has inflicted on this once sparsely populated village where vehicles hardly ever passed. Now La Seiva, Maracas, is seeing “Development”.

A new housing development was going up in an area where farmers used to plant Tomatoes and Cucumbers. But even this activity had its problems. The villagers reported that this was a slash and burn area. It was always bare of vegetation. There used to be a fire on this part of the mountains every year.



New houses being built on the mountains. Photos: Jennifer Watson

Now the challenges are different. The river passing through the village was once a chief source of recreation for villagers. Now it remains continuously polluted by the residue from Quarrying higher up the mountain. The continuing petty crimes, break-ins and robberies are enough to want to make other residents pack up and leave.

While La Seiva is filled with greenery, there are no green recreational spaces for villagers. “We used a piece of land in Mountain View, but it was sold and the new owner has been seeking to restrict villagers from using it”.

If this approach is to become sustainable, the Project will have to seek collaborative involvement of a community of actors including resident farmers, community organizations, research units and private and public institutional support. This combined effort must, inter alia., lead to an expansion of the farmers' access to markets, develop participatory landscape plans, change land use planning policies and mobilize a cross-section investment potential to preserve these valleys for future generations.

Understanding the Project Components

The Project was conceptualized as having two strongly linked components. The first component is fully described in the project document³ as a Pilot project on implementing sustainable farming practices in two (2) watershed areas. The second component is the building of a network of actors to sustain the project results through time. While this second component is not detailed in any documentation, the level of broader institutional collaboration was well anticipated.⁴

The initial project activities began in March 2010 and comprised scoping, situation analysis and preliminary feasibility of the acceptance of changes in farming practices. This was highlighted in a Baseline Study which, among other things identified unsustainable farming practices, issues of current importance to farmers and potential actors in our intervention. In respect of the actors, we were able to identify farmers by name and location, farmer organizations, community governance structures and supporting institutions with an expressed interest in collaborating in the goals of the project.

The second component of the project required that we participate in negotiations with the current actors to define common ground and achieve common goals. This was initiated with the First Stakeholders Workshop (November 10, 2010). A strategic first step was to recognize in the current situation, actors who had established different degrees of entitlement, based either on their reliance on the adjacent natural resources, their proximity to the resource base or their prior actions in sustaining the resource base. In this respect, the project is sensitive to be seen to be collaborating with five (5) groups of actors⁵, namely:

- € Dependent groups with claims:
- € Impacting groups;
- € Concerned groups ;
- € Affected groups;
- € Group with experience in similar circumstances.

³ **Plan of Operations – TT-M1017, IADB Project Document** prepared by Sarika Maharaj, Programme Officer, The Cropper Foundation, January 19, 2009.

⁴ Minutes of a Meeting of Key Technical Collaborating Institutions, January 16, 2009

⁵ See Annex 2: Community of Actors

While the project does not explicitly adopt any pre-determined approach to its intervention, the Technical Coordinator was keen to follow closely the “**Lally Principles**”⁶ which incorporate some best practices in managing ecological changes in landscapes involving human settlements and natural resources. These include, among others

- € *Using caution on entry;*
- € *Investing in skilled facilitation;*
- € *Sharing ownership of the process;*
- € *Understanding the institutional context.*

In the end, the success of the project will be judged by the legacy of its intervention. There are three points of continuity in this respect. The first will be our negotiation with farmers to establish some visible **Demonstration sites**. These sites will seek to give credence to alternative farming practices in response to the impact on farm productivity and farm incomes as well as on livelihoods and on the landscape. The second point of continuity will be the necessity to **share our experiences and knowledge** in project evaluation reports. This is a contractual requirement. The third and more important continuity requirement will be to the farming population. Based on a successful collaborative effort in creating new landscape scenarios, the project should anticipate the establishment of a **system of rewards** for good upstream farming.

The Baseline Assessment

The baseline assessment was conducted between March 10 and June 20, 2010. This coincided with the end of a disastrous dry season and we were cautious in interpreting what we saw. For instance in the first attempt at meeting farmers, the Consultant (Mr. Beaumont Celestain) met 15 farmers from the Caura Valley and only 3 farmers from Maracas/St. Joseph. On a subsequent visit to the Maracas St. Joseph valley in October 2010, the Technical Coordinator and the Intervention-Design Consultant (Dr. Shango, Alamu) not only met and interviewed 5 farmers from the area but were given the names of 42 members of the Maracas Valley Farmer Association.

The important observations from this assessment were as follows:

1. **Farming Activities:**

- € Portions of forested upper watershed in Maracas/St. Joseph are privately owned and vulnerable to change of use. Some of these lands are unutilized by the heirs of the original owners, and may be available for future use
- € Parts of the forest reserve in Caura are being utilized by squatters for short-term crops (and illegal crops). This practice needs to be dissuaded.
- € The structure of the farmers’ organization of production signals the type of practices that may be attractive. We found no large-scale commercial farms in operation, but a wide range of organization of farming activities, including:

⁶ See Annex 3: The Lally Principles

- Small farms in the Caura Valley averaging about 5 acres, growing commercial crops such as papaya, hot peppers and golden apple;
- Farmers in Cachipal Rd. Caura cultivating the hillside;
- Farmers in La Baja, Maracas cultivate on hillside during the rainy season, but utilizes grow box technology on smaller plot on flat lands during the dry season;
- Marginal farming in what appears to us as inaccessible areas in Maracas/St. Joseph and we assume with apparently negative impacts on water retention and water quality.

2. Farming Practices:

- ∓ Given the terrain, much of area channels runoff into the water streams and rivers which are themselves subject to contaminating activities, e.g., pesticide use, inappropriate waste disposal.
- ∓ Farmers' perception of "alternative" farming practices seems to be along the lines of "input substitution" rather than a reorganization of their farming systems; This level of awareness has some of its origin in the "Farm Field Schools" project in 2003.
- ∓ However it is interesting to observe that in such critical water catchment areas there is little or no effort to encourage local stewardship of the water retention potential.
- ∓ We did not find any evidence of irrigated fields during the dry season, although we are aware of the fact that WASA has attempted to dissuade the more capitalized farms from using a sprinkler system and move towards less wasteful systems such as drip irrigation.

3. Community Organizational Assets

- ∓ The Community organizational assets are significant. In Maracas/St. Joseph, there is a Farmers Association, a Sports team, a very active citizen's group and we are told, seven **(7) village councils**, which are active to varying degrees depending on the personnel involved, and three community centers;

President and Secretary of the Farmers Association in discussion with Shango Alamu in Lloango, St. Joseph.



- € In the Caura Valley there was a very active social group and network in the form of the Caura Valley Farmers Association. This unit has a very active history, being involved in the earlier attempts to influence farming practices through the “Farm Schools” of 2002. There are also in the Caura Valley an Arts & Craft unit, a hikers group and the Village Council.
- € We are sure that there are other forms of Governance structures currently being used as a vehicle for collective action on the part of local residents of both valleys.
- € Of importance to us, are the institutions that have or have had some level of engagement in either or both valleys. These include
 - The Ministry of Food Production, Land and Marine Resources (MFPLMR) (Forestry and Extension Divisions);
 - The University of the West Indies (UWI);
 - The Caribbean Agricultural Research and Development (CARDI);
 - The Trinidad and Tobago Agribusiness Association (TTABA);
 - The Commonwealth Agricultural Bureau International (CABI);
 - NAMDEVCO;
 - Tourism Development Company (TDC).
- € The major issues appeared to be access Roads to their farms, security of tenure and delinquency among the youth.
- € In the Maracas Valley, farmers have expressed the need for social action to capture the interests and enthusiasm of the younger generation and to reduce the incidence of crime in the community.

Youth liming (smoking) in the river bed.



- ∄ Interestingly, while we sensed tension between different users of land in Maracas/St. Joseph, i.e. quarrying and housing site development, no one brought to our attention any land conflicts among farmers. This suggests some degree of tolerance and respect for land occupation of State lands, which is considered legitimate even though it is not legal (no leases);

4. Livelihood Prospects

- ∄ In communities in the Northern Range, land becomes the foundation for viable household strategies to ensure a sustainable livelihood. There are however, less stable sources of income to maintain livelihood. These are the opportunities provided by CPEP and the URP. The cash flow potential of these sources miniaturizes that from small scale farming.
- ∄ Thus any measure that would increase the cash flow from farming is to be considered a welcomed strategy. The activities of TTABA and NAMDEVCO in providing some assurance of market sales are significant contributors in this respect.
- ∄ We can make a similar assessment as regards to the uncertainty of land tenure, i.e., awaiting leases from the State. Tenure regularization affects this prospect in the sense that it restricts investments in physical farm structures which can change the farming operation and the farm cash balances. A similar assessment can be made with respect to improving the conditions of access roads.

5. Landscape Features

Conservation Agriculture aims to boost agricultural production by optimising the use of farm resources and helping to reduce widespread land degradation through the integrated management of available soil, water and biological resources combined with external inputs. We also understand how exploiting the different ecological niches of crops can contribute to



better natural resources use and therefore improve or maintain soil fertility, reduce erosion and the build-up of pests, spread the workload, reduce risks of weather damage and the reliance on agricultural chemicals, and generally increase net profits.

What we have witnessed in some farming activities in both the Caura and Maracas/St. Joseph valleys falls short of the expectations of conservation agriculture.

In general, both farming and non-farming activities tend to pollute the water courses; reduce bio-diversity; degrade the quality of the soil and reduce soil fertility.

The major farming activities were the use of harmful pesticides and the slash and burn methods of land clearing which added to the land erosion problems, the potential for forest fires in the dry season and the destruction of the forest cover.

Caura Valley Farmers were seen to be cultivating on slopes with no hillside soil conservation techniques such as terracing, building wind breaks, check dams etc. In the Maracas Valley, farmers, particularly in La Baja and Acono district, cultivated lands in the forest above, practiced slash and burn agriculture and shifting cultivation on a year by year basis.

In both areas, the use of rivers for recreational activities by outsiders was posing some challenges to maintaining the integrity of the water flows.

While the baseline assessment gave us some measurements against which we can gauge progress in changing farming practices, it also indicated the complexity of the problems and the potential of the actors to effect such change. The assessment suggests that this project could develop the capacity to orchestrate groups of actors in innovative methods to change farming practices as well as manage critical watershed services in intensively managed agricultural landscapes. This will be a stunning example for the Northern Range communities.

The First Stakeholder Workshop

The First Stakeholders Workshop was held on November 10, 2010, at the Maracas Community Center. Thirty-two (32) participants attended the Workshop. Specifically the Workshop allowed the Cropper Foundation to:

- € Introduce the project details to the stakeholders;
- € Present the findings of our Baseline Study;
- € Present key aspects of the Project's options;
- € Allow for open discussion of these presentations; and
- € Solicit the support and participation of the stakeholders.

The responses of participants were very revealing. In verbal discussions of the project's presentations the participants:

- € emphasized the presence of non-farming activities such as quarrying and residential development which affected not only the environment, but the potential of farmers in the area;
- € brought to the workshop's attention to the fact that there has been community based actions, particularly in the Maracas Valley in response to these emerging conditions.
- € expressed the need for a road network and the modalities that would be required to justify the development of such a network in rural areas; and
- € agreed that excuses should not be made for farmers failing to take the appropriate actions in their own plots of land.

In the “Priority Setting Exercise” participants revealed their preferences (Attractiveness and Feasibility) for three sets of options, namely:

- € Options for individual farmers
- € Options for collaborative action
- € Options for getting better services

In general, the responses to these options were very positive. Participants found all options to be very attractive (ranking >7) and very feasible (ranking >7). Within the group of individual farmer options, participants showed more hesitancy in feasibility with respect to three questions, namely

- € 1a: Setting up Demonstration Plots on selected Farmer’s plots,
- € 1b: Private Farmer Investments in Hillside Stabilization and
- € 1e: Promoting indigenous species.

In all three cases, while the attractiveness was ranked above “8” (almost a must-do) the expectations with respect to feasibility were all below “7”.

Implications for Project Intervention

The outline of an intervention model was presented at the First Stakeholders Workshop. It comprised the following:

- € Building appropriate governance structures;
- € Training and empowerment;
- € On farm participatory research;
- € Review and analysis;
- € Testing and application of research findings among a boarder mass of practitioners;
- € Promotion to enhance broader adoption.

Given the responses of the stakeholders at the Workshop, we are faced with a challenge of combining five capital assets (human, natural, financial, physical, and social) into a cohesive set of actions that will be long lasting. In essence we are obliged to conceptualize our intervention activities to achieve certain critical goals. These are to:

- € build a common understanding among stakeholders;
- € identify leverage points for interventions;
- € analyze different scenarios;
- € form the basis of decision support systems;
- € assist in stakeholder negotiations;
- € identify systems performance indicators; and
- € assist in evaluation of impacts.

We are expecting to adopt project tools like “Ecological Scorecards” to continuously evaluate possible changes that may be achieved in landscape-level synergies, in trade-offs that farmers will be required to make and in overall eco-agricultural goals.

One guide towards this approach is to identify within our intervention model the following:

a) **Possible Cost items:**

- € Demonstration on farmers’ plots;
- € Supporting Structural On-farm Investments;
- € Introducing new technologies.
- € Hillside Stabilisation investments.

b) **Collaborative Efforts needed for promoting:**

- € Research and Information Sharing
- € Contour Planting;
- € The Use of new Cost effect inputs;
- € Methods to increase Farm-output values;

c) **Intended Impacts including:**

- € Changing Farming Practices;
- € Changing Attitudes to Land Degradation;
- € Capacitating Farmer Organizations to support;
- € Testing research results;
- € Attracting Younger Farmers;
- € Validating the need for improvements in access roads;
- € Raising the urgency of regularizing tenure;
- € Involving civil representatives of the farming communities (Village Councilors; Regional Corporation representative, Parliamentary Representatives)

Conclusion

The project activities to date (baseline assessment, survey of farmers, field visits, Steering Committee considerations, Stakeholders’ Workshop) have provided us with some basis on which to build a comprehensive approach to sustainable farming practices in these Northern Range communities. This basis includes, inter alia.;

- a. Farmers who are very conscious of the conservatory needs of their environment and are not adverse to performing better stewardship;
- b. Communities that should be amenable to new methods of securing their long-term interests or may be so persuaded;
- c. Disposition of supporting institutions to join in our response;
- d. Common purpose with the goals and objectives of Ministry of Food Production;
- e. National policies that promote environmental management
- f. Regional and international organisations as channels for useful information and sharing
- g. Funding for this project activities available from other sources;

- h. Core action plans, major participants, very enthusiastic community action that would enable some external funds to be raised.

To respond adequately to the needs and aspirations of the project one would need to cluster various orchestrated actions⁷ under four (4) interactive sets as follows:

- a) **Information sharing and research activity** to bring all of us onto the same page where the global goals of conservation, agricultural production, livelihoods, and institutions building are concerned;
- b) **Demonstration sites** to promote direct action;
- c) **Promoting individual practices** and socio-economic services to support such practices;
- d) **Building organization capacity** for sustain actions.

⁷ See Annex 4: Potential Intervention Profiles

Annex 1: Key Activities of Technical Coordinator

The main objective of the Technical Coordinator was to ensure smooth implementation of the project in accordance with the Plan of Operations approved by IDB/MIF and the modus operandi of The Cropper Foundation. To do this, the following activities were identified:

Provide technical inputs and support to all project components by:

- a) Assisting in undertaking a baseline assessment of current agricultural practices and the ecological and socio-economic impacts of these;
- b) Leading and supporting the process of identification of farmers from selected hillside watershed communities for participation in the project;
- c) Acting as the primary liaison between farmers and the project's technical team to raise awareness amongst farmers about the project and the issues which it addresses, as well as to facilitate the exchange of information related to project implementation;
- d) Proactively maintaining open channels of communication between the identified communities and the technical team, by ensuring that concerns emanating on all sides are anticipated and immediately addressed as far as possible throughout the life of the project;
- e) Participating in the design and implementation of interventions required to promote more sustainable hillside farming practices;
- f) Assisting in the provision of framework input, guidance and support in the development of a research overlay necessary for future comparisons and analysis of results and impact over time;
- g) Coordinating and assisting in the collection and assessment of data and information for the purpose of monitoring and evaluation;
- h) Networking with selected the communities, other similarly affected communities and public and private stakeholder organisations to disseminate information on the environmental and socio-economic benefits of adopting alternative farming practices;
- i) Assisting in the documentation and dissemination of information of a community-based model for sustainable hillside farming.

Annex 2: The Community of Actors

The View of the "Community of Actors" in the process of Project Intervention.

Actors	Identity	Interest & Capacity	Profile	Scope of Impact
Entitled Actors	Farmers on land Resident Families Resident institutions	<u>Dependent groups with claims:</u> Can convert a practice into a tradition.	Entitlement may be based on occupation, ownership, or simply reliance for subsistence.	<ul style="list-style-type: none"> ∄ Require a "Fair Hearing"; ∄ May be open to suggestions; ∄ Should be encouraged to participate in intervention.
Empowered Actors	Farmer Organizations Farmer/Marketing Agency Collaboration Community-base Organizations	<u>Impacting group</u> Can mobilize collective action on the basis of consensus or mutually beneficial interests	Actors who are in a position to negotiate new arrangements for the use and/or sharing of natural resources	<ul style="list-style-type: none"> ∄ Establishes the platform for sustainable intervention; ∄ Facilitates individual and collective benefits.
Responding Actors	The Project Research Institutions Ministry Divisions Corporate Sponsors	<u>Concerned group</u> Holders of Knowledge and useful skills	Mobilized with resource to investigate, report and intervene in the interest of change	<ul style="list-style-type: none"> ∄ Seeking to influence the flow of benefits; ∄ share in knowledge and experience; and ∄ create equity in the process.
Other Relevant Actors	The Public Utilities Forestry Management Units Local Government	<u>Affected groups</u> Institutions, businesses and local governance affected by the results of the landscape management decisions	Recognizes the values, opportunities and risks associated with specific land use; Organized to express these interests and change the results	<ul style="list-style-type: none"> Can significantly influence: ∄ the organized action agenda; ∄ the perspective on the issues; ∄ the nature of the solution.
Other Potential Actors	Farmers with experience in terracing; forest farming; organic agriculture;	<u>Group with experience in similar circumstances.</u> Willing to invest human and financial resources in an ecological and socially sound environment	Observations of the changing situations with concerns of its impact on their interests	Can be mobilized into a support force.

Annex 3: THE “LALLY PRINCIPLES”

Landscape practitioners from IUCN, EP (Eco-Agricultural Partners) and Cornell University meeting in the Swiss Village of Lally debating better measures to manage the change in the landscape, came up with the following principles.

- 1) Use caution on entry.
- 2) Invest in skilled facilitation.
- 3) Share ownership of the process.
- 4) Understand the institutional context.
- 5) Focus on landscape functions.
- 6) Search for synergies.
- 7) Recognize different scales.
- 8) Begin small and expand.
- 9) Understand landscape dynamics.
- 10) Explore scenarios fully.
- 11) Select aims and indicators carefully.
- 12) Choose comprehensive indicator sets.
- 13) Make trade-offs explicit.
- 14) Embed tracking measures in long term management arrangements.
- 15) Prevent high-tech tools from driving the process.
- 16) Learn from failures.
- 17) Embrace change.
- 18) Identify stakeholders.
- 19) Be transparent about opportunities.

Annex 4: Potential Intervention Profiles

1) Promoting wider Education and Understanding:

Objectives:

- Information that would promote the synergies between ecological integrity and of agricultural productivity;
- Information on land-use patterns in the area and how to better address these concerns;
- Information on integrating farm practices that can mutually bolster conservation and agricultural efforts;
- Information on building on-farm input base;
- Information on how to play a part in monitoring and evaluation of the changing landscape.

Participants

- Institutions that may provide the information packages
- Farming Associations and Project to engage farmers in delivering information services

2) Research Potential:

Objectives:

- A model reflecting the dynamic links “Ecological status → pressure applied → resulting impact” and the potential of remedial social action;
- Alternative to slash and burn, identifying "best bet" strategies, in respect to all factors under consideration;
- Validating Farm output value in support of road access;
- Techniques of hill-side farm management;
- Forest Stewardship
- Conditions and cost and benefits of terracing;
- Identifying the zone of influence of your farm activities.

Participants

- Research Institutions
- Project Demonstration Sites
- Farmer Associations

3) Direct Action and Demonstration:

Objectives:

- Opportunity for 20% farmers to co-design and establish alternative farming practices;
- Demonstrating how to protect the ecosystem and simultaneously contribute to alleviating negative down-stream effects;

Participants

- Selected farmers willing to participate (Criteria in 3.3.2 of Plan of Operations)

- Supporting farmers from other valleys

4) Promotion of individual Agronomic Practices that may be cost effective:

Objectives:

- Building the adoption rate for new practices
- Communicating the results of experiences in individual farms

Supporting Measures

- Bioremediation and Crop Selection;
- Coordination of farming practices with TTABA and also NAMDEVCO;
- Identifying and rewarding recommended upstream production.

5) Seeking to improve Socio-Economic Services that may enhance livelihoods and well-being of the communities:

Objectives:

- Creating supporting evidence to raise the priority for the delivery of certain services to the target communities.

Targeted Services

- Validating access roads;
- Coordinating marketing services;
- Extension services in crop management.

6) Enhancing governance structures first at level of farmer organizations:

Objectives:

- Raising the effectiveness of the Farmers Associations to deliver services to its constituents.