



N O R D I C D E V E L O P M E N T F U N D

**Evaluation of NDF Co-Financed NDF 182-Forestry Resource
Management and Conservation Program in Nicaragua**



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Nordic Development Fund

Evaluation Report

**Evaluation of NDF Co-Financed NDF 182 – Forestry Resource
Management and Conservation Program in Nicaragua**

Nicaragua

FINAL REPORT

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LIST OF ABBREVIATIONS

AOP	Annual Operating Plan
CU	Coordinating Unit
Danida	Danish International Development Assistance
EE	Environmental education
EU	European Union
IDB	The Inter-American Development Bank
IDR	Rural Development Institute
INAFOR	National Institute of Forestry
MARENA	Ministry of Environment and Natural Resources
MFA Finland	Ministry of Foreign Affairs Finland
NDF	Nordic Development Fund
NDP	Nacional Development Plan
NGO	Non Governmental Organisation
OCE	Co-Executing Agency
PANic	Nicaragua's Environmental Policy and Action Plan
POSAF I	Forestry Resource Management and Conservation Programme
RAAN	Región Autónoma del Atlántico Norte
SDR	Special Drawing Rights
SIDA	Swedish International Development Agency
SIMOSE	Monitoring and Evaluation System
SPRS	Strengthened Poverty Reduction Strategy
TA	Technical Assistance
USD	US Dollars

0. EXECUTIVE SUMMARY

The Forestry Resource Management and Conservation Programme (POSAF I) began in 1997 and was completed in 2002. The Inter-American Development Bank (IDB), which has acted as Nordic Development Fund's (NDF's) Lead Agency for the Programme, provided the main investment of USD 15.3 million. The Swedish International Development Agency (SIDA) granted USD 1 million. NDF supported the Programme with an investment of USD 4.1 million, and the Borrower contributed with additional resources of USD 3.1 million, which included resources contributed by the farmers benefiting from the Programme. The total cost of the Programme was USD 24.4 million.

The purpose of the Programme is to promote the sustainable management of natural resources, conserve protected areas, and improve the institutional framework for environmental management, which will lead to improvements in the socioeconomic situation and the quality of life of the low-income rural population, in particular.

The Programme has assisted more than 11 thousand small-scale farmers, covering an area of more than 80 thousand hectares, located in six highly prioritized watersheds. The selection criteria for these watersheds were their high potential for forest development, the presence of a high population pressure with serious rural poverty problems and a significant deterioration of the renewable natural resources base.

NDF provided financing for environmental education, training, and equipment to national park personnel, rural infrastructure, and ten Nordic contracts covering: Management and recovery of natural resources, protected areas management and institution building.

The Evaluation Mission has visited selected project sites in Carazo, Chacocente, New Segovia, Jinotega and Matagalpa and discussed the following major findings with stakeholders and beneficiaries:

The direct beneficiaries of the Programme are the small- and medium-scale farmers, with title and legal access to land, and with the capacity to recover investments made through the incentives provided by the Programme.

The Programme is offering Technical Assistance to the farmers, limited to activities related to the forest sector, diversification of the production, and soil conservation. The productivity and their income have increased, the diet has improved as a result of crop diversification, and land value has increased because of fencing and reforestation.

Women and children have benefited from the NDF financed Environmental Education component, which has a family focus like environmental education, demonstration gardens and installation of wood saving stoves.

The environmental benefits are positive in most of the components of the Programme. Inside the protected areas substantial improvements are expected in the conservation of important eco-systems, and the residents living in watersheds assisted by the Programme can expect that an improved management of the watersheds will reduce the vulnerability to natural disasters well known in Nicaragua.

However, the Programme doesn't work with all properties and families that are inside the protected areas and/or watersheds. It works with those that have their legally inscribed titles of land, but the eco-systems and protected areas are also affected significantly by unsustainable farming systems practiced by poor farmers without land tenure/titles. It's a pending challenge for POSAF to overcome the barriers of lack of titles to properties to achieve the ultimate goal of the Programme. Specific issues such as land administration and land tenure could be important issues for future financing by NDF.

For the execution of the Programme a coordinating unit was created in Ministry of Environment and Natural Resources (MARENA) in Managua. It had administrative and financial independence, and 6 territorial coordination units presided by the municipalities, and with representatives from MARENA, National Institute of Forestry (INAFOR), Non Governmental Organisations (NGOs), communities and beneficiaries.

At the end of the Programme in 2002, these units were expected to be shut down. Farmers and municipalities should remain responsible for maintaining the works and investment, and MARENA and committees of local communities or foundations should remain responsible for the protected areas. However, government institutions suffer from weaknesses and deficiencies due to frequent turnover of staff and decision-makers whenever there is a change in government. Another problem is the generally weak fiscal situation under which they operate; it limits their capacities to assume responsibilities or follow-up on activities supported by the Programme.

Although the Programme has been expanded with another phase planned to end in 2006 there is a risk that the municipalities, government institutions and civil society do not have the capacity to follow-up on plans and works made by the Programme.

Organisation of farmers. POSAF is focusing on on-farm production and is not dealing with a more integrated approach involving the processing and marketing of the produce. In the future it is recommended to pay more attention to the organisation of farmers and their interest groups, as this can provide them with better access to and quality of Technical Assistance (TA), processing and marketing of farm produce. Processing facilities will develop employment opportunities, and improved marketing will increase recovery of the investment in the farms.

The resource base for developing farmers' organisations is strong in the Nordic countries and NDF could look into the possibility of financing a programme strategy for supporting organisation of farmers.

Co-executing Agencies. Co-executing Agencies (OCE) consisting of producers' organisations, cooperatives, associations, NGOs and development agencies execute the Programme. For the municipal conservation projects, the municipalities have acted as co-executers.

The execution of the Programme through OCEs is a new and challenging experience, but their capacity to offer Technical Assistance to families vary depending on their origin, objective, professional experience and methodology used. It is recommended to analyze the performance of each group and to identify capacity building programs aimed at

increasing their managerial and professional capacities to work in the rural sector.

For the Nordic suppliers the Programme has been an important bridgehead to the Central American market, and the NDF is considered an important client, along with the donors from the EU, Nordic countries, Inter-American Development Bank and the World Bank.

The original expectation of NDF was that about 80% of the investment should be used to buy consultancy services and equipment in the Nordic countries, but actually less than 50% has been used for this purpose. The cost of Nordic companies' services and equipment is still considered as high by the implementing agency, but a balance of 20-40 % of the total budget spend on Nordic suppliers seems to be acceptable to the implementing agency.

The Programme has applied an appropriate combination of local and Nordic capacity, which has proved to be efficient and of a high quality. Main findings of the NDF financed components are briefly presented below:

- The baseline studies and management plans co-financed by NDF have had an important impact on the further development of the Programme. It has helped the staff and MARENA to prioritize important watersheds, and improve the management of the protected areas.
- The management plans for the protected areas have been well received by the municipalities, MARENA, INAFOR and the local societies living inside or near the protected areas. The participative methodologies used in Chacocente managed to develop a consensus between the communities living inside the protected area and major stakeholders. It enhances the sustainability of for example the important works done by the voluntary forest guard system in the villages.
- A study to classify the watersheds was of great importance and very useful for POSAF, as it helped to identify and prioritize new areas for development and guide investments into the environmentally most vulnerable watersheds with a high potential for agricultural production.
- A feasibility study gathered lessons learned from the initial phase of POSAF, and was very important for the preparation of the second phase of POSAF. Because of an excellent cooperation between Nordic consultants, local consultants and local stakeholders the document was well balanced and of high quality.
- Acquisition of machinery to New Segovia was not so successful due to a force majeure, gorgojo descortezador (kind of beetle which kills the pine trees) that destroyed most of the timber in the forests. At the moment, one sawmill out of three supported is sufficient to process the raw material extracted from the three Forest Owner Associations, and it is urgent to revise the organisation and business set-up.
- The Environmental Education Programme with its two levels (formal and informal education) has been a very effective tool to promote natural resource conservation and environmentally sound working methods. The activation of children, teachers and rural families has enhanced the sustainability and good results of the component.

1 INTRODUCTION

The Forestry Resource Management and Conservation Programme (POSAF I) began in 1997 and was completed in 2002. A phase II followed and is planned to end in 2006. POSAF I was implemented by The Ministry of Environment and Natural Resources (MARENA) with the help of a loan from the Inter-American Development Bank (contract no. 970/SF-NI) of USD 15.3 Million dollars, and co-financing of USD 4.1 Millions from the Nordic Development Fund (contract no. FND-182). The Swedish International Development Agency (SIDA) supported the Programme by granting USD 1 million, and the Borrower contributed with additional resources of USD 3.1 million, which included resources contributed by the farmers benefiting from the Programme. The total cost of the Programme was USD 24.4 million.

The purpose of the programme is to promote the sustainable management of natural resources, conserve protected areas, and improve the institutional framework for environmental management, which will lead to improvements in the socioeconomic situation and the quality of life of the low-income rural population, in particular. The rural communities affected by the programme are critically dependent on these resources and are caught up in a circle of poverty and unsustainable use of natural resources.

The immediate objectives of the Programme are:

1. To improve the management and recovery of soil, forest, and water resources in order to increase the productivity, income levels, and the environmental quality of farms and rural and indigenous communities in selected basins;
2. To contribute to the establishment and consolidation of protected areas, so as to guarantee the maintenance of delicate and economically promising ecosystems under sound management; and
3. To strengthen the managerial capacity of private and public organisations at both local and national level in the fields of environment and forestry.

The Programme comprises the following three sub programmes:

- Management and recovery of natural resources through:
 - o Soil conservation by establishing agro forestry and forest grazing systems and multipurpose plantations in areas suffering from degradations including 4,700 farms;
 - o Establishment of forests in 15 indigenous communities in Waspán;
 - o Community projects with the purpose to establish green belts in 20 municipalities
- Conservation of protected areas comprising management plans in five areas with an estimated surface of 19,000 hectares. Environmental monitoring and education in two of these areas with community participation.
- Institutional strengthening in order to improve the managerial capacity of rural grassroots organisations, municipalities, the National Forestry Commission, and the Ministry of Environment and Natural Resources. Support of initiatives for the management of protected areas. Environmental education campaigns on the management and conservation of natural resources use of appropriate energy-saving techniques and contamination by agrochemicals.

NDF financed the following programme components:

1. Community development in RAAN

- Community forestry development in indigenous communities in the Waspán area (RAAN) including protection against forest fires, training in production, and sustainable use of natural resources.
- Conservation works to control streams and stabilize riverbanks using biological and mechanical systems together with the establishment of green belts.

2. Protected areas

The purpose of the component is to preserve the ecosystem and protecting the natural resources in areas of influence. NDF provided financing for supervision, construction of basic infrastructure, training and education.

3. Institutional strengthening

The overall purpose of this activity was to strengthen the capacity and management of environmental and forestry related matters at both local and national levels including:

- Strengthening of CONAFOR and MARENA with respect to formulation of policies and strategies for the environment, forests and protected areas.
- Formulation of management plans.
- A feasibility study for a second phase of the program.

POSAF I was administered by MARENA through an administratively and financially independent Coordinating Unit (CU), based at MARENA's main office in Managua, and 6 territorial coordination units presided by the municipalities, and with representatives from MARENA, INAFOR, NGOs, communities and beneficiaries. Co-executing Agencies (OCE) consisting of producers' organisations, cooperatives, associations, NGOs and development agencies executed the Programme in the field. For the municipal conservation projects, the municipalities have acted as co-executers.

The financial execution of the Programme complies as a loan with the norms and requirements of the Ministry of Treasury and Public Credit and is in accordance with the contracts with the IDB and NDF; The IDB is in charge of monitoring and evaluation of the physical execution of the Programme.

The Programme has assisted more than 11 thousand small-scale farmers, covering an area of more than 80 thousand hectares, located in six highly prioritized watersheds. The selection criteria for these watersheds were their high potential for forest development, the presence of a high population pressure with serious rural poverty problems and a significant deterioration of the renewable natural resource base due to common and non-sustainable agricultural practices.

Purpose of the Evaluation

The purpose of this evaluation is to evaluate the outcome of the Forestry Resource Management and Conservation Programme in Nicaragua funded by the IDB and NDF.

The primary objective of the evaluation is to provide an analysis of:

- To which degree the project objectives have been achieved, including poverty, gender and environmental issues, and in particular how well the NDF components have contributed to fulfilling the project objectives.
- The quality and cost efficiency of the implementation of the NDF component.
- The competitiveness of the Nordic supplies in an international setting and the quality of the Nordic suppliers/supplies.
- The relevance of the NDF co-financing in the particular project, as regards to components selected for NDF financing, including as a partner for the borrower, the Lead Agency and the Nordic suppliers.

The Assignment

NDF has contracted the consulting firm PEMconsult A/S to carry out the evaluation. The consultant has been engaged by NDF for a period of 20 working days, out of which 12 days were spent in Nicaragua. The assignment commenced in August 2004 and was completed in January 2005.

The Evaluation Team

Mr. Torben Lundsgaard, an international expert in rural- and institutional development, project management and project evaluation has been responsible for carrying out the evaluation. Mr. Ronie Zamor assisted him at stakeholder meetings and interviews. Representatives of the Borrower, Ministry of Environment and Natural Resources, and staff from the Programme arranged the site visits in Nicaragua and participated in meetings and interviews.

Outline of the Mission Programme

The methodology is based on the Terms of Reference (TOR, Annex 2) and consists of the following five phases:

1. Analysis of data and consolidation of the evaluation method
2. Briefing with NDF in Helsinki and initial arrangement for meetings in Nicaragua
3. Stakeholder meetings in Managua
4. Site visit to prioritized project areas and interviews
5. Conclusions and reporting

The programme was initiated with an analysis of data and a briefing meeting with NDF in Helsinki. The first meeting in Nicaragua was held with representatives from MARENA and BID, and arrangements were made for a two-week programme of stakeholder meetings, workshops, and site visits to the following project areas:

1. Chacocente (protected area in Carazo),
2. Carazo (technical assistance, and environmental education),
3. Selva Negra in Matagalpa (part of the larger protected area Arenal),
4. Jinotega (environmental education),
5. Jalapa (technical assistance, forest management plans and small scale timber industry), and
6. Dipilto (technical assistance, forest management plans and small scale timber industry)

The Consultant visited the selected project areas to discuss major findings with beneficiaries and other stakeholders, and to review issues identified in the TOR. Findings and analysis were shared with MARENA and the IDB, and at the end of the visit findings were presented and agreed upon in:

- Summary of lessons learned, and recommendations for future cooperation and
- A Debriefing Note, including the consultant's preliminary findings, conclusions and recommendations in Spanish

Structure of the Report

The Final Evaluation Report follows the guidelines of the Nordic Development Fund's "Policy and Guidelines for Evaluations", including an extra chapter II: "Activities Co-Financed by the Nordic Development Fund". That chapter presents the activities financed by NDF including the 10 Nordic contracts covering all three sub-programmes in the Programme. In the following chapters III to X aspects of the relevance, efficiency, effectiveness, impact, sustainability and cross cutting issues of the NDF contribution are evaluated. The Debriefing Note in Spanish is attached as Annex 1, TOR as Annex 2; List of Documents Consulted as Annex 3 and List of People Met as Annex 4.

Acknowledgements

The Consultant would like to thank the IDB representative Mr. Jaime Cofre and the managing director Mr. Francisco Rodriguez of POSAF for their valuable support during the visit to Nicaragua. The site visits and meetings were well arranged and supported by the local staff, allowing the consultant to meet with a wide range of stakeholders and beneficiaries of the Programme.

The Report

The report is the property of NDF to be used at its discretion.

2 ACTIVITIES CO - FINANCED BY THE NORDIC DEVELOPMENT FUND

POSAF prepares an Annual Operating Plan (AOP) which presents all the expenses and payments planned for the coming year; the AOP is revised and approved by the IDB before the execution of the Programme can begin. During the year the IDB gives its no-objection for bigger investments approved in the AOP, and for operational expenses and smaller expenses, the approval is made on the basis of a detailed disbursement plan. According to the Annual Operating Plan, POSAF prepares a disbursement plan for NDF, which is then approved by NDF.

Of the total NDF disbursement of USD 4,065,783 - equivalent to SDR 3,168,810 - 55% was used to co-finance local expenses to environmental education, training, equipment to national park personnel, and rural infrastructure, such as:

- Training of technicians and farmers in development and management of sustainable production systems. The total cost of USD 420,000 was financed by NDF.
- Support to a programme to control the attack from the “gorgojo descortezador” in Nueva Segovia. USD 60,000 was financed by NDF.
- USD 30,000 was invested in the elaboration, edition and reproduction of a manual for training of park personnel in protected areas.
- Environmental Education was financed by NDF with a total of USD 695,000

The other 45% of the Nordic contribution financed the following 10 contracts with 7 Nordic companies:

- Hedeselskabet from Denmark executed a study of the monitoring system SIMOSE.
- USD 21,800 (SDR 17,000) was invested in sawmill-equipment from the Swedish company Logosol AB.
- USD 143,700 (SDR 112,000) was invested in sawmill-equipment with installation and training by the Finnish company Kallion Konepaja Oy.
- Feasibility study of models for co-management of four protected areas by the Danish company Rambøll.
- Formulation of management plans in protected areas by the Danish company Rambøll.
- Study of the possible extension of land use plans in the sub-watersheds in the project area executed by HCG from Finland.
- Definition of priority watershed areas and elaboration of land use plans by HCG from Finland.
- Feasibility study as a base for the preparation of the second phase of POSAF prepared by the Swedish company ORGUT AB.
- Preparation of a guide and a database for forest species by ORGUT AB, Sweden.
- A consultant from DARUDEC from Denmark was contracted for two years to facilitate administration and coordination of the Programme.

The direct cost of the Programme, broken down by investment category, is presented in the following table:

Table 1. NDF's Contribution to the Programme

CATEGORIES	Total in thousand USD		
	Nordic Contracts	Local & Regional Contracts	Total
2.1.*) Administration and Monitoring	32	229	261
2.2. Natural Resource Management	194	836	1,030
2.3 Protected Areas	278	466	744
2.4 Institutional Strengthening	1,020	695	1,715
2.5. Unallocated	316	0	316
Total	1,840	2,226	4,066

*) 2.1- 2.5 refer to chapter 2.1 – 2.5 below.

2.1 ADMINISTRATION AND MONITORING

The Monitoring and Evaluation System (SIMOSE)

Hedeselskabet from Denmark made a study of the monitoring system SIMOSE. The total expense of the Scandinavian consultant was USD 32,100 (SDR 25,000).

The purpose of SIMOSE was to monitor and evaluate all the productive components executed by the Programme. Of a total of 254 projects, 213 projects were co-executed by civil society organisations accredited to the programme, and more than 41 projects were executed by the municipalities.

SIMOSE has been used by POSAF since the beginning of the Programme, and is composed of a series of instructions and procedures, and a computerized system for the monitoring of activities and impacts of the Programme. A planned revision of SIMOSE was delayed partly due to lack of a proper baseline for measuring the impacts of the activities but mainly because the first disbursement from the Nordic funds was postponed during the approval procedures. The delays took place in the beginning of the Programme, but after NDF's final approval of the loan, the communication and disbursements have been on schedule.

SIMOSE could be an excellent tool at central and local level to monitor the Programme execution. The monitoring of the financial administrative system is working well. However, for measuring the real impact of the actions, the computer system still needs further development. There exist big differences in methodologies and working procedures used by different OCEs. Furthermore, SIMOSE is not able to adequately register and monitor expected or unexpected impacts of all the projects, as the beneficiaries of the Programme do not validate statistical data. At the same time, many of the OCEs do not have the capacity to use the tool adequately in their project execution.

2.2 NATURAL RESOURCE MANAGEMENT

Organisation of the Production

The programme regarding rural appraisal methodologies and formulation of projects, trained 125 technicians working for the OCEs in development of sustainable production systems. Other 600 groups of farmers with 8-10 participants in each group were trained in development and management of sustainable production systems. The total cost of USD 420,000 was financed by NDF.

Emphasis was given to develop the capacity of the OCEs to facilitate a harmonious and productive relationship between the farmers and the environment. And to carry out complementary projects that strengthen the capacity of the farmers. Thus, the OCEs have improved their institutional capacities, and their ability to work with the farmers.

Forestry Community Development

The component was foreseen to support establishment of forests and forest management in indigenous communities in Waspán in RAAN, but because of political problems with the regional government and insecurity in the execution of the activities, MARENA decided in 1999 to transfer the unspent financial resources to the Programme component in New Segovia.

Development of Pine Forest in New Segovia

An emergency situation emerged because of the attack of the “gorgojo descortezador” that affected more than 18,000 hectares in the department of Nueva Segovia. Instituto Nacional Forestal (INAFOR) presented a project proposal for quick actions to control and handle the plague. The budget of the project was USD 120,000 of which 50% were supplemented with resources from NDF- for local works, and others.

The plague control was based on coordinated efforts of the three local Forest Owner Organisations, the municipalities and the central government representatives in Nueva Segovia. The cooperation between these groups turned out to be very effective, since it helped to control the “gorgojo descortezador” and revive the natural regeneration of the forests.

- USD 21,800 (SDR 17,000) was invested in sawmill-equipment from the Swedish company Logosol AB.
- USD 143,700 (SDR 112,000) was invested in sawmill-equipment including installation and training by the Finnish company Kallion Konepaja Oy.

Two fundamental problems have been identified in relation to the processing and commercialization of timber:

- Firstly a lack of timber because of the damage made by the “gorgojo descortezador”, and secondly
- Installation problems and problems with the maintenance of the machines acquired in the Nordic countries.

Three Forest Owner Associations bought sawmill equipment. However, the equipment bought from Logosol AB has not been in use due to lack of instructions and training of staff. The factory has no representative or distributor in Nicaragua, and the contract of USD 21,800 did not permit the additional cost of sending personnel from Sweden to

train the staff in New Segovia.

The sawmill-equipment from Kallion Konepaja Oy (which was much more expensive than the equipment from Sweden) was delivered including installation and training, and it has worked well in all three places. But due to lack of timber, only one is working full time, another is working 40% and the third has not been in use for a long time.

The damage from the “gorgojo descortezador” came as a surprise and left behind big areas without timber for processing, and consequently one or maybe two of the three Forest Owner Associations cannot recover the investment in the equipment. One sawmill is enough to process the timber extracted from all three Forest Owner Associations. It is therefore urgent to follow-up on the situation and look at the management, processing and marketing of timber, and to identify better business opportunities for the three Forest Owner Associations.

2.3 PROTECTED AREAS

The objective of the sub-component is to conserve unique ecosystems and to protect natural resources in the areas of influence of POSAF. The activities included basic land survey, inventories, and management plans for five areas with a total of 19,000 hectares, and funds for supervision, training, environmental education and basic infrastructure.

In Chacocente Wildlife Refuge (4,800 hectares) NDF has co-financed the elaboration of a management plan, construction of basic infrastructure for the administration of the park, and support to enable park attendants to monitor the flora and fauna, to fight against forest fires in the dry tropical forests and to improve communication and mobilization facilities.

In Chacocente the local interest groups were involved in the classification and planning of high-priority areas developing the basic conditions for a decentralized administration. 30,000 USD of the Nordic Fund were invested in the elaboration, edition and reproduction of a manual for training of park personnel.

NDF financed the formulation of management plans for four protected areas:

- The Danish company Rambøll prepared a feasibility study of models for co-management of four protected areas. The cost was USD 148,000 (SDR 117,000) of which 65% were for consultants from the Nordic countries and 35% for local consultants.
- Formulation of management plans in protected areas by the Danish company Rambøll. 70% of the total cost of USD 130,000 (SDR 103,000) was for consultants of Nordic origin and 30% for local consultants.

In Chacocente, the management plan for the protected area has been well received by the municipalities, MARENA, INAFOR and the local societies living inside or near the protected area. The participatory methodologies managed to develop a consensus between the communities living inside the protected area and major stakeholders. It enhances the sustainability of for example the important work done by the voluntary forest guard system in the villages.

Despite the villagers' initial mistrust, the authorities and the villagers agreed after lengthy discussions that the villagers could collect a certain part of the turtle eggs for sale at the local markets and restaurants. The controlled collection of eggs has reduced the illegal collection of eggs, and it has improved the cooperation and involvement of the villagers in the protection of the turtles from the danger of extinction.

The management plans for the protected areas have an institutional character, and the recommendations are in general followed by the authorities when they are supporting new initiatives as for example to improve the living conditions of the communities inside the parks (health centers, productive projects, and latrines).

The construction of basic infrastructure and housing facilities for the park attendants, scientific investigators and students in Chacocente are important constructions that symbolize a certain institutionalization of the care of the protected area. However, the housing facilities could degrade quite quickly if there is no revenue that can ensure their maintenance.

The technical assistance offered to the farmers is limited to those with registered land and with the capacity to recover the investment. Social problems and poor families without land or legal title obviously limit and reduce the impact of the development activities of the Programme, especially where the protection of important ecosystems are prioritized. This could hamper the development of a stable and economically sustainable society inside the protected areas, and the maintenance of the biodiversity and natural resources for future generations.

2.4 INSTITUTIONAL STRENGTHENING

The component supports the institutional strengthening of public organisations and private organisations in the environmental sector in formulation and implementation of natural resources policies, formal and informal environmental education as well as studies. Environmental Education was implemented under an agreement with the Ministry of Education.

Plans for Classification of the Watersheds

- HCG from Finland prepared a study of the possible extension of land use plans in the sub-watersheds in the project area. Total expenses were USD 127,000 (SDR 99,000) of which 80% were local costs.

The study helped to identify and prioritize projects in critical areas and to provide recommendations for the general management of the watersheds.

- Definition of priority watershed areas and elaboration of land use plans for POSAF intervention areas prepared by HCG from Finland. The consultancy services amounted to USD 273,290 (SDR 213,000) of which 55% were for consultants of Nordic origin, 30% to local consultants and 15% for other expenses.

The study resulted in the following outputs, which guided the investments of POSAF II into areas of vulnerable socio-environmental conditions and potentially high productivity:

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1. Prioritization of watersheds at national level.
 2. A characterization of the high-priority watersheds at national level.
 3. Elaboration of classification plans in seven high-priority sub-watersheds for the operation of the POSAF II.
 4. Establishment of a geographical information system.

The regional offices have varying evaluations of the studies of high-priority watersheds partly depending on the quality of data used in different watersheds. For example in Jinotega/Matagalpa, secondary data were used affecting the final quality of the work there. However, generally speaking, the studies are acknowledged for their high quality, and as baseline studies they have been very important for a more focused execution of the Programme.

The land use and management plans still need to be revised and integrated in the municipal development plans, but the municipalities do not have the resources to organize environmental committees, and to revise and approve the plans prepared by the Programme. The regional coordination committees of POSAF cooperate with the local authorities and local representatives from the ministries; but when it comes to action, the authorities' lack of resources are evident, and create bottlenecks, which may limit the final results of the Programme.

Feasibility Study for the Second Phase of POSAF

A feasibility study which served as a base for the preparation of the second phase of POSAF was prepared by the Swedish company ORGUT AB. 70% of the total expenses of USD 472,200 (SDR 368,000) went to Nordic consultants, 25% to local consultants and 5% to other expenses.

The study gathered lessons learned from the initial phase of POSAF, and was very important for the preparation of the second phase of POSAF. It provided a more diversified series of components, a better guide for support to the farmers, newly prepared management plans of the watersheds were included as well as baseline studies and studies of highly degraded areas and protected areas. An excellent cooperation between Nordic consultants, local consultants and local stakeholders resulted in a well-balanced document of high quality.

Database and Guide for Useful Forest Species in Nicaragua.

The database and guide was prepared by ORGUT AB from Sweden with INAFOR as local counterpart. The expenses were USD 162,950 (SDR 127,000) of which 90% were for Nordic consultants.

Orgut developed a guide to the extensionists to help them identify forest species characterized by the different climatic zones in Nicaragua. The guide was a follow-up to investigations carried out by INAFOR, which allowed the consultants to focus on developing an adjusted guide and database related to the ecosystems. The guide is unique in the sense that the database makes it possible for the extensionists to identify the most appropriate forest species dependent on the climatic zone. However, the database still needs to be better used in practice by the technicians during project preparations and technical assistance.

Training and Environmental Education

The purpose of this component is to sensitize and educate teachers, students and rural communities, in the importance of protection of natural resources and watersheds; e.g. the necessity of clean rivers and lakes, the promotion of firewood conservation technologies; human health issues; the handling of garbage disposal problems; and practicing good natural resource management. Key participants were teachers and students at the primary schools (formal environmental education), and communal leaders, farmers, and health brigades (informal environmental education). The formal environmental education programme was implemented under an agreement with the Ministry of Education.

- The component financed nine scholarships for master's degrees for technicians employed at MARENA and two to personnel from the Programme.
- The component was financed by Nordic funds with a total of USD 695,000

Environmental education (EE) in its two levels (formal and informal education) is a very effective tool to promote new forms of co-existence with the environment. To further strengthen the formal and informal environmental education, the interviewed teachers wanted to expand the education by introducing simple conservation practices in the primary schools (for example implement minor reforestation plans, organic gardening, fruit trees, etc.)

The results of the EE are encouraging. In Matagalpa, actions have been taken to control and reduce the contamination from the processing of coffee after the harvest with clear evidence of an improved water quality of the rivers down-stream. The OCEs have also implemented wood saving stoves, which in particular have benefited the women and children working in the kitchens, as the stoves are healthier than the old ones. 1,380 wood saving stoves were established, and 1,240 are reported to be in use. The new stoves reduce the consumption of wood with 50%, corresponding to a reduction in expenses of USD 135/family/year, in other words representing about 30% of the annual income of a poor farmer.

2.5 UNALLOCATED FUNDS

The Danish consulting company DARUDEC contracted a consultant for two years. His task was to facilitate the administration of the Nordic funds and to advise on activities financed by the funds. This resulted in a more efficient execution of the components. The total cost was USD 305,400 (SDR 238,000) of which 10% were local expenses.

In general there is an excellent perception of the work carried out by the consultant who coordinated well with central and regional units of POSAF. With his help POSAF overcame their initial difficulties with the working procedures of NDF. It seems that there were some discrepancies with his final reporting where he got involved in matters that were not foreseen in his terms of reference, and this created cooperation problems within the Programme.

It has been clearly noted that the management of POSAF strongly recommends a strengthening of the NDF representation to improve the follow-up of the execution of future programmes at national and/or regional level.

3 PROGRAMME/COMPONENT RELEVANCE

The following chapter analyses the relevance of the Programme as a whole and the relevance of the three NDF-financed components (Community Development in RAAN, Protected Areas and Institutional Strengthening) according to national strategies and development plans. The assessment is based on interviews and meetings with major stakeholders and beneficiaries, and the results of the interviews are summarized in table 2.

3.1 THE PROGRAMME

The Strengthened Poverty Reduction Strategy (SPRS) 2001-2005, which outlines the national strategies for implementation, places strong emphasis on the development of rural areas, not only because of their higher incidence of poverty but also because of their high potential for growth and development.

The national strategy is to improve incentives for rural development through for example the implementation of demand-driven programmes aimed at small and medium-sized producers with growth potential, promotion of improved production technologies, and strengthening of the institutional structures and procedures at central and local level. In line with this, the environmental sector plan- as outlined in Nicaragua's Environmental Policy and Action Plan 2000-2005 (PANic)- aims to reduce ecological vulnerability. In addition, it puts strong emphasis on promotion of sustainable development models, and promotion of environmental education.

The objective of POSAF 1 is to promote the sustainable management of natural resources, conservation of protected areas, and to develop the institutional framework for environmental management in order to improve the socio-economic situation and quality of life for the low-income rural population. The Programme has assisted more than 11 thousand small-scale farmers covering an area of more than 80,000 hectares, located in six highly prioritized watersheds. The selection criteria for these watersheds were their high potential for forest development, the presence of a high population pressure with serious rural poverty problems and a significant deterioration of the renewable natural resource base due to common and non-sustainable agricultural practices.

The technical assistance and incentives offered to the small-scale farmers is linked to the production on the farm. It is, however, not providing advice on important off-farm aspects such as processing and commercialization of the production. The IDB and POSAF recognize the relevance of marketing of processed products, but do not have the capacity to include it directly in the Programme's activities. It has established links and cooperation with other programmes, e.g. Instituto de Desarrollo Rural (IDR) to improve the chain from farm to markets, but the efforts could be further developed.

The general objectives of the Programme are in line with national and sector priorities, and according to the interviews (table 2) the Programme as a whole scores from very relevant to considerably relevant for the target groups. The original Programme objectives are rated still to be very relevant to considerably relevant. POSAF directly addresses improvements in daily life of low-income rural families, and the immediate

objectives address increased sustainable productivity, maintenance of economically promising ecosystems under sound management, and strengthened managerial capacity of private and public organisations, which coincide very well with the national strategies.

3.2 THE NDF-FINANCED COMPONENTS

The components were identified and prepared in close cooperation with the IDB and MARENA, and both institutions appreciate the NDF contribution to preparation of guidelines, strategic studies, institutional development and training. The relevance of the NDF-financed components is analyzed in the following based on the interviews summarized in table 2.

3.2.1 Community Development in RAAN

RAAN is one of the high priority areas of the SPRS due to its complex problems. The ethnic and indigenous groups are among the poorest in the country, and to eradicate the poverty among these groups while still preserving their culture and traditions, presents a special challenge. POSAF initiated activities in RAAN already in 1997 but did not achieve expected results because of conflicting local interests and lack of support from the local society. In 1999, POSAF decided to cancel all programme activities in RAAN and transfer unspent funds to New Segovia. POSAF II is now developing new activities in RAAN.

In New Segovia NDF supported the local societies' fight against the attack of the "gorgojo descortezador", which affected more than 18,000 hectares of forest. The plague control was based on coordinated efforts of three local Forest Owner Organisations, the municipalities and the central government representatives in New Segovia. The cooperation between these groups turned out to be very encouraging for the forest sector; it helped to control the "gorgojo descortezador" and revive the natural regeneration of the forests.

Sawmill equipment was provided to three Forest Owner Associations in New Segovia. However, the capacity of the equipment is far from being exploited, basically because of problems with the maintenance and insufficient supplies of raw material. When the decision to provide equipment to sawmills was made, it was relevant, and in line with the national strategy to promote improved production technologies in small-scale industries. An attack of the "gorgojo descortezador" of this large scale could not be foreseen. The maintenance of the equipment has been too complicated because of the long distance to the distributor and other services. Using equipment distributed from Nicaragua, Costa Rica or Honduras had supported the sawmill industry better.

3.2.2 Protected Areas

The Nicaraguan government has prioritized the rehabilitation of the most vulnerable water basins and important ecosystems in protected areas (PANic 2000-2005), and the objective of the NDF component coincides well with PANic as it strives to conserve unique ecosystems and to protect natural resources in the areas of influence of POSAF.

The activities included basic land survey, inventories, and management plans for five areas with a total of 19,000 hectares, and funds for supervision, training, environmental

education and basic infrastructure. The activities were rated very relevant by the interviewed (table 2). Local interest groups were involved in the classification and planning of high-priority areas developing the basic conditions for a decentralized administration. Through the use of participatory methodologies the component managed to develop a consensus between the communities living inside the protected area and other major stakeholders.

The technical assistance is limited to farmers that have legal access to land and can recover the investments offered by the Programme. Though this is in line with the Strengthened Poverty Reduction Strategy and the National Development Plan, it excludes vulnerable groups who lack legal access to land or the ability to recover the investments. These groups are excluded because the selection of beneficiaries is a function of tenure and recovery of investment. However, due to their unsustainable farming practices their exclusion is a problem in protected areas and in vulnerable watersheds – especially, if other projects do not address the needs of these excluded groups.

3.2.3 Institutional Strengthening

The government is strengthening the legal and institutional framework for environmental and natural resources management, and the municipalities are encouraged to promote sustainable development models, environmental education, and institutional coordination (PRSP). The component supports the institutional strengthening of public- and private organisations in formulation and implementation of natural resources policies, formal and informal environmental education as well as studies. Since the activities are in line with government policies, the component scores high on relevance (table 2):

- Institutional and inter-agency cooperation has been enhanced through the Programme's regional technical committees, creating a stronger system of collaboration between projects, civil society and representatives from government, municipality and local authorities.
- A study of the possible extension of land use plans in the sub-watersheds in the project area helped to identify and prioritize projects in critical areas and to provide recommendations for the general management of the watersheds.
- Definition of priority watershed areas and elaboration of land use plans for POSAF intervention areas guided the investments of POSAF II into areas of vulnerable socio-environmental conditions and potentially high productivity, and the establishment of a geographical information system.
- The Environmental Education activities aim to sensitize and educate teachers, students and rural communities, in the importance of protection of natural resources and watersheds; e.g. the necessity of clean rivers and lakes, the promotion of firewood conservation technologies; human health issues; the handling of garbage disposal problems; and practicing good natural resource management.
- Key participants in training and environmental education were teachers and students at the primary schools (formal environmental education), and communal leaders, farmers, and health brigades (informal environmental education).

- The programme in rural appraisal methodologies and formulation of projects trained 125 technicians working for the OCEs in development of sustainable production systems.
- An additional 600 groups of farmers with 8-10 participants in each group were trained in development and management of sustainable production systems.

3.2.3 Unallocated funds

The NDF-financed components consists of 10 individual contracts implemented by 7 Nordic companies and a wide range of activities implemented through local contracts (ref. Chapter 2). POSAF followed the working procedures of NDF, which in the initial phase of the Programme created difficulties, as POSAF wasn't acquainted with the procedures of tendering, contracting, reporting, budgeting etc. To overcome these difficulties POSAF applied for further support and a Nordic consultant was contracted with the task to facilitate the administration of the Nordic funds and to advice on activities financed by the funds. POSAF acknowledges the support, and the Programme management strongly recommends a strengthening of the NDF representation to improve the follow-up on future programmes.

3.2.4 The interviews

The relevance of the programme and the NDF financed components were assessed by stakeholders and beneficiaries during meetings and site visits. The results are presented in the following table 2:

Table 2. Evaluation of Relevance

Question		Interviewed			
		Lead Agency	Implementing Agency	Nordic Suppliers	Target Groups
I.1	Was the Programme relevant for the target groups?	<i>Very</i>	<i>Very</i>	<i>Very/Considerably</i>	<i>Very/ Considerably</i>
I.2	Were the NDF components relevant for the Programme?	<i>Considerably</i>	<i>Very/Considerably</i>	<i>Very</i>	<i>Very</i>
I.3	Was the NDF components technically appropriate for the Programme?	<i>Considerably</i>	<i>Very/ Considerably</i>	<i>Very</i>	<i>Considerably</i>
I.4	Are the original Programme objectives still relevant?	<i>Considerably</i>	<i>Very/Considerably</i>	<i>Considerably</i>	<i>Very/Considerably</i>

4 EFFICIENCY

This chapter analyses how economically the outputs have been from NDF-financed goods and services and the Programme as a whole. The assessment is based on the disbursement/implementation plan, the actual disbursement as presented in table 3, and interviews with major stakeholders and beneficiaries (table 4).

Table 3. Budget and expenditure performance of NDF-financed activities in POSAF 1 in USD.

NDF components	Budget in USD	Disbursed in USD	% Disbursed
A. Administration and Monitoring	279,300	261,000	93
B. Natural Resource Management Consisting of Community Development in RAAN (and New Segovia), and Organisation of the Production	1,140,000	1,029,535	90
C. Protected Areas	776,125	744,280	96
D. Institutional Strengthening	1,966,575	1,714,115	87
E. Unallocated	338,000	316,850	94
Total	4,500,000	4,065,780	90

Source: Calculations based on information from Project office.

The NDF-components were rated from not very reasonable to reasonable (table 4) when it came to efficiency, with the exception of the component in RAAN. The component was discontinued because it conflicted with local political interests and with the interests of a foreign tree company exploiting trees from the area, thus excluding the indigenous groups. In 1999, the component was canceled and remaining funds were transferred to New Segovia.

The overall quality of the Nordic supplies was rated as reasonable (table 4) but the Lead- and Implementing Agency consider the results of the Nordic supplies were achieved at a non competitive price. However, detailed information was not available to respond to the question as to whether the same results could have been achieved cheaper and faster by regional companies. The only exception is the provision of sawmill equipment, which due to the high transport and maintenance expenditures proved to be more expensive compared to what regional distributors could have provided.

The original expectation of NDF was that about 80% of the investment should be used for the purchase of consultancy services and equipment in the Nordic countries, but actually less than 50% has been used for this purpose (se chapter 2). The implementing agency considered the cost of the Nordic companies as high, and a discussion regarding prices of Nordic services and supplies has been ongoing during the initial phase of the

Programme. A balance of 20-40 % of the total budget spend on Nordic suppliers seems to be acceptable to the implementing agency. However, with an appropriate combination of local and Nordic capacity, as was the case in this Programme, the outcomes prove to be achieved reasonably efficient.

The general impression of the performance of the Nordic suppliers is rated from very good to reasonably good. Most consultancies have been a combined effort between Nordic and local consultants. Generally, the consultants were successful with their participatory approaches and managed to establish good communication lines with the beneficiaries, Programme staff and other stakeholders. This is also reflected in the acknowledgements of the studies and plans prepared by the companies.

The Nordic supplies were implemented within budget and without any significant delays except at the outset of the Programme where the implementing agency felt that transfers from NDF were delayed. This affected and postponed the implementation of NDF financed activities for Environmental Education, a study of the monitoring system and a baseline study.

The staff of POSAF feels that the specific working procedures and routines of NDF have been complicated to deal with especially in the beginning of the Programme. For each individual contract, they prepared terms of reference and complied with the tender procedures of NDF. This, the Implementing Agency explains, was difficult because they had to build-up their capacity to work with these procedures. The initial problems with transfer of funds and understanding the working procedures of NDF were overcome by contracting a Nordic consultant. The communication, transfer of funds, approval of plans, etc. has functioned without major problems for the rest of the Programme period.

Most of the Nordic suppliers and consultants, rate the Programme as considerably important as a bridgehead to the Central American market. NDF is considered an important client along with donors from the EU, the Nordic countries, the IDB, and the World Bank. The reference is important for company short listing and tendering for projects in the region, and for many of the consultants it has been an important reference when applying for assignments.

The IDB rated the Programme as satisfactory during implementation, and rated the cooperation between NDF, MARENA and the IDB as satisfactory.

The efficiency of the programme and the NDF financed components were evaluated by stakeholders and beneficiaries during meetings and site visits, and the results are presented in the following table:

Table 4. Evaluation of Efficiency

Question		Interviewed				
		Lead Agency	Implementing Agency	Nordic Suppliers	NDF	Target Groups
II.1	Was the NDF component in general implemented efficiently?	<i>Reasonably</i>	<i>Reasonably to not very</i>	<i>Reasonably</i>		<i>Very to reasonably</i>
II.2	Were the Nordic supplies (goods/services) of the required quality?	<i>Not good</i>	<i>Reasonable to not good</i>	<i>Reasonable</i>		<i>High to reasonable</i>
II.3	How was the overall pricing of the Nordic supplies in relation to quality?	<i>Not competitive</i>	<i>Not competitive</i>			<i>Not competitive</i>
II.4	Were the Nordic supplies within project budget?	<i>On budget</i>	<i>On budget</i>			<i>On budget</i>
II.5	How was the overall performance of the Nordic suppliers?	<i>HCG: Very good DARUDEC: Reasonable Orgut: Very good</i>	<i>Hedeselskabet: Reasonable HCG: Very good Rambøll: Very good DARUDEC: Reasonable to not very good Orgut: Very good to reasonable</i>			<i>HCG: Very good to reasonable Rambøll: Reasonable DARUDEC: Very good to reasonable Orgut: Very good LOGOSOL AB: Bad KALLION KONEPAJA: Reasonable</i>
II.6	Was the participation of strategic or considerable economic importance to Nordic Suppliers?			<i>Judged to be of considerable importance by the consultancy companies</i>		
II.7	Were there delays in implementation?	<i>Considerable</i>	<i>Considerable</i>	<i>Not significant</i>		<i>Considerable</i>
II.8	Was the Programme re-organized during implementation?	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>
II.9	How did the Lead Agency rate the Programme during implementation?	<i>Mid-term: Satisfactory Presently: Satisfactory</i>				
II.10	The partners rating of each other as co-operation partners:	<i>1. View of Implementing Agency: Satisfactory 2. View of Nordic Suppliers: Satisfactory 3. View of NDF: Satisfactory</i>	<i>4. View of Lead Agency: Satisfactory 5. View of Nordic Suppliers: Satisfactory 6. View of NDF: Highly satisfactory to satisfactory</i>	<i>7. View of Lead Agency: Satisfactory 8. View of Implementing Agency: Satisfactory 9. View of NDF: Highly satisfactory</i>	<i>10. NDF view of Lead Agency: Satisfactory 11. NDF view of Implementing Agency: Satisfactory 12. NDF view of Nordic Suppliers: Satisfactory</i>	

5 EFFECTIVENESS

In the following, the relation between the objectives and results for the three components financed by NDF and the complete Programme is assessed based on information from the monitoring system and results from the interviews summarized in table 5 below.

5.1 THE PROGRAMME

The interviewed individuals estimate that the programme objectives have to a certain extent been achieved at farm level (table 5). The project planning process takes into account the needs of the farmers, and they have been offered TA limited to activities related to the forest sector, diversification of the production, and soil conservation. The farmers' productivity and income have increased, the diet has improved as a result of crop diversification, and land value has increased because of fencing and reforestation.

However, clear indicators and data on farmers, e.g. their average annual income and other comparative figures that give an indication of the relative position of the target group compared to non-participating farmers are not available. POSAF's monitoring system reports income increases at farm level of up to 129 % in annual and bi-annual crops and 78 % in silvicultural and pastoral systems equivalent to USD 76 and USD 28 per hectare. The annual income of the farmers participating in the programme is reported to be between USD 272 and 412. However, it seems that the farmers do not have the capacity to expand the introduced production methods -which in general covered a minor part of the farm - to cover the rest of their farms, which could have been expected if the interventions were as profitable as estimated. Figures stating average farmers' increase in annual income due to project activities would be more indicative.

5.2 THE NDF-FINANCED COMPONENTS

5.2.1 Community Development in RAAN

The component was intended to make a substantial contribution to forest management in indigenous communities, but has not been successful and was closed in 1999. The investment in sawmill equipment in New Segovia failed basically because of the damaging attack of the "gorgojo descortezador". The Forest Owner Associations bought the equipment, and at least two of the three owners cannot recover the investment. They urgently need assistance to revive and make more effective processing processes and to adapt the capacity to the raw material available.

5.2.2 Protected Areas

The effectiveness of this component was reasonable as it contributed to the achievement of the development objectives: Developing methodologies and methods for decentralized administration of protected areas, and improving the executing capacity of the governmental and local institutions. Participatory planning methodologies were introduced to enhance the cooperation between MARENA, local authorities and the local

society living in and around the protected areas. The beneficiaries felt the methodology was appropriate and met their demands and priorities.

The Programme cannot include farmers without legal access to land. This limits the opportunities to improve the socio-economic situation for the rural population with the lowest income, and the protection of natural resources due to these farmers' unsustainable farming practices. Therefore, the Programme needs to improve its cooperation with other programmes and institutions in order to facilitate coordinated efforts to improve the production and preserve the natural resource base.

5.2.3 Institutional Strengthening

The effectiveness was rated to be reasonable. The component has strengthened the capacity of MARENA to assume responsibility for managing sustainable production systems in the forest sector. Institutional and inter-agency cooperation has been enhanced through the Program's regional technical committees, creating a stronger system of collaboration between projects, civil society and representatives from government, municipalities and local authorities. The baseline studies and management plans co-financed by NDF have had an important impact on the further development of the Programme. It has helped the staff and MARENA to prioritize important watersheds, improve the management of the protected areas, and strengthen the environmental education in the primary schools.

But, not all outputs regarding implementation and approval of land-use and management plans have been realized according to plan. An analysis in New Segovia suggests that INAFOR and the municipalities have approved less than 25% of the management plans prepared by the Programme. An important constraint has been the restricted capacity of the municipalities, MARENA and INAFOR. Therefore, a broadening of activities is not recommended before these problems have been successfully addressed.

The results of the interviews are shown in table 5 below.

Table 5. Evaluation of Effectiveness

Question		Interviewed			
		Lead Agency	Implementing Agency	Nordic Suppliers	Target Groups
III. 1	Development Objectives for the Programme have been, or can be expected to be, achieved?	<i>Partly</i>	<i>Not quite fully</i>		<i>Not quite fully</i>
III. 2	Development Objectives for the NDF components have been achieved?	<i>Not quite fully</i>	<i>Not quite fully</i>	<i>Not quite fully</i>	<i>Not quite fully</i>
III. 3	Immediate Objectives for the Programme have been, or can be expected to be, achieved?	<i>Partly</i>	<i>Not quite fully</i>		<i>Not quite fully</i>
III. 4	Immediate Objectives for the NDF components have been achieved?	<i>Not quite fully</i>	<i>Not quite fully</i>	<i>Not quite fully</i>	<i>Not quite fully</i>

6 IMPACT

It is not easy to measure the impact of the various activities of the Programme. An example is the objective to improve the socioeconomic situation and the quality of life of the low-income rural population. To measure it requires a baseline study at the start of the intervention, followed by impact analyses after three or four years. The Programme does not have such data. In addition, no profound financial and economic analyses of the intervention at the beneficiary level were made and verifiable indicators were not defined.

Field observations and interviews with beneficiaries generated some evidence to measure potential impact, and with the exception of the component at the Atlantic coast, which due to the early closure has not realized any enduring impact, a clear potential impact has been observed:

Farmers

The direct beneficiaries consist of small- and medium-scale farmers with title and legal access to land, and with the capacity to recover investments made through the incentives of the Programme. As for the environmental education, there are two groups of beneficiaries: the pupils in the schools, and the families that participated in workshops and seminars.

The short-term benefits are improved income, through for example; better prices of processed timber and better prices of coffee because the consumers pay more for an environmentally friendly production of coffee. Another direct benefit has been the incentives the farmers received from the Programme in terms of fencing wire, agricultural inputs, trees and plants. In this way, the farmers have been able to improve their income, mainly from the annual- and biannual production systems. In a few more years, they are expecting further benefits from their investments in coffee plantations, fruit trees and forest plantations.

As for the indirect benefits, the following can be mentioned: improvement of the soils due to the conservation effort, increase of the value of properties, improvement of health in the communities, and the reduction of the vulnerability to natural disasters, which is a very important factor in Central America.

Gender

A main weakness of POSAF I was the minor attention paid to women and children. In Nicaragua, a woman does not have a legal right to land owned by her husband. This is a structural limitation for the participation of women in the actions of POSAF. In general, the women have benefited from the training, and more specifically from the project installing wood saving stoves in rural areas. As for the training and environmental education, it has a family focus, and the women participated as much as the men.

The children and adults have benefited from the Environmental Education component. The botanical demonstration garden in Carazo is undoubtedly a good example of how the environmental education of children can contribute to sustaining cultural and environmental changes over time.

Environment

The environmental benefits are evident in most of the projects. Inside the protected areas substantial improvements are expected in the conservation of species in danger of extinction (the unique natural forest in Selva Negra in Matagalpa, the turtles at the beach of Chacocente for example). The residents that live in watersheds assisted by the Programme can expect cleaner lakes and rivers. Also, an improved management of the watersheds will reduce the vulnerability to natural disasters well known in Nicaragua.

In the long term, all the projects are expected to have a clear and good environmental impact, and from this perspective, they are fundamental for the environmental recovery of Nicaragua. However, it is necessary to recognize that there are no simple indicators to quantify and count the environmental benefits generated by specific projects of POSAF I. Clear indicators to substantiate these benefits do not exist, and the impact evaluation is based on statements from interviews of officials and beneficiaries, and field visit.

Institutional Strengthening

The impact of the institutional strengthening is potentially very large. An effective institutional structure for the development of protected areas and the formulation and implementation of natural resources policies has a nation-wide effect. However, there is still much to be done before this impact is visible. A complicating factor has been the strong executing capacity of POSAF and the relatively low capacity of cooperating authorities as the provincial MARENA delegations, INAFOR and the municipalities. This strongly reduces the impact of the support provided.

7 SUSTAINABILITY

POSAF attempts to combat poverty and improve the livelihood of the rural poor in areas affected by natural resource degradation and environmental pollution. POSAF has for example promoted the application of organic technologies in the coffee sector. This is a sound practice in a sector, which has a history of extensive overuse of chemical fertilizers and pesticides.

The policy support to the execution of the Programme was rated very satisfactory (table 6), and the institutional capacity to execute the Programme as satisfactory. A special concern by the IDB and MARENA has been the capacity of the OCEs to offer Technical Assistance to farmers and their families, and the Programme supported a capacity building programme aimed at increasing their managerial and professional capacities.

Government institutions at local level are fiscally weak, which limits their capacities to assume responsibilities or follow-up on activities supported by the Programme. For example do municipalities, MARENA delegations and INAFOR still not have the capacity and financial resources to manage and monitor the protected areas, or to get the plans prepared by the Programme revised and integrated into their development plans. However, the financial capacity of the municipalities is being improved due to the Government's decentralization and deconcentration of the ministries and the subsequent transfer of more resources to the municipalities; this should in principle improve possibilities of sustaining activities.

The regional offices of POSAF have built good relationships with local organisations, municipalities and regional delegations of MARENA and INAFOR, and the participation of target groups is rated as very satisfactory.

Regarding appropriateness of technology the picture is mixed. The component in RAAN was not sustainable and was closed down, and the actual use of the provided sawmill equipment in New Segovia is estimated to be below 30% showing no sustainability at all. The methodology used in the components for protected areas and institutional strengthening are on the other hand rated as very satisfactory to satisfactory due to their strategic importance for the Programme and participatory planning methodologies.

A micro-credit programme to the farmers couldn't work under normal commercial conditions and the Programme closed down the component.

The interventions were assessed by the interviewed to have some benefits to the environment. Although no clear verifiable indicators were defined, substantial improvements are expected in the conservation of important eco-systems inside the protected areas, and the residents that live in watersheds assisted by the Programme can expect that an improved management of the watersheds will reduce their vulnerability to natural disasters.

At the beneficiary level, women and children were assessed to have from some to insignificant benefit of the Programme because it basically is oriented to on-farm income generating activities with low participation of women. In general, the women and

children have benefited from the Environmental Education component, which has a family focus, and the women and children, participated as much as the men.

Economic soundness and resilience is rated to satisfactory. The Programme has no means to measure the economic sustainability of the developed production systems. However, it seems that the farmers do not have the capacity to expand the introduced production methods -which generally covered a minor part of the farm - to cover the rest of their farms, which could have been expected if the interventions were as profitable as estimated.

The processing and commercialization of the farm products are only marginally included in the project planning, although the marketing determines the possibilities to recover the investments; and processing increases the value of the product and creates employment. Now, in the second phase of POSAF, more attention is paid to processing and marketing. However, still more efforts are required to market the improved production.

Table 6. Evaluation of Sustainability.

Question		Interviewed			
		Lead Agency	Implementing Agency	Nordic Suppliers	Target Groups
IV. 1	Can the Programme be expected to continue to supply benefits to the target group after external assistance has been terminated?	<i>Possibly</i>	<i>Possibly</i>	<i>Possibly</i>	<i>Possibly</i>
IV. 2	Policy support measures?	<i>Very satisfactory</i>	<i>Very satisfactory</i>	<i>Satisfactory</i>	<i>Satisfactory</i>
IV. 3	Institutional capacity?	<i>Satisfactory</i>	<i>Very satisfactory</i>	<i>Satisfactory</i>	<i>Very satisfactory to satisfactory</i>
IV. 4	Participation of target groups?	<i>Satisfactory</i>	<i>Satisfactory</i>	<i>Satisfactory</i>	<i>Very satisfactory to satisfactory</i>
IV. 5	Appropriateness of the technology?	<i>Satisfactory</i>	<i>Satisfactory</i>	<i>Satisfactory</i>	<i>Satisfactory to not satisfactory</i>
IV. 6	Environmental benefits of damage?	<i>Some benefits</i>	<i>Some benefits</i>	<i>Some benefits</i>	<i>Major benefits to some benefits</i>
IV. 7	Benefits for women/children?	<i>Insignificant</i>	<i>Some</i>	<i>Insignificant</i>	<i>Some</i>
IV. 8	Economic soundness and resilience?	<i>Satisfactory</i>	<i>Satisfactory</i>	<i>Satisfactory</i>	<i>Satisfactory</i>

8 PROJECT ORGANISATION AND ADMINISTRATION

POSAF is administratively and financially independent of MARENA and has developed a strong institutional capacity to execute the Programme with well-qualified staff. There are 6 territorial coordination units presided by the municipalities, and with representatives from MARENA, INAFOR, NGOs, communities and beneficiaries. The decentralized organisation enhances inter-agency cooperation at local level, thereby promoting the combination of different approaches and avoiding duplication of efforts, and creating a stronger system of collaboration and institutional co-ordination. However, the government institutions operate under a generally weak fiscal situation, which limits their capacity to assume responsibilities or follow-up on activities implemented by the Programme.

The planning of the NDF-financed components was prepared by NDF from its representation at the IDB head office in Washington in close cooperation with the IDB and MARENA. The IDB and MARENA acknowledge the NDF participation, and its contribution to preparation of guidelines, strategic studies, institutional development and training. The cooperation between NDF, MARENA and the IDB has been rated as satisfactory: POSAF presents all the expenses and payments planned for the coming year in the annual planning report (AOP), which is revised and approved by the IDB before the execution of the annual work plan can begin. During the year, the IDB gives its no-objection for bigger investments approved in the AOP, and for operational expenses and smaller expenses, the approval is made on the basis of a detailed disbursement plan. According to the Annual Operating Plan, POSAF prepares a disbursement plan for NDF, which is then revised and approved by NDF. The implementing agency recommends a stronger representation of NDF at local or regional level to improve the follow-up on programme activities, which is considered important especially in the initial phases of the programmes.

The capacities of the Technical Assistance to the farmers vary between the co-executers (OCEs) depending on their origin, purpose, experience and methodologies (the executing agencies are among others: Local and international NGOs, private companies, cooperatives and municipalities). POSAF has helped the OCEs to develop their administrative capacity, improve the transparency in accounting, budgeting, acquisitions, and formulation of projects; but the OCEs still need support to reach a more professional level. During the interviews and workshops, the beneficiaries of the Programme expressed their interest in getting support to develop formal producers' organisations that would work for their interests and at local level ensure the quality of the technical assistance offered by the OCEs.

Donor Coordination

There were a large number of international donors supporting the environmental and agricultural sector in Nicaragua. The multilateral support came from the World Bank, IDB, the European Union, the United Nations Development Programme and the Food & Agriculture Organisation, and the most important bilateral donors were Denmark, Finland, Germany, Austria, Sweden, Norway, Switzerland and the United States.

MARENA maintains a high dependency on donor funding, with 70% to 90% of the budget funded by external resources. The levels of recurrent expenditures can be expected to continue at low levels in light of overall governmental budget cut. By 2001 MARENA were involved in 22 projects, and from 1997 to 2000 the environmental sector received 3% of the total external aid flow, and 2% of the total public expenditures.

The average yearly amount of external aid to the agricultural sector was USD 48 million between 1997 and 2000, amounting to 10% of all official external aid to Nicaragua.

Donor coordination of environmental and agricultural sector projects did not take place in a formalized way. Instead, ad-hoc co-ordination took place, particularly at local levels and organized by the Programmes' six territorial coordination units presided by the municipalities. The most important co-operation partner was IDR, which also is funded by IDB.

Coordination with projects financed by Nordic countries could add important value and lessons learned to the Programme. SIDA is funding an agricultural development programme implemented by the Ministry of Agriculture and Forestry in Matagalpa with the same target group as POSAF (small and medium scale private producers) and with an important focus on commercialization of agricultural products, and IDR has some very important experiences in developing cooperatives, processing and commercialization of agricultural products from a long-term cooperation with MFA Finland in Boaco and Chontales. Danish International Development Assistance's (Danida's) environmental sector programme implemented a component in the Esteli River Basin and funded a guideline for a Water Action Plan in Esteli, while Danida's agricultural sector programme temporarily was closed by the end of 2001, due to lack of national ownership, and poor financial and institutional sustainability of the components.

In conclusion, coordination within sectors was incipient especially at local level, but there is still a long way to go to achieve a good sector-wide and well coordinated approach.

9 LESSONS LEARNED

Operational lessons related to the Programme and NDF's role as a co-financer, including the choice of components, are analyzed in the following based on interviews and meetings with stakeholders, Nordic contractors and beneficiaries.

Seven Nordic companies implemented ten individual contracts. POSAF prepared terms of reference and tendering documents complying with the normal tender procedures of NDF, which were deemed time consuming. The budgets of several of the contracts were relatively small (less than USD 150,000, chapter 2) but administratively just as time consuming as a bigger contract would be. To pool the planned activities into bigger packages would have been more advantageous; the contracts would have been bigger and the presence of the implementing company (ies) would have been more continuous, which should facilitate the implementation, flexibility and communication between all partners.

In the initial phase of the Programme, the implementing agency didn't have the capacity to deal with the working procedures of NDF and the IDB. This was overcome by contracting a Nordic adviser for two years who facilitated a good contact and cooperation with the Programme. An assessment of the implementing agency's managing capacity to operate the NDF-financed components especially in the initial phase of a programme would have been valuable, and if found necessary to include an appropriate support to the management unit from the very beginning. This could be at national or regional level (and thus covering several projects) and with the purpose to build-up the capacity and advise the implementing agency on administrative matters and procedures during the first stages of a programme.

The IDB is in charge of the monitoring and evaluation of the physical execution of the Programme including the NDF-financed activities that are integrated in the daily execution of the Programme. It is important to state that there are two types of monitoring:

- Monitoring of the timely implementation of the activities stated in work plans, and
- Monitoring of the impact the Programme has on the environment, the communities as well as the socio-economic development.

While the monitoring of the physical implementation has been effective, the Programme did not operate with verifiable indicators that could monitor progress and the activities' impact on sustainable production schemes and livelihoods. It is important for a programme like this continuously to evaluate development and impact so that plans can be adjusted accordingly.

Acquisition of machineries to New Segovia was not so successful due to a force majeure, but also the installation and maintenance of the equipment has been too complicated because of the long distance to distributor and services. Using equipment distributed from Nicaragua or the region had supported the sawmill industry better. A more in depth feasibility study before procuring the equipment could have identified these problems, and especially when we are talking about procurement of equipment at a

low price (the cost for one of the deliveries was less than USD 22 thousand). It is very important that the company already has established good links to the region to follow-up on services, maintenance etc.

10 CONCLUSIONS AND RECOMMENDATIONS

A summary of conclusions and recommendations divided between NDF components' specific conclusions and recommendations and those that have a bearing on the Programme as a whole is presented in the following.

10.1 THE PROGRAMME

The Programme did not operate a proper monitoring system with verifiable indicators to measure progress on environment and livelihoods. It is recommended that for future programmes of this socio economic nature, a proper monitoring- and evaluation system is in operation before NDF enter the programme in full scale.

The Programme is offering Technical Assistance to the farmers limited to activities related to the forest sector, diversification of the production, and soil conservation. The productivity has grown and their income has increased, the diet has improved as a result of crop diversification, and land value has increased because of fences and reforestation.

The environmental benefits are positive in most of the components of the Programme. Inside the protected areas substantial improvements are expected in the conservation of important eco-systems, and the residents that live in watersheds assisted by the Programme can expect that an improved management of the watersheds will reduce their vulnerability to natural disasters well known in Nicaragua.

The Programme was extended with a second phase planned to end in 2006. Nevertheless, there is still a risk that the municipalities, government institutions and civil society will not have the capacity needed to follow-up on plans and works made by the Programme.

As for the future, it is recommended to offer more attention to the organisation of farmers and their interest groups, as this can provide them with better access to technical assistance, processing and marketing of farm produce. The resource base for developing farmers' organisations is strong in the Nordic countries and NDF could look into the possibility of financing a programme strategy for organisation of farmers.

The execution of the Programme through OCEs is a new and challenging experience, but their capacity to offer Technical Assistance to families vary depending on their origin, objective, professional experience and methodology used. It is recommended to analyze the performance of each group and to identify capacity building programmes aimed at increasing their managerial and professional capacities.

10.2 THE NDF-FINANCED COMPONENTS

If a programme consists of several minor projects financed by NDF, it is recommended to pool the planned activities into bigger packages. The contracts will be bigger and the presence of the implementing company(ies) will be more continuous, which should facilitate the implementation, flexibility and communication between all partners.

Farmers without title to the land are also important for sustainable management of protected areas, and it is a pending challenge for POSAF to overcome the barriers of the lack of titles to property to achieve the ultimate goal of the Programme. Specific issues such as land administration and land tenure could be important issues for future financing by NDF.

For most of the Nordic suppliers, the Programme has been an important bridgehead to the Central American market, and NDF is considered as an important client along with the donors from the EU, the Nordic countries, the IDB and the World Bank.

To spend 20-40 % of the total budget on Nordic suppliers seems to be acceptable to the Implementing Agency; and with an appropriate combination of local and Nordic capacity, as was the case in this Programme, the outcomes prove to be efficient and of a good quality.

Initial difficulties of communication and understanding the working procedures of NDF were overcome by contracting a Nordic adviser who facilitated a good contact and cooperation with the coordination units. In the future, it is recommended to assess the implementing agency's managing capacity to operate the NDF-financed components especially in the initial phase of the programme, and if found necessary to identify an appropriate support to the management unit.

The participatory methodologies used in protected areas managed to develop a consensus between the communities living inside the protected areas, and MARENA, INAFOR and the municipalities. It enhances the sustainability of for example the important work done by the voluntary forest guard system in the villages.

A study to classify the watersheds was very useful for POSAF, as it helped to identify and prioritize new priority areas, and guide investments into the environmentally most vulnerable watersheds with a high potential for agricultural production.

A feasibility study gathered lessons learned from the initial phase of POSAF and was very important for the preparation of the second phase. Because of an excellent cooperation between Nordic consultants, local consultants, and local stakeholders, the document was well balanced and of high quality.

The Environmental Education Programme with its two levels (formal and informal education) has been a very effective tool to promote natural resource conservation and environmentally sound working methods. The participation of children, teachers and rural families has enhanced the sustainability and good results of the component.



ANNEXES



ANNEX 1

Debriefing Note

Ayuda Memoria

1. Antecedentes y objetivos

El Programa Socioambiental y de Desarrollo Forestal (POSAF I) comenzó en 1997 y terminó en el año 2002, y posteriormente se inició una segunda fase (POSAF II) que está planificada para ser ejecutada hasta el año 2006. El POSAF I estuvo adscrito al Ministerio del Ambiente y los Recursos Naturales (MARENA) mediante el contrato de Préstamo del Banco Interamericano de Desarrollo (970/SF-NI) por un monto de USD 15.3 millones de dólares y los Fondos Nórdicos de Desarrollo (FND-182) de USD 4.5 millones. Respecto a la moneda de desembolsos del contrato de préstamo, el cumplimiento de la ejecución de los fondos Nórdicos presentaba un cumplimiento de 99% de lo programado y 100% para los Fondos BID.

Objetivos. POSAF I tenía como Objetivo de Desarrollo promover de manera sostenible el manejo de los recursos naturales, bosques, suelo y agua principalmente en las regiones Norte-Central, Pacífico y Centro-Sur de Nicaragua y mejorar el marco institucional para la gestión ambiental, lo cual redundará en el mejoramiento de la situación socioeconómica de la población rural y ambiental de la población en general, principalmente a través de los siguientes tres sub-programas:

1. Manejo y recuperación de los recursos naturales (establecimiento de sistemas productivos agroforestales y silvopastoriles en fincas, manejo comunitario de bosques y obras comunales de conservación), componente al cual se le asignaron la mayor parte de los recursos del BID.
2. Conservación de Áreas protegidas (planes de manejo e infraestructura) lo que fue financiado por FND; y
3. Fortalecimiento Institucional (mejoramiento de la capacidad de gestión de entidades públicas y privadas vinculadas al Programa y campañas de educación ambiental), componente financiado por FND.

Ejecución: POSAF I fue ejecutado por MARENA a través de una Unidad Coordinadora (UCP), con autonomía administrativa-financiera, con su oficina principal en las instalaciones de MARENA en Carretera Norte Managua y con representaciones en 6 coordinadores territoriales. La modalidad de ejecución del POSAF está diseñada para operar mediante organizaciones públicas y privadas, denominadas Organismos Co-ejecutores (OCE) que son instancias con presencia en los territorios de acción del programa, encargadas de brindar servicios directos a los productores beneficiarios.

La rendición de cuenta y la ejecución financiera del Programa cumplen como préstamo con los reglamentos y requisitos del Ministerio de Hacienda y Crédito Público, y de acuerdo con un Contrato con el BID y los Fondos Nórdicos; BID es encargado del monitoreo y evaluación de la ejecución física del programa.

Como resultado de la ejecución se atendieron a más de 11 mil productores cubriendo un área de poco más de 80 mil hectáreas ubicadas en seis cuencas hidrográficas prioritarias. La selección de estas cuencas prioritarias se hizo sobre la base de su alto potencial de desarrollo forestal, la presencia de una alta presión poblacional con serios problemas de pobreza rural y un acelerado deterioro de los recursos naturales renovables debido al uso de prácticas agrícolas y ganaderas no apropiadas.

2. Actividades co- financiado por los Fondos Nórdicos

De los gastos totales SDR 3, 168,810 - equivalente a USD 4, 065,783 - 50% fueron utilizados para complementar gastos locales financiados por el BID y los beneficiados como capacitación, materiales, equipos de guarderías, infraestructuras rurales, etc.

Gastos locales. En cuanto a los procedimientos para los desembolsos, el POSAF prepara anualmente un Plan Operativo Anual (POA) donde se explica todos los gastos y desembolsos que se van a ejecutar en el año, el BID aprueba este plan operativo anual. Una vez, aprobado el plan de desembolso anual, el BID tiene que dar su no-objeción cuando se trata de gastos en general. En caso de los gastos de funcionamiento y gastos menores, se hace sobre la base de un plan detallado anual. Conforme al Plan Operativo Anual, el POSAF prepara un plan de desembolso para el FND, el cual es aprobado por las instancias correspondientes.

Consultarías y maquinaria del origen Nórdico. El otro 50% fue complementado en las siguientes actividades ejecutadas a través de los siguientes 10 contratos con empresas de los países Nórdicos:

1. Un asesor técnico fue contratado durante 2 años a través de la firma DARUDEC.
2. Un estudio del sistema SIMOSE fue financiado por los Fondos Nórdicos a través de una consultaría especial de Hedeselskabet de Dinamarca.
3. Se invirtieron SDR 17,000 para compra de maquinaria para procesamiento de madera de la empresa Logosol AB de Suecia.
4. Se invirtieron SDR 112,000 para compra de maquinaria, instalación y capacitación para procesamiento de madera de la empresa Kallion Konepaja Oy de Finlandia.
5. Estudio de factibilidad modelos de camanejo de 4 áreas protegidas por la empresa Rambøll de Dinamarca..
6. Formulación de planes de manejo de áreas protegidas hecho de la empresa Rambøll.
7. Estudio para la ampliación de los estudios de ordenamiento territorial de las sub-cuencas del área de acción del POSAF por la firma HCG de Finlandia.
8. Se realizó un estudio de priorización y planes de ordenamiento en las áreas de influencia del Programa a escala 1:25,000 adjudicado por la firma consultora HCG de Finlandia.
9. Un estudio de factibilidad que sirvió de base para la elaboración del documento de proyecto de la fase II de POSAF fue asignado a la firma ORGUT de Suecia.
10. Guía de campo de árboles útiles en sistemas forestales, agroforestales y silvopastoriles en Nicaragua. Este estudio fue adjudicado a ORGUT de Suecia.

Los contratos individuales por componente

Contrato # 1. Un asesor técnico fue contratado durante 2 años a través de la firma DARUDEC, con el propósito de asesorar sobre la ejecución de actividades financiadas por el FND y facilitar la administración de los fondos, cuyo resultado fue la agilización de los procesos para la ejecución eficiente por parte del Programa de los componentes financiados con recursos nórdicos. El gasto total fue SDR 238,000 de los cuales 90% para consultorías del origen Nórdico y el resto local.

Observaciones:

Se tiene una excelente percepción sobre el trabajo realizado y hubo una buena integración y coordinación con las unidades de coordinación local. Se logró superar en gran medida, el problema inicial de falta de conocimiento de los procedimientos establecidos por los Fondos Nórdicos. Parece que hubo algunas discrepancias en cuanto a alguna aseveración que hizo el consultor relacionadas a asuntos que no estaba previsto en sus términos de referencia y de esta manera se dificultó la cooperación con la dirección del Programa.

Recomendaciones:

En caso de ser necesario, cuando los Fondos Nórdicos quieren dar un seguimiento/acompañamiento más directo en la ejecución de los Fondos, se recomienda tener una representación más adecuada a nivel nacional o regional para dar seguimiento a este programa y a los otros.

2.1 Monitoreo y seguimiento.

Sistema de Monitoreo y Seguimiento (SIMOSE)

Este componente estuvo dirigido al seguimiento, monitoreo y evaluación de todos los componentes productivos que el Programa ha venido ejecutando, un total de 213 proyectos fueron co-ejecutados por las organizaciones de la sociedad civil acreditadas al programa, más 41 proyectos ejecutados por alcaldías municipales, para un total de 254 proyectos.

Se realizaron un estudio dirigido a la revisión y adecuación del SIMOSE, que es un sistema de información que ha sido utilizado por POSAF I desde su inicio y se compone de un conjunto de instrucciones, procedimientos, formularios y un sistema informático para el monitoreo, seguimiento y evaluación de las actividades, resultados y efectos del programa. Hubo un atraso en la implementación del SIMOSE, y no se contó con un estudio de línea base que pudiera ayudar en las evaluaciones de impacto.

Contrato # 2. Un estudio del sistema SIMOSE fue financiado por los Fondos Nórdicos a través de una consultoría especial de una empresa de Dinamarca (Hedeselskabet). El gasto total fue SDR 25,000 para el consultor Escandinavo.

Observaciones:

Se tiene la percepción que el SIMOSE puede ser una excelente herramienta para ayudar a los ejecutivos del nivel central de POSAF para hacer todo tipo de informe y tomar

decisiones oportunas. Sin embargo para la medición del impacto real de las acciones del POSAF, puede ser que este sistema informático no sea el mejor instrumento por las grandes diferencias que pueden existir entre los proyectos. No se tiene claro si este sistema es capaz de captar y presentar adecuadamente los resultados previstos e imprevistos de todos los proyectos

Del mismo modo, no está claro que todas los OCE tengan la capacidad instalada para usar esa herramienta. A lo mejor en cuanto al sistema administrativo financiero, no tanto para medir impacto de las acciones emprendidas.

Hay que notar que la tardanza que hubo en la aprobación del préstamo atrasó los desembolsos iniciales, lo cual afectó la implementación del SIMOSE que era considerado como requisito fundamental para un arranque exitoso del Programa.

Recomendaciones:

Para medir el impacto y resultados del POSAF, se recomienda un sistema mixto que combina los datos estadísticos proporcionados por el SIMOSE y estudios de caso directos con los beneficiarios para validar los datos estadísticos con la percepción de los beneficiarios finales.

Se recomienda el diseño de Modulo de SIMOSE acorde a la realidad de cada proyecto y que puede ser útil para cada componente específico de los proyectos.

Se recomienda mejorar el sistema de comunicación entre las partes involucradas para tener una mejor planificación y coordinación de los desembolsos en las fases iniciales del Programa.

2.2 Manejo y recuperación de los recursos naturales

Organización de la producción

Se capacitó a 125 técnicos de los OCEs, los cuales brindan la asistencia técnica a los beneficiarios del programa, en los sistemas productivos que promueve el POSAF, en aspectos de herramientas metodológicas para la realización de diagnósticos rurales y formulación de proyectos. Asimismo, fueron capacitados 600 grupos homogéneos (de 8-10 productores por grupo) en temas relacionadas al establecimiento y manejo de los sistemas productivos. El monto fue de USD 420,000.

Observaciones:

Se hace especial énfasis en el desarrollo de las capacidades locales de los OCE para trabajar a favor de una relación armoniosa de los productores y el medioambiente, al mismo tiempo se debe notar el incremento de la capacidad de las Organizaciones Co-ejecutoras para realizar otros proyectos complementarios que fortalecen el desarrollo integral de los productores. En este proceso, los OCE han mejorado sus capacidades institucionales, y son capaces de gestionar fondos de otras agencias para seguir trabajando en las comunidades.

Recomendaciones:

Se recomienda emprender acciones afirmativas para seguir capacitando y fortaleciendo a los OCE co-ejecutores de POSAF en todo el país.

Se recomienda diseñar un sistema de capacitación permanente a los organismos co-ejecutores y a las organizaciones de productores puesto que una vez se termine el POSAF, los beneficiarios y los organismos se van a quedar en las zonas. Se necesita desarrollar capacidades para dar seguimiento y sostenibilidad a los logros y resultados obtenidos por POSAF.

Desarrollo Forestal Comunitario

El componente era previsto para ejecutarse como programa de Manejo de Bosque y Desarrollo Comunitario Indígena en Waspám, RAAN, pero por razones políticas de los gobiernos regionales e inseguridad en la ejecución de las actividades en el año 1999 se tomaron la decisión de trasladar los recursos financieros no utilizados a Nueva Segovia.

Desarrollo forestal en bosque de pino en Nueva Segovia

Se presentó una situación de emergencia en cuanto al ataque del gorgojo descortezador, que según informe sobre los daños provocados en Nicaragua, el área afectada en el departamento de Nueva Segovia era de más de 18,000 hectáreas. INAFOR presentó una propuesta de Proyecto dirigida a desarrollar actividades de corto plazo para el control y manejo de la plaga. El monto del proyecto era de USD 120,000 de los cuales un 50% se complementaron con recurso del FND para obras locales, y otros.

Contrato # 3 y 4. Se invirtieron SDR 129,000 para compra de maquinaria para procesamiento de madera. Las maquinarias fueron adquiridas en Finlandia y Suecia.

Observaciones:

En cuanto al control de plaga, el proyecto ayudó a controlar las plagas del gorgojo y se inició un proceso sobre la regeneración natural del Bosque. Además, el trabajo coordinado con las organizaciones locales de productores, con alcaldías municipales y otras instancias del gobierno ha demostrado ser una excelente herramienta para tener un impacto integral y duradero.

En cuanto al procesamiento y comercialización de la madera, se han identificado dos problemas fundamentales: primero la falta de materia prima por la afectación del gorgojo descortezador y segundo los problemas de instalación y mantenimiento de las máquinas adquiridas en los países Nórdicos. Además, existe poca capacidad de INAFOR para aprobar los planes de manejo de los bosques en las fincas. Las coordinaciones territoriales están en busca de soluciones a este problema.

Recomendaciones:

Se recomienda diseñar sistemas de capacitaciones para los OCE locales, para asegurar que la asistencia técnica que ellos brindan a los productores sea de la mejor calidad posible y al mismo tiempo para el fortalecimiento y el arraigo local de los OCE. Es necesario hacer un estudio para identificar la demanda real de los OCE usando metodologías participativas.

Hace falta diseñar un sistema de coordinación que facilite un mejor entendimiento entre las tres empresas/asociaciones de segundo piso que intervienen en las cadenas de procesamiento de la madera. Se recomienda diseñar una nueva estrategia para reorganizar el sistema de procesamiento de la madera teniendo en cuenta que la plaga del gorgojo acabó con la oferta de materia prima en algunas zonas muy afectadas.

2.3 Conservación de áreas protegidas

El subprograma de áreas protegidas tenía por objeto preservar ecosistemas únicos y proteger recursos naturales en zonas de influencia de las áreas del POSAF. Entre las actividades promovidas, se destacan la elaboración de planes de manejo para cuatro áreas protegidas y la construcción de infraestructura básica para la administración del refugio de vida silvestre Chacocente. En general las actividades realizadas están relacionadas a controles para evitar la extracción de los recursos naturales, dotar de equipos a los guarda parques para la realización de monitoreo de flora y fauna, equipos contra incendios y equipos de comunicación y de movilización.

La participación del POSAF permitió la incorporación de los grupos de interés local en los procesos de ordenamiento y planificación de áreas prioritarias de tal forma que se crean las condiciones para una futura administración descentralizada.

30 mil dólares de los Fondos Nórdicos fueron invertidos en la elaboración, edición y reproducción de un manual para la capacitación de los guarda parques.

Los principales resultados de actividades financiado por FND fueron la formulación de planes de manejo para cuatro áreas seleccionadas:

Contrato # 5. Estudio de factibilidad modelos de comanejo de 4 áreas protegidas de la empresa Rambøll. Los gastos eran de SDR 117,000 de los cuales 65% eran para consultores de origen Nórdicos y 35 % a consultores locales.

Contrato # 6. Formulación de planes de manejo de áreas protegidas hecho de la empresa Rambøll. 70% de los gastos totales de SDR 103,000 fue para consultores del origen Nórdico y 30% para consultores locales.

Observaciones:

En cuanto a los planes de Manejo de las áreas protegidas, se tiene una muy buena percepción sobre todo en Chacocente donde el uso de metodologías participativas ha permitido lograr el consenso necesario en los comunitarios que habitan en la zona protegida y las autoridades (MARENA, INAFOR). Este consenso asegura la sostenibilidad de este esfuerzo y se manifiesta a través de la presencia de guarda bosques voluntarios en las comunidades que no están en la zona-núcleo de las Áreas Protegidas.

Del mismo modo, el consenso de entregar el 10% de los huevos de tortuga a los

comunitarios es muy importante para desarrollar una relación de adecuado aprovechamiento de los recursos naturales una vez que no ponga en riesgo la regeneración de las tortugas.

En la actualidad, los planes de manejo de las Áreas Protegidas tienen un carácter institucional, cuando se quiere hacer un nuevo proyecto dentro de las Áreas Protegidas, las autoridades exigen el cumplimiento de las recomendaciones hechas dentro de los planes de manejo.

Los planes de Manejo han incentivado la implementación de nuevos proyectos de desarrollo llevados a cabo por otras organizaciones para mejorar el nivel de vida de los comunitarios (centro de salud, proyectos productivos, letrinas, por ejemplo en Chacocente)

En cuanto a la construcción de infraestructura básica dentro de Chacocente para albergar a los guarda bosques, investigadores y estudiantes, se pudo observar que son construcciones importantes que simbolizan una cierta institucionalización del cuidado de las áreas protegidas.

Recomendaciones:

Se recomienda siempre implementar metodologías participativas que involucren en todo el proceso a los comunitarios para tener una mejor apropiación de los planes de Manejo.

Se recomienda estudiar las posibles estrategias para hacer que las mismas infraestructuras hechas en Chacocente puedan producir ciertos ingresos para asegurar el mantenimiento de los edificios. Se presume que sin el debido mantenimiento, estas grandes edificaciones pueden degradarse rápidamente.

Los problemas sociales (pobreza, necesidad de sobre vivencia en el corto plazo) pueden limitar y/o reducir el impacto de los proyectos desarrollo en las cuencas y áreas protegidas. Se recomienda buscar las estrategias necesarias para incluir a todos los productores individuales dentro de los proyectos de desarrollo en las áreas protegidas. En las áreas protegidas y en las cuencas priorizadas, se recomienda diseñar políticas diferenciada para atender a las personas más pobres.

2.4 Fortalecimiento institucional

El componente comprendió el fortalecimiento institucional de organizaciones públicas (MARENA, INAFOR) y privadas del sector ambiental (OCE, Cooperativas, ONG, Asociación de Productores, etc) en la formulación e implementación de políticas sobre recursos naturales, educación ambiental formal y informal así como estudios. Para la selección de los organismos co-ejecutores existe un proceso establecido que comprende: convocatoria pública, recepción de solicitudes, evaluación y diagnóstico de capacidades locales, selección y formulación de proyectos.

2.4.1 Planes de ordenamiento de las cuencas hidrográficas en que opera el POSAF.

Contrato # 7. Estudio para la ampliación de los estudios de ordenamiento territorial de las sub-cuencas del área de acción del POSAF. Gastos totales eran SDR 99,000 de los cuales

80 % al origen local.

Contrato # 8. Se realizó un estudio de priorización y planes de ordenamiento en las áreas de influencia del Programa a escala 1:25,000 adjudicado por la firma consultora HCG. La consultoría tenía un gasto total de SDR 213,000 de los cuales 55% fue para consultores de origen Nórdico, 30% a consultores al origen local y 15% para otros gastos.

El estudio de planes de ordenamiento de las cuencas realizado por HCG fue de gran utilidad para POSAF, ayudó identificar y priorizar algunos proyectos específicos como áreas críticas y recomendaciones para el manejo de cuencas.

El estudio de priorización y planes de ordenamiento tal como fue definido en los términos de referencia, pretendía los siguientes productos:

1. Un estudio de priorización de cuencas a nivel nacional
2. Una caracterización de las cuencas prioritarias a nivel nacional
3. La elaboración de planes de ordenamiento en siete sub-cuencas prioritarias para la operación del POSAF II
4. El establecimiento de un sistema de información geográfico

Esto permitió orientar las inversiones del POSAF II en áreas de mayor vulnerabilidad socio ambiental igual al mayor potencial productivo.

Observaciones:

En cuanto a la caracterización de las cuencas, se tiene una experiencia diferente en dependencia de las cuencas. Sin embargo en Jinotega/Matagalpa, existe alguna inconformidad en cuanto a la calidad de los datos, se usaron datos secundarios algo desfasados.

En el caso del OCE que ejecuta el proyecto de Cuenca Matagalpa, se han conseguido otros proyectos complementarios (cocina mejorada, biogás) que benefician de forma particular a las mujeres de la zona.

Recomendaciones:

Que las alcaldías asumen los planes de manejo para la elaboración de los planes de desarrollo municipal y que organicen comités locales de cuenca.

Que estos estudios sean asumidos e institucionalizados por los organismos rectores (MARENA, INETER)

2.4.2 Estudio de factibilidad para la fase II del POSAF

Contrato # 9. Un estudio de factibilidad que sirvió de base para la elaboración del documento de proyecto de la fase II de POSAF fue asignado a la firma ORGUT. 70% de los gastos totales de SDR 368,000 fue a los consultores Nórdicos y 25% para consultores locales y el resto a otros gastos.

Fue un estudio de mucha importancia para la elaboración de la fase II de POSAF, recogió las lecciones aprendidas en la fase I. Hubo una excelente coordinación entre el equipo de consultores internacionales y los consultores locales. Por eso se logró un producto de excelente calidad. Para la segunda Fase el BID duplicó su préstamo al POSAF II.

Fue el mejor aporte de POSAF I en la elaboración de POSAF II, se presentó un menú más diversificado de componentes, una mejor reglamentación, los planes de manejo de las cuencas, estudios de línea base y estudios de zonas de riesgo.

2.4.3 Base de datos virtual y una guía de campo de árboles útiles en sistemas forestales, agroforestales y silvopastoriles en Nicaragua.

Contrato # 10. Este estudio fue adjudicado a ORGUT, cuya contraparte fue la Dirección de Fomento Forestal del INAFOR. Los gastos para este componente era SDR 127,000 de los cuales 90% era para consultores de los países Nórdicos.

Como producto del estudio se obtuvo una guía dirigida al técnico extensionista que le permita identificar las especies arbóreas, así como sus usos. El material del campo utilizado fue producto de investigaciones realizadas por el INAFOR lo que permitió a la consultora poder desarrollar una guía ajustada a la realidad de los ecosistemas y que los técnicos den mayor utilidad a esta base de datos para la elaboración de los proyectos en finca.

2.4.4 Capacitación y educación ambiental

La meta de este componente es de instruir, sensibilizar y promover en maestros y alumnos rurales de comunidades beneficiarias del POSAF, en la importancia del cuidado y protección de los recursos naturales de su cuenca hidrográfica; sobre la necesidad de la no-contaminación de las aguas superficiales, implementar tecnologías que promueven al ahorro de leña y la protección a la salud humana y ambiental; sensibilizar directo sobre tratamiento y manejo de la basura; desarrollar campañas de educación ambiental dirigida a los pequeños productores con el fin de promover buenas prácticas dirigidas a la conservación y protección del ambiente. Los actores claves eran maestro y estudiantes de primaria (educación ambiental formal), y líderes comunales, propietarios de fincas, brigadistas de salud, promotores (educación ambiental informal).

- El programa financió un número de becas de maestría para técnicos de MARENA y personal del programa mismo. Se financió 9 becas para estudios de postgrado de MARENA y el programa.
- El componente de Capacitación y Educación Ambiental fue financiado a través los fondos Nórdicos con un total de USD 695,000

Observaciones:

El programa de educación ambiental en sus dos niveles (educación formal, no-formal e informal) es una herramienta muy eficaz para promover una nueva forma de convivencia con el medio ambiente. La formación a los niños, maestros y productores asegura la

sostenibilidad de esta acción. Sin embargo no se dispone de un sistema para medir el grado de apropiación de esta nueva herramienta. Tampoco, la educación no ha estado acompañada con un plan de acciones concretas para llevar a la práctica los conocimientos adquiridos

Los resultados son alentadores, en la zona de Matagalpa, se han emprendido acciones para controlar los aguas miel que provienen del lavado del café. Se tiene evidencia de los efectos positivos de esta acción sobre la calidad del agua que reciben los pobladores que viven en las ciudades cercanas a esta cuenca. Del mismo modo, los productores que habitan en la cuenca y que han iniciado un proceso de producción limpia están obteniendo mejores precios por su producción.

Recomendaciones:

Se sugiere seguir profundizando en la educación ambiental en sus dos vertientes, y al mismo tiempo, diseñar un plan de implementación práctica de los conocimientos adquiridos (por ejemplo hacer un plan de reforestación sostenida con los niños de alguna escuela de primaria, etc.)

3. Beneficios al grupo meta

El grupo meta del POSAF I lo constituye los pequeños y medianos productores rurales que tienen su título de propiedad legalmente inscrita y capacidad de recuperación de las inversiones hechas a través de los incentivos del Programa. En cuanto a la educación ambiental, existe dos grupos metas: los niños de las zonas que son atendidos con educación formal y los productores con educación no formal.

En cuanto a los beneficios para el grupo meta, se les puede dividir en dos grandes grupos: beneficios directos de corto plazo y beneficios esperados de más largo plazo.

Los beneficios directos de corto plazo tienen que ver con el mejoramiento de los ingresos actuales (productores de pino tienen mejores precios por los planes de manejo, productores de café con mejores precios por realizar acciones amigables con el medio ambiente, etc). Otro beneficio directo lo constituye los incentivos que reciben los productores (alambre, insumos agrícolas, plantas etc.)

Los productores beneficiarios han logrado obtener ingresos económicos incrementales a nivel de fincas, principalmente de los componentes de producción anual o bianual de estos sistemas productivos, tales como abonos verdes, leña, estacones, musáceas, o sea aun sin contabilizar los derivados de la inversión en árboles maderables, café y frutales, que estarían aprovechando estas familias próximamente.

En cuanto a los beneficios indirectos se pueden mencionar: el mejoramiento de los suelos, el incremento del valor de las propiedades, mejoramiento en el nivel de salud de los comunitarios, la reducción de la vulnerabilidad a los desastres naturales. Los beneficios directos atañen solamente a los productores atendidos por el POSAF y los beneficios esperados tienen un carácter más comunitario.

En cuanto a la cadena de procesamiento y comercialización de los productos del campesino (madera, frutas, granos básicos), el POSAF I tuvo todavía un gran desafío. Tuvo un enfoque de producción en finca sin disponer de estrategia planificada de comercialización. La reducción de la pobreza tiene que integrar estos dos niveles: el aumento y diversificación de la producción, el procesamiento y la comercialización. Ahora en POSAF II, se presta mayor atención a los procesos de procesamiento y comercialización, sin embargo todavía se requiere de un mayor esfuerzo.

4. Beneficios para mujeres y niños

Una de las principales debilidades de POSAF I es no disponer de una política diferenciada de atención a las mujeres. En Nicaragua, las mujeres en el campo por lo general no tienen escritura de propiedad a su nombre, esto es una limitación estructural para la participación de una mayor cantidad de mujeres en las acciones de POSAF. Por lo general, las mujeres se han beneficiado de las capacitaciones que se han dado y de algunos proyectos específicos como la cocina mejorada. Se establecieron 1,380 cocinas ahorradoras de leña, de las cuales funcionan unas 1,240 y considerando una tasa de ahorro del 50% del volumen utilizado por una familia rural. Este representa un ahorro de leña equivalente a 135 USD/año/familia. Estos costos evitados representan el 30% de la línea de pobreza. Además, el efecto sobre la salud de la familia, en particular de las mujeres trabajando en la cocina es muy importante.

Los niños se han beneficiado fundamentalmente en los proyectos de educación ambiental. El jardín botánico de Carazo es un ejemplo claro que POSAF puede involucrar y beneficiar directamente a los niños y niñas. Se presume que la educación ambiental de los niños es muy importante para un cambio cultural sostenido en el tiempo. Educar a las nuevas generaciones sobre la importancia una relación armoniosa con la naturaleza es una inversión muy rentable para el cuidado del medio ambiente.

5. Beneficios ambientales

Los beneficios ambientales son muy evidentes en todos los proyectos. Dentro de las áreas protegidas se espera mejoras sustanciales en la conservación de especies en peligro de extinción (la tortuga de Chacocente por ejemplo). En el manejo de las cuencas hidrográficas; los pobladores que viven en las partes inferiores tendrán más y mejores aguas. Además, el manejo responsable de las cuencas reduce la vulnerabilidad de las zonas a los desastres naturales (deslizamiento, deslaves, erosión).

Se puede observar que todos los proyectos de POSAF tienen un claro impacto ambiental de largo plazo, desde esta perspectiva, son proyectos fundamentales para viabilidad ambiental de Nicaragua en el largo. Sin embargo, hay que reconocer que no existe en la actualidad instrumentos y herramientas sencillas para cuantificar y contabilizar los beneficios ambientales generados por proyectos específicos como POSAF.

En cuanto a los beneficios ambientales, se han identificado dos debilidades importantes: no se trabaja con todas las fincas que están dentro de las cuencas, solo se trabajan con las que tienen sus títulos de propiedad legalmente inscritos y segundo no se trabaja con las personas más pobres que habitan estas zonas (familias muy pobres que cortan leña por ejemplo). Actualmente los proyectos de POSAF II atienden familias rurales pobres, no obstante con la definición de áreas mínimas no se han atendidos algunas familias pobres con pequeñas parcelas. Se recomienda diseñar estrategias novedosas para superar las barreras de los títulos de propiedad.

En las áreas protegidas y en las cuencas priorizadas, es necesario tener una política diferenciada en cuanto a la tenencia de los títulos de propiedad para que se pueden incluir a las personas más pobres que no tienen título de propiedad y que no cumplen con el reglamento que requiere de una cantidad mínima de hectáreas para que la inversión sea rentable, para que ellas pueden ser beneficiarias tanto de las capacitaciones como de los incentivos ofrecidos por POSAF. Eso puede ser un nuevo componente especial financiado por los Fondos Nórdicos.

6. Capacidad institucional

En cuanto a la capacidad institucional, POSAF como programa ha desarrollado una gran capacidad institucional y dispone de personal altamente calificado en los temas. Hay 6 coordinaciones territoriales presididas por la alcaldía municipal, donde participan representantes de MARENA, INAFOR y otras instancias locales. Eso asegura la buena coordinación territorial y la sostenibilidad de las acciones.

En el nivel de los OCE, POSAF ha ayudado a los organismos co-ejecutores a desarrollar una buena capacidad institucional en los ámbitos de gestión/administración financiera, transparencia en las cuentas y adquisiciones, formulación de proyectos y presupuestación. Existe capacidad diferenciada entre los OCE en cuanto a la calidad de la asistencia técnica que se les brinda a los productores. De ahí se hace necesario diseñar un sistema de capacitación par mejorar la calidad de la asistencia técnica ofertada por estos OCE.

En la actualidad POSAF está trabajando con una gran variedad de organizaciones, ellas tienen experiencias, expertise y metodologías de intervención diferentes. Se considera muy importante el arraigo local que tiene esta organización, puesto que estos tipos de relación entre las organizaciones y los productores, se necesita de la confianza mutua.

La asociatividad de los productores es un elemento importante que necesita ser trabajo por POSAF. Se recomienda fomentar la organización formal de los productores en grupos de interés y con personería jurídica para lograr mejor y de forma sostenible los objetivos de mejoramiento de ingresos económicos y cuestionar la calidad de la asistencia técnica ofertada por los OCE. Del mismo modo, es importante mejorar la cooperación interinstitucional para facilitar los procesos y las acciones que benefician a los grupos metas.

8. La importancia de los componentes co-financiados por FND

Todas las personas consultadas coinciden en la gran importancia de los componentes co-financiados por el FND para POSAF y de manera general para el desarrollo sostenible e integrador del mundo rural en Nicaragua.

Hubo una buena integración y coordinación con las unidades de coordinación local a través del contrato de un asesor nórdico. Se logró superar en gran medida, el problema inicial de desconocimiento de los procedimientos de los Fondos Nórdicos.

En cuanto a la adquisición de las maquinarias en Nueva Segovia, ésta no fue tan exitosa. Se debe fundamentalmente a una coyuntura de fuerza mayor donde el gorgojo descortezador destruyó la mayor parte de materia prima y falta de instrucciones adecuadas y mantenimiento de las maquinarias.

En cuanto a los planes de Manejo de las áreas protegidas, se tiene una muy buena percepción, sobre todo en Chacocente donde el uso de metodologías participativas ha permitido lograr el consenso necesario entre los comunitarios que habitan en la zona protegida y las autoridades (MARENA, INAFOR, Alcaldía municipal). Este consenso asegura la sostenibilidad de este esfuerzo y se manifiesta a través de la presencia de guarda bosques voluntarios en las comunidades que no están en la zona-núcleo de las Áreas Protegidas.

El estudio de ordenamiento de las cuencas realizado por una empresa nórdica fue de gran utilidad para POSAF, ayudó identificar y priorizar algunos proyectos específicos. Esto permitió orientar las inversiones del POSAF II en áreas de mayor vulnerabilidad socio ambiental igual al mayor potencial productivo.

El estudio de factibilidad tiene mucha importancia para la elaboración de la fase II de POSAF, recogió las lecciones aprendidas en la fase I. Hubo una excelente coordinación entre el equipo de consultores internacionales y los consultores locales. Por eso se logró un producto de excelente calidad y en la segunda Fase el BID duplicó su préstamo al POSAF II.

El programa de educación ambiental en sus dos niveles (educación formal e informal) es una herramienta muy eficaz para promover una nueva forma de convivencia con el medio ambiente. La formación a los niños, maestros y productores asegura la sostenibilidad de esta acción.

9. Lecciones aprendidas

1. La participación de muchos actores institucionales y comunitarios es una clave de éxito de los proyectos comunitarios de desarrollo socio ambientales. Los problemas

sociales (pobreza, necesidad de sobre vivencia en el corto plazo) pueden limitar y/o reducir el impacto de los proyectos desarrollo en las cuencas y áreas protegidas. Se recomienda buscar las estrategias necesarias para incluir a todos los productores individuales dentro de los proyectos de desarrollo en las áreas protegidas. En las áreas protegidas y en las cuencas priorizadas, se recomienda diseñar políticas diferenciada para atender a las personas más pobres. Esto puede ser un nuevo componente especial financiado por los Fondos Nórdicos.

2. En la actualidad POSAF tiene un enfoque de producción en finca. Se recomienda identificar una nueva estrategia más integral que incluye además de la producción primaria el aseguramiento del procesamiento y la comercialización.
3. La co-ejecución POSAF/OCE es una experiencia novedosa y exitosa, se necesita hacer estudios para comparar la performance de los organismos, para determinar qué tipo de organismos tienden a lograr los mejores impactos. Se considera que la capacitación permanente de todos los organismos co-ejecutores constituye un elemento clave para la sostenibilidad de las acciones del POSAF.
4. En cuanto a perspectiva de futuro, se recomienda brindar mayor atención al tema de la Asociatividad los productores para que ellos pueden organizarse legalmente para tener un mejor acceso a los servicios de capacitación, a los procesos de procesamiento y así mejorar de forma sostenible sus ingresos económicos. Se recomienda que los Fondos Nórdicos estudie la posibilidad de financiar este nuevo componente.
5. En cuanto a las consultorías, la adecuada combinación de capacidad local y capacidad extranjera muestra ser eficiente en cuanto a la calidad de los productos, sin embargo los precios son considerados como altos por los ejecutores del POSAF.



ANNEX 2

Terms of Reference

TERMS OF REFERENCE

FOR THE EVALUATION OF NDF 182 - FORESTRY RESOURCE MANAGEMENT AND CONSERVATION PROGRAM IN NICARAGUA DATE:

I. THE NORDIC DEVELOPMENT FUND

The Nordic Development Fund (NDF) is a multilateral Nordic development financing organisation, funded from the national development aid budgets of the Nordic countries. It is a part of the Nordic countries' co-operation with developing countries.

NDF's total capital is SDR 515 million (approx. USD 720 million). The capital is used to provide credits on terms similar to IDA terms to developing countries (least developed (LLDC), low income (LIC) and lower middle income (LMIC) countries).

NDF is a co-financing institution. This means i.a. that NDF does not develop or implement own projects, but participates in the financing of projects, which in relation to NDF are the primary responsibility of another organisation, a Lead Agency. NDF's primary co-financing partners are the World Bank (IDA and IBRD), and the Regional Development Banks (Asian Development Bank, African Development Bank, Inter American Development Bank). NDF is also co-financing projects in co-operation with the Nordic Investment Bank (NIB) and the Nordic bilateral development institutions.

NDF's financing is offered primarily as parallel financing, with NDF financing of specific components, preferably through the application of Nordic Competitive Bidding (NCB). The parallel financing model is used as NDF has the dual purpose of supporting good development projects as well as the entry of Nordic companies into multilateral projects.

II. THE PROJECT BACKGROUND.

The Board of Directors of the Nordic Development Fund (NDF) approved on August 22, 1996 a credit of SDR 3,2 million in support for the Forestry Resource Management and Conservation Project in the Republic of Nicaragua. A Credit Agreement between NDF and the Republic of Nicaragua was signed on October 3, 1996. The closing date of the credit was on June 30, 2002. The total cost of the project was USD 24,4 million.

The Inter-American Development Bank (IDB) which has acted as NDF's Lead Agency for the project, provided the main credit of USD 15,3 million. The Executing Agency in Nicaragua has been Ministerio del Ambiente y Recursos Naturales (MARENA).

More detailed information about the Project can be found in the *Inter-American Development Bank's Project Appraisal Document dated May 3, 1996, Progress Reports between 1996-2002, Contracts between NDF and Consultants/ Suppliers, Informe Final 2002, and internal NDF-documents*. These documents, in addition to other information, will be provided to the selected consultant for the assignment.

2.2 The objectives

The purpose of the project was to promote sustainable management of natural resources, conserve protected areas and improve the institutional framework for environmental management which will lead to improvements in the socioeconomic conditions and raise the living standards for the low-income rural population. The rural communities affected by the project are critically dependent in these resources and are caught up in vicious circle of poverty and unsustainable use of natural resources.

The immediate objectives of the project were to:

- 1) improve the management of natural resources in order to increase the productivity, income levels and environmental quality of farms and rural communities.
- 2) contribute to the establishment and consolidation of protected areas in order to guarantee the maintenance of the economically promising ecosystem under sound management.
- 3) strengthen the involved institutions (MARENA and municipalities)

2.3 The project

The project comprised of three subprograms:

- (a) Management and Recovery of Natural Resources through:
- soil conservation by establishing agroforestry and forest-grazing systems and multipurpose plantations in areas suffering of degradation including 4,700 farms.
 - establishment of forests in 15 indigenous communities in the Waspán area.
 - community projects with the purpose to establish green belts in 20 municipalities.
- (b) Conservation of Protected Areas comprising management plans in five areas with an estimated surface area of 19,000 hectares. Environmental monitoring and education in two of these areas with community participation.
- (c) Institutional Strengthening in order to improve the managerial capacity of rural grassroots organizations, municipalities, the National Forestry Commission (CONAFOR), and the Ministry of the Environment and Natural Resources (MARENA). Support of initiatives for the management of protected areas. Environmental education campaigns on the management and conservation of natural resources, use of appropriate energy-saving techniques and contamination by agrochemicals.

The cost of the project (million USD)

A. Natural Resource Management	15,5
B. Protected Areas	1,2
C. Institutional Strengthening	1,55
D. Administration	2,6

Total 24,4

2.4 NDF financed activities

NDF provided financing for ten Nordic contracts covering all three subprograms in the project. Consulting services have been provided for development of sustainable management of land and forests including community development, institutional strengthening, definition of priority watershed areas and elaboration of land use plans, management plans for protected areas and preparation of a second phase (POSAF II) as well as supply of equipment for local forest-based enterprises. The total cost for the NDF financed contracts was SDR 3,168 million divided between the following activities:

1. Community development in RAAN (USD 0,69 million)

- Community forestry development in indigenous communities in the Waspán area (RAAN) including protection against forest fires, training in production and sustainable use of natural resources.
- Conservation works to control streams and stabilize river banks using biological and mechanical systems together with the establishment of green belts.

2. Protected areas (USD 1,2 million)

The purpose of the component is to preserve the ecosystem and protecting the natural resources in areas of influence. NDF provided financing for supervision, construction of basic infrastructure, training and education.

3. Institutional strengthening (USD 1,55 million)

The overall purpose of this activity was to strengthening the capacity and management of environmental and forestry related matters at both local and national levels including:

- strengthen CONAFOR and MARENA in respect of formulating policies and strategies for the environment, forests and protected areas.
- formulation of management plans.
- a feasibility study for a second phase of the program.

III OBJECTIVE OF THE EVALUATION.

NDF applies evaluations for learning, management and accountability purposes, with an emphasis on the learning purposes. On the basis of the special characteristics of NDF's modes of operation, the following parts shall be highlighted in the evaluation process to the extent possible, attempt to judge:

- to which degree the project objectives have been achieved, including poverty, gender and environmental issues, and in particular how well the NDF components have contributed to fulfilling the project objectives.
- the quality and cost efficiency of the implementation of the NDF component.
- the competitiveness of the Nordic supplies in an international setting and the quality of the Nordic suppliers/supplies.
- the relevance of NDF co-financing in the particular project, as regards to components selected for NDF financing, including as a partner for the borrower, the Lead Agency and the Nordic suppliers.

Further details and definitions of the evaluation criteria, please refer to the section III below.

IV. THE SCOPE OF THE EVALUATION- ISSUES TO BE COVERED.

IV.1. Relevance.

Relevance of project and relevance of the NDF financed component within the project.

Appropriateness of technology chosen specifically for the Nordic component.
Relevance of the project with reference to national, local or sectoral developmental goals (is the project in accordance with the objectives in PRSP); Are project objectives still relevant and appropriate. If not, suggestions on appropriate changes.

IV.2. Efficiency.

The relationship between quality and quantity of results achieved and resources and means used to achieve them. How economically have inputs been converted to outputs.

The overall efficiency of the implementation of the NDF component in terms of quality and price, including project costs and their compliance with project estimates and acknowledged international price levels for comparable goods and services.
The general performance of the Nordic contractors.

The quality of the cooperation between the parties involved (NDF, Borrower, Implementing Agency, Lead Agency, Nordic contractors).

Specific problems that arose during implementation and the manner in which they were solved.

The value of the introduction of the Nordic supplier into the project on a more general basis (the “bridgehead” effect).

IV.3. Effectiveness.

To which degree have the Development Objectives of the Project and the Immediate Objectives of the Project, and specifically the NDF component, been achieved or are likely to be achieved.

Factors and processes affecting the achievement of objectives.

IV.4. Impact.

Positive and negative effects of the implementation of the Project and the Nordic components. Intended and unintended impacts on target groups and other affected parties. Intended and unintended impact on institutional level. Impact of major unpredicted external influences. Impact may i.a. be viewed with reference to gender, poverty, environment, etc.

IV.5. Sustainability.

The degree to which the positive effects of the project and, where possible, specifically the Nordic components, will continue or can be expected to continue after the external assistance has come to an end. The following issues should be studied:

- Policy support measures.
- Institutional capacity and setup.
- Participation of target groups.
- Financial and economic soundness of the project.

- Choice and appropriateness of the technology.
- Environmental issues.
- Resilience and flexibility of the project setup.

V. THE METHODOLOGY OF THE REVIEW.

The information that has been available to the evaluator(s) should be mentioned.

The following cross cutting issues should be considered by the Evaluators:

i. Policy support measures.

- Priorities, commitments or initiatives that support the project's chances of success.

ii. Institutional aspects.

- Institutional capacity, quality and motivation of staff, participation from target groups.

iii. Financial / economic conditions.

- Level of financing available to cover operations, maintenance etc. Cost-benefit situation.

iv. Technological factors.

- Choice or adaptation of technology relative to the local conditions.

v. Socio-cultural factors.

- Integration of the project into society. The impact of the project on various groups. Issues of poverty alleviation, gender, etc.

vi. Environmental factors:

- Degradation or improvements in the local environment. The use of resources and the sustainability of such utilisation.

vii. Introduction issues:

- The introduction of Nordic companies into the project. Degree of success, including the possibility of further contracts.

EVALUATOR / EVALUATION TEAM AND WORKPROGRAM.

The evaluation will be undertaken by a Spanish –speaking Consultant with the appropriate qualifications and experience from projects similar to the one to be evaluated. In addition, the consultant should have documented experience in evaluation methodology and general development issues such as poverty alleviation, gender, environment, etc.

All findings made by the Consultant shall be discussed with the and Lead Agency IDB and also with the Borrower and Implementing Agency (MARENA) in order to ensure that the local perspective is taken into consideration.

A contract will be signed with the evaluator(s) based on NDF's standard terms for the use of consultants.

Apart from the consultant's fees, the contract will include provisions for a visit to the project, as well as travels to NDF Helsinki for briefing and debriefing.

The contract will stipulate the obligation of the evaluator(s) to perform their duties in accordance with good practice and evaluation ethics, and to observe the need for consultations with those involved.

Time Schedule

The Consultant shall be engaged by NDF for a period of 18 working days, out of which 12 days may be spent in Nicaragua. The assignment will commence in June 2004 and be completed by no later than September 15, 2004.

VI. REPORTING

The report may be standardized according to the report format in Annex 1.

The Executive Summary, a debriefing note, including the consultants preliminary findings, conclusions and recommendations, shall be written and discussed with the Borrower, Implementing Agency and NDF before the end of field work.

The report shall be kept brief, normally within 15-30 pages. Supporting information is to be annexed. The recommendations must be clearly based on the findings of the evaluation.

The report shall be written in English, The language must be clear, yet sensitive. The positive as well as the negative sides of the project shall be given due mention.

Care shall be taken to include acknowledgements and thanks to organisations or persons as appropriate.

It shall be stated that the report is the property of NDF and to be used at its discretion.

A draft report shall be delivered to NDF no later than August 15, 2004. NDF may forward the draft report to the Borrower / Implementing Agency and the Lead Agency shall also be given the opportunity to comment on the Draft.

A briefing and debriefing with NDF shall take place before and after the mission to Nicaragua.

The final Evaluation Report shall be submitted to NDF in 10 paper copies and on a computer disc not later than September 30, 2004. NDF's standard front page shall be used, which allows the consultant to include text and pictures at designated areas.

NORDIC DEVELOPMENT FUND

DRAFT OUTLINE FOR EVALUATION REPORTS.

Front page:

Should include Name of the Project (official designation), type of evaluation, state of the report (draft, final), date of the report, client of evaluation, author of report.

I. Executive summary.

3-4 pages with a summary of conclusions and recommendations.

II. Introduction.

Background, reasons and purpose of the evaluation.

Brief description of the assignment.

Composition of the evaluation team.

Timing and outline of the programme for the mission.

Brief description of the project.

Method of evaluation, incl main sources of data, special limitations, etc.

The structure of the report.

Persons met. (Should normally be put in annex.)

Acknowledgements.

III. Project / component relevance.

Rationale and context of the project at the outset.

Possible changes in the project (and in particular NDF's component) during implementation.

Relevance of individual project components.

Relevance of the use of NDF as a cofinancier and Nordic suppliers within the project.

Appropriateness of the technology chosen, in particular the Nordic supplies.

The relevance of the project objectives, at the time of evaluation.

Realism in main assumptions governing project planning.

IV. Efficiency.

Project progress compared to plans.

Costs and utilization of resources compared to plans.

Achievements of results in relation to resource utilization.

The performance of the Nordic suppliers.

Institutional efficiency and cooperation between the involved partners.

V. Effectiveness.

Development and Immediate Objectives at the start of the project.

Achievement of objectives at the time of evaluation.

Expected achievement of objectives at the time of evaluation.

Factors affecting the achievement of objectives.

VI. Impact.

Impact on target groups.

Other major impacts of the project.

VII. Sustainability

The extent to which the project, and in particular the Nordic component, can be expected to become sustainable.

Factors influencing the issue of sustainability.

VIII. Project organization and administration.

An assessment of the management of the project. The relations between the parties involved. The reporting and the level of satisfaction related to it. Specific problems and the manner in which the parties solved them.

IX. LESSONS LEARNED.

Operational lessons, related to the project and NDF's role as a cofinancier, including the choice of a component, etc.

Other lessons learned.

X. CONCLUSIONS AND RECOMMENDATIONS.

A summary of conclusions and recommendations, to be divided between NDF component specific conclusions and recommendations and those that may have a bearing on the project as a whole.

XI. ANNEXES.

EVALUATION CHECK LIST**I. Relevance**

- I.1. Was / is the project relevant for the target group(s)?:
 very considerably not very not at all
- I.2. Was / is the NDF component relevant for the project?
 very considerably not very not at all
- I.2. Was the NDF component technically appropriate for the project?
 very considerably not very not at all
- I.3. Are the original project objectives still relevant?
 very considerably not very not at all

II. Efficiency

- II.1. Was the NDF component in general implemented efficiently?
 very reasonably not very badly
- II.2. Were the Nordic supplies (goods /services) of the required quality?
 high reasonable not good bad
- II.3. How was the overall pricing of the Nordic supplies in relation to quality?
 very competitive competitive not competitive very high
- II.4. Were the Nordic supplies implemented within project budget?
 below budget on budget slightly over well over
- II.5. How was the overall performance of the Nordic supplier(s)?
1. Company name:
 very good reasonable not very good bad
- II.6. Was the participation of strategic or considerable economic importance to Nordic Suppliers? (more than one x possible):
- Introduced supplier to a new market.
 Introduced supplier to Lead Agency.
 Judged by supplier to be of considerable importance.
 Has led to subsequent contracts or short listing for contracts.
 Supplier knows the market / Lead Agency and project not of major importance.
- II.7. Were there delays in implementation?
1/3
 none not significant considerable major

- II.8. Was the project re-organised during implementation?
 yes no
- II.9. How did the Lead Agency rate the project during implementation?
Mid term: highly satisfactory satisfactory not satisfactory
Presently: highly satisfactory satisfactory not satisfactory
- II.10. The partners rating of each other as co-operation partners:
1. Lead Agency view of Implementing Agency
 highly satisfactory satisfactory not satisfactory
 2. Lead Agency view of Nordic supplier(s)
 highly satisfactory satisfactory not satisfactory
 3. Lead Agency view of NDF
 highly satisfactory satisfactory not satisfactory
 4. Implementing Agency view of Lead Agency
 highly satisfactory satisfactory not satisfactory
 5. Implementing Agency view of Nordic Supplier(s)
 highly satisfactory satisfactory not satisfactory
 6. Implementing Agency view of NDF
 highly satisfactory satisfactory not satisfactory
 7. Nordic Supplier(s) view of Lead Agency
 highly satisfactory satisfactory not satisfactory
 8. Nordic Suppliers view of Implementing Agency
 highly satisfactory satisfactory not satisfactory
 9. Nordic Supplier(s) view of NDF
 highly satisfactory satisfactory not satisfactory
 10. NDF view of Lead Agency
 highly satisfactory satisfactory not satisfactory
 11. NDF view of Implementing Agency
 highly satisfactory satisfactory not satisfactory
 12. NDF view of Nordic Supplier(s)
 highly satisfactory satisfactory not satisfactory

III. Effectiveness

III.1. Development Objectives for the project have been, or can be expected to be, achieved:

fully not quite fully partly not at all not yet applicable

III.2. Development Objectives for the NDF component have been achieved:

fully not quite fully partly not at all not applicable

III.3. Immediate Objectives for the Project have been, or can be expected to be, achieved:

fully not quite fully partly not at all not applicable

III.4. Immediate Objectives for the NDF component have been achieved:

fully not quite fully partly not at all not applicable

IV. Sustainability

IV.1. Can the Project be expected to continue to supply benefits to the target group after external assistance has been terminated?

certainly possibly unlikely very unlikely

IV.2. Policy support measures

very satisfactory satisfactory not satisfactory

IV.3. Institutional Capacity

very satisfactory satisfactory not satisfactory

IV.4. Participation of target groups

very satisfactory satisfactory not satisfactory

IV.5. Appropriateness of the technology

very satisfactory satisfactory not satisfactory

IV.6. Environmental benefits or damage

major benefits some benefits neutral some damage major damage

IV.7. Benefits for women / children

considerable some insignificant negative impact

IV.8. Economic soundness and resilience

very satisfactory satisfactory not satisfactory



ANNEX 3

List of Documents Consulted

List of Documents Consulted

- Análisis de riesgos naturales y propuesta de plan municipal reducción de desastres. POSAF
- Estudio de Factibilidad de Modelos de Comanejo en 4 áreas Protegidas. POSAF
- Estudio de Factibilidad. POSAF II
- Evaluación de Medio Término
- Informes de trabajo. POSAF
- Informe final. Contrato de préstamo No 182. NDF
- Guía de Especies Forestales de Nicaragua. MARENA
- Ley de Conservación, Fomento y Desarrollo Sostenible del Sector Forestal. MAGFOR
- Modulo de seguimiento. POSAF
- Muestras de contratos con OCEs. POSAF
- Manuales de metodología utilizadas por el POSAF (Operations Manual)
- Plan Ambiental de Nicaragua 2000-2005. MARENA
- Plan de manejo. Reserva Natural Cerro Apante y El Arenal. POSAF
- Plan Nacional de Desarrollo. Government of Nicaragua



ANNEX 4

List of People Met

List of people met

Adonis Terán	Extensionista FUNDESSER (Co-ejecutor) San Francisco Libre
Alex Zapata	Asesor de la asociación de Municipio de Nueva Segovia (AMUNSE)
Alexander Carballo	Guardabosque Chacocente
Ana Burgos L.	Oficial de Gestión de Cooperación Multilateral Ministerio de Relaciones Exteriores Secretaria de Relaciones Economías y Cooperación
Aníbal Tenorio	Gerente de la Asociación Forestal CECOFOR Jalapa
Arcadio Choza L.	Director Dirección General de Recurso Naturales y Biodiversidad (DGRNB) MARENA
Ariel Barquero	Gerente de CECOFOR
Bent Moreau	Regional Manager Asia Nordic Development Fund
Blanca Lacayo	Coordinadora Local POSAF Jinotega/Matagalpa
Denis Jiménez Paguada	Gerente de Asociación de los Productores forestales. ADEPROFOCA. Dipilto
Ernesto Herrera	INAFOR. Managua
Eugenia Rosales	INAFOR. Managua
Fidel Lanuza Palacios	Coordinador Unidad Técnica POSAF, Carazo
Florencio Zamora	Comunitario, Chacocente
Francisco Jiménez López	Extensionista ADEPROFOCA
Francisco Rodríguez C.	Director Ejecutivo. POSAF MARENA
Georgina Orozco	Directora de Planificación POSAF,Managua
Jaime Cofre	Especialista Sectorial BID Managua

Jesper Andersen	Regional Manager Nordic Development Fund. Helsinki Finland
Jorge Luis Carcache	Coordinator Chacocente
Juana Patricia Úbeda	Profesora Escuela Primera El Arenal de Jinotega
Maria Pineda Palacios	Profesora Escuela Primera El Arenal de Jinotega
Marina Unnérus	Regional Manager Latin America & the Caribbean Nordic Development Fund Finland
Maritza Sovalbarro	Extensionista Jinotega
Mauricio Rodríguez	Coordinador de la Unidad Técnica POSAF Managua
Olivia Molina	Directora de AFDECA (ONG) Diriámba Carazo
Osmín Mondragón	Director Financiero POSAF MARENA
Per Eldar Søvik	Vice President Nordic Development Fund Finland
Representatives of various companies interviewed by telephone	
Ronald Vega	Guarda Bosque Chacocente
Rosalína Sosa	Guarda Parque Selva Negra Matagalpa
Salvador Tapia Lugo	Asesor Ambiental Embajada de Finlandia
Santiago Vado	Comunitario Chacocente
Teodoro Ramos	Extensionista ADEPROFOCA
Yericksa Castro	Profesora Escuela Primera El Arenal de Jinotega
Wilhelm Castro	Co-gerente de Producción Selva Negra Matagalpa