

**Biodiversity Conservation and Integration of Traditional  
Knowledge on Medicinal Plants in National Primary Health  
Care Policy in Central America and Caribbean**

GEF Medium Size Project

GFL/ 2713-01-4356

**Terminal Evaluation Report**

Evaluation and Oversight Unit

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## List of Acronyms and Abbreviations

ARVARNAM	Association pour la Recherche sur la valorisation des Ressources Naturelles de la Martinique
ALIDES	Central American Alliance for Sustainable Development
ANAM	Autoridad Nacional del Ambiente
CETRA	TRAMIL's Editorial Committee
CAMP	Conservation Assessment and Management Plan
CBD	Convention of Biological Diversity
COHDEFOR	Honduran Corporation of Forest Development
CIFLORPAN	Centro de Investigación de la Flora Panameña
CIMN-H	Interinstitutional Committee on Natural Medicine in Honduras
DED	Deutcher Entwicklungsdienst Germany
Enda-caribe	Environmental Development and Action in the Caribbean
FMO	Fund Management Officer
GEF	Global Environment Facility
IDRC	International Development Research Centre
IUCN	IUCN-The World Conservation Union
MARENA	Ministry of Natural Resources and the Environment
MBC	Mesoamerican Biological Corridor
MINSA	Ministry of Health in Panama
MP	Medicinal Plant
MPs	Medicinal Plants
MSPG	Medicinal Plant Specialists Group
NBS	National Biodiversity Strategies
NGO's	Non-Governmental Organizations
ONAPLAN	National Planning Bureau
PAHO	Pan-American Health Organization
PDF A	Project Development Format A
PHC	Primary Health Care
RED PLAMOTANIC	Medicinal Plant National Network Nicaragua
SIS	Species Information Service
TNC	The Nature Conservancy
TPS	Popular Health Workers
TRAMIL	Traditional Medicine for the Islands

UCR	University of Costa Rica
ULAPS	Office of Social Security in Panama
UNAN-LEON	Autonomous National University of Nicaragua
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
WHO	The World Health Organization

## Executive Summary

- ✓ “Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and Caribbean” is a medium-sized GEF project, and sought to contribute to the conservation and management of medicinal plants in globally significant eco-regions of Central America and the Caribbean. The primary focus of this project was on forest ecosystems and indigenous and local knowledge; it was therefore most relevant to the implementation of GEF Operational Program No. 3 – Forest Ecosystems, and to the directives of the COP to the GEF concerning research on forest biodiversity and the importance of indigenous knowledge (UNEP/CDB/COP/4/27, decisions IV/7 and IV/13).
- ✓ The **Project objective** was: *“To support the conservation and sustainable use of forest ecosystems in the region by identifying conservation and management needs of medicinal plants (MPs) within key forest ecosystems, and integrating these issues into the broader management of selected forest ecosystems.”*
- ✓ Three Specific objectives were defined: (i) to assess the conservation status and management needs of medicinal plants; (ii) to work with indigenous and local communities to develop appropriate management strategies; and (iii), to work with research institutions, NGOs, and national government agencies to integrate conservation and management of medicinal plants with rational use of traditional remedies in primary health care (PHC).
- ✓ The objective of this terminal evaluation was to examine the extent and magnitude of any project impacts to date and determine the likelihood of future impacts. The evaluation also assessed project performance and the implementation of planned project activities and planned outputs against actual results.
- ✓ The project was planned initially for a duration of 36 months which was later extended to 51 months. It was implemented through the following components: (a) Conservation status assessment and priority setting for medicinal plants and habitat; (b) Conservation and management strategies for medicinal plants and habitat; (c) scientific validation of safety and efficacy of traditional plant-based remedies; (d) Education and capacity building for conservation and sustainable use of validated medicinal plants; and (e), Institutionalization and sustainability.
- ✓ The Project management was excellent. The available resources were optimized, generating savings in some areas which were later used in developing unplanned activities beneficial to the local communities, and in enabling the Project extension to fifteen months.
- ✓ The development of five components in four countries and eight eco-regions proved to be more complex and too ambitious given the available time and budget. The difficulties and costs of accessing certain eco-regions, the time and resources required to implement the research and scientific validation components, did not allow for the consolidation of some of the outcomes proposed.
- ✓ The Project has been successful in meeting almost all objectives and outcomes except for the implementation of MPs management plans, the integration of medicinal plants in environmental and health policies, as well as into university curricula in health and natural science departments in each country (except for Honduras). The achievement of these outcomes requires time and resources beyond the project scope which suggest that the project document was too ambitious.

- ✓ The project has been successful in meeting almost all stated outputs as required in the project document. However a number of outputs in the report have not been fully achieved or were not achieved at all (e.g. national guidelines for an equitable access to benefits from medicinal plant information and germplasm; clinical testing of traditional remedies from scientifically validated MPs; policies for PHC and biodiversity conservation explicitly recognize the value of and benefits from conservation and rational use of medicinal plants; policies for access to biodiversity resources, and the sharing of benefits from these resources, have been drafted and refer explicitly to medicinal plants).
- ✓ The Project succeeded in generating information and building the technical capacity and awareness necessary for the national stakeholders, so the counterpart organizations can deepen the outcomes achieved by the Project', and advance progress towards those which were not yet achieved.
- ✓ The communities from the selected eco-regions are more aware of the value of their traditional knowledge and local natural resources. They know the conservation status and threats facing the most-frequently-used medicinal plants, and have defined general strategies for their conservation. However, the role of these communities vis-à-vis the conservation of medicinal plants and their habitats depends on more complex processes than simply being aware of the value of the surrounding resources e.g. finding effective solutions for the sustainable use of these (an other) resources, to ameliorate conditions of extreme poverty. To support a process of this kind goes beyond the project, and it will require multi-sector investment and integral efforts of governmental and non-governmental kind.
- ✓ The environmental authorities of each country have been provided with the full list of medicinal species identified in the selected eco-regions. This list includes information about the state of conservation and threats to the prioritized MPs, and guidelines for the definition of conservation strategies for plants and their habitats associated with various degrees and types of threat. The use of these results in designing policies or implementation of management plans could not be achieved during the lifetime of the project. The main reasons were: a) the topic is not considered a priority by the governments; b) there is a lack of vision on the part of the environmental authorities about the potential of useful plants to both economic development and forest ecosystems conservation; c) the technical and financial limitations of governmental institutions diminish their ability to act; d) the instability of government officers in decision-making posts is a political limitation.
- ✓ The Caribbean Plant Pharmacopoeia has been approved by the Ministries of Health in the four participating countries as the reference document for traditional medicine and has become, along with the MP manuals of popular use derived from it, an important reference for health education programs.
- ✓ The scientific validation of MPs contributed to the valuation of traditional medicine knowledge, and to a greater acceptance to use MPs in PHC by health organizations and personnel. MPs are regarded as a cost-effective option to address PHC in remote places, where access is difficult, resources are limited, and livelihoods are precarious.
- ✓ The knowledge gained on the conservation status of medicinal plants and on the scientific validation of their use is an excellent project contribution to be used by national stakeholders in decision-making, and in the adequate design of policies. However, a greater investment on research is needed, as well as on raising political awareness, so that national decision-makers recognize the importance of medicinal plants in the conservation of forest eco-systems, and strategies for enhancing local health and development.

- ✓ The empowerment of counterpart organizations and national networks achieved through the Project and the conditions this generated make it reasonable to think that these will continue to foster the conservation and sustainable use of medicinal plants. In each country, the networks have started to take steps to consolidate a working niche on these issues.
- ✓ The methodologies used to carry out inventories, identify the conservation status of medicinal plants, and design management models, proved to be useful, easy to apply, and effective. These methodologies can be replicated in other areas of countries involved in the Project and of the world.
- ✓ The scientific validation of the uses of medicinal plants that local communities report represents an important contribution to guarantee the safety and efficacy of this use. Likewise, it opens the doors to the creation of synergies between western and traditional medicine.
- ✓ It is advisable for the national counterparts to capitalize on the momentum generated by the Project in order to consolidate the following outcomes: inclusion of the medical phytotherapy program in the curricula of the universities that participated in the Project; inclusion of medicinal plants in public health policies; and, design and implementation of management plans for vulnerable or threatened medicinal plants and their habitats.
- ✓ Ideal institutions for enhancing the project outcomes achieved are the municipal secretariats of the environment, health and agriculture. The administrative decentralization assigns responsibilities to these entities for which they lack resources and technical know-how. By being comprehensible and easy to use, the methodologies and information generated by the project can become useful working tools to contribute to the development of the roles of those institutions. Their presence in the eco-regions, with access to communities and local knowledge, could make the work more cost-effective, and the results could be used to influence national policies.
- ✓ For future projects, it is advisable to design a targeted strategy to raise political awareness that takes into account the lack of continuity in policies, quite common in the region because of the changes of governments and their officers. Likewise, it is advisable to design strategies to guarantee the sustainability of activities and benefits promoted at the community level once the project ends.
- ✓ For future projects, a greater focus on the analysis and discussion of intellectual property issues in reference to reported uses of native and endemic plants is needed.
- ✓ For future projects, it is important to realistically define the time and budget needed to achieve the planned outcomes and objectives. Similarly, it is necessary to define more precisely the 'reach' of the project, as far as outcomes and impact are concerned, through clear indicators. The monitoring of those indicators would make it easier to identify more accurately the outcomes and impacts attained by the project.
- ✓ It is suggested that project planning and initial budgeting include an explicit exit strategy that enhances the chances of guaranteeing the sustainability of outcomes.
- ✓ Of equal importance is to assign a percentage of the budget to implement the recommendations of the final evaluation, and/or perform at least an intermediate formative external assessment.



- ✓ Facilitating the flexibility in the project management proved to be an effective strategy that could be used again in future projects. Favoring an outcome-oriented management approach will allow a better adaptation to changing realities, thus enhancing the project's chances of success.

## I. Project Identifiers

**Project title:** Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and Caribbean (abbreviated in this document as TRAMIL-GEF project).

**Project No.:** GFL/ 2713-01-4356

**Duration:** The project duration was initially 36 months starting October 2001, which was later revised and extended to be completed in September 2005. By the end of the project an additional extension of three months was requested, making a total duration of 51 months.

**Implementing Organization:** Enda-caribe and the National Counterparts in Honduras, Nicaragua, Panama and the Dominican Republic.

## II. Introduction and Background:

*“Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and Caribbean”* is a medium-sized GEF project which sought to contribute to the conservation and management of medicinal plants in globally significant ecoregions of Central America and the Caribbean. The primary focus of this project was on forest ecosystems and indigenous and local knowledge; it was therefore most relevant to the implementation of GEF Operational Program No. 3 – Forest Ecosystems, and to the directives of the COP to the GEF concerning research on forest biodiversity and the importance of indigenous knowledge (UNEP/CDB/COP/4/27, decisions IV/7 and IV/13).

**The project goal and objectives** were stated as follows:

**Project goal:** *“To support the conservation of forest ecosystems in Central America and the Caribbean through the rational and sustainable use of medicinal plant resources.”*

**Project objective:** *“To support the conservation and sustainable use of forest ecosystems in the region by identifying conservation and management needs of medicinal plants within key forest ecosystems, and integrating these issues into the broader management of selected forest ecosystems.”*

Three Specific objectives were defined:

- to assess the conservation status and management needs of medicinal plants;
- to work with indigenous and local communities to develop appropriate management strategies; and
- to work with research institutions, NGOs, and national government agencies to integrate conservation and management of medicinal plants with rational use of traditional remedies in primary health care (PHC).

**Five components** were defined to implement the project:

- 1) Conservation status assessment and priority setting for medicinal plants and habitat;
- 2) Conservation and management strategies for medicinal plants and habitat;
- 3) Scientific validation of safety and efficacy of traditional plant-based remedies;
- 4) Education and capacity building for conservation and sustainable use of validated medicinal plants; and
- 5) Institutionalization and sustainability

**The Project implementation area** was focused in four countries in which the following eco-regions were prioritized for project implementation, based on external assessments of their global and regional conservation priority, and on preliminary assessments (undertaken within the PDF A phase for this project) of their importance to indigenous and local communities as habitat for medicinal plants and other non-wood forest products:

- **Nicaragua:** Biosphere of BOSAWAS (Mosquitia, rainforest) and Las Segovias (Pine forest)
- **Honduras:** Biosphere of Rio Platano (Las Marias (Batiltuk) in la Mosquitia, rainforest), and Lenca Communities in Intibuca, La Paz and Lempira (South-west Honduras)
- **Panama:** Comarca Ngöbe Buglé (Atlantic coastal rain forest) and Embera Darien tropical rainforest
- **Dominican Republic:** Parque Nacional del Este and Zambrana Cotuí

**The Project executing agreement** was signed by Enda-caribe (Environmental Development and Action in the Third World)<sup>1</sup>, and implemented in collaboration with members of the TRAMIL network in each of the above mentioned countries. These counterparts include research institutes and universities, rural development and community health NGOs, national herbaria and botanic gardens and were represented by the following organizations in each country:

- **Nicaragua:** Medicinal Plant National Network (RED PLAMOTANIC) (created in September 1996) and the Herbarium of the National University of Nicaragua in Leon (UNAN-LEON)
- **Honduras:** Medicinal Plant National Network (CIMN-H, created in 1984) and the Laboratory of Ethnobotany at the National Autonomous University of Honduras UNAH
- **Panama:** Ministry of Health (Section of Traditional Medicine, created 1999) and CIFLORPAN at the National University of Panamá.
- **Dominican Republic:** National Botanic Garden in Santo Domingo, National Herbarium and **Enda-caribe**.

A **Steering Committee** was formed as an advisory and strategic decision making body by: The project manager and regional coordinator of TRAMIL/Enda-caribe activities in Central America; Enda-caribe representative of the Caribbean; general coordinator of TRAMIL; and, project national Coordinators of Honduras, Nicaragua, Panama and Dominican Republic. The steering committee also included a representative from IDRC, and the Chair of the IUCN/SSC Medicinal Plant Specialist Group<sup>2</sup>. The UNEP task managers were also part of the Steering Committee and they assume their advisor role from a distance or through electronic means.

**The total budget of the proposal** was US\$1.398.000,00, from which US\$750.000,00<sup>3</sup> were funded by the GEF trust fund and US\$673,000 pledged as counterpart contributions (IDRC Co-financing US\$266.390, MPSG/IUCN in kind contribution US\$50.694, National Counterparts and the TRAMIL-Network/Enda-caribe in kind contribution US\$330.916).

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<sup>1</sup>ENDA-CARIBE is an international non-profit organization.

<sup>2</sup> The Medicinal Plant Specialist Group (MPSG) is a global voluntary network of experts contributing within their own institutions and in their own regions to the conservation and sustainable use of medicinal plants.

<sup>3</sup> This amount includes US\$25,000 funded for the PDF A Phase and US\$725,000 for the project implementation.

### III. Evaluation Objectives, Scope, Methods and Limitations

#### A. Evaluation Objectives and Scope:

The objective of this terminal evaluation was to examine the extent and magnitude of any project impacts to date and determine the likelihood of future impacts. The evaluation also assessed project performance and the implementation of planned project activities and planned outputs against actual results. The evaluation focussed on the following main questions:

- ✓ To what extent have the assessment of the Medicinal Plant's conservation status and the development of management plans contributed to conservation and sustainable use of forest systems<sup>4</sup>? To what extent has the specific needs of the target stakeholders been taken into consideration in developing priorities for management and conservation?
- ✓ To what extent has the project facilitated/contributed to the inclusion of scientifically validated remedies from locally important medicinal plants into primary health care?
- ✓ What is the extent of, and evidence supporting, increased participation of NGO's and national government agencies to integrate conservation and management of medicinal plants with rational use of traditional remedies in primary health care?
- ✓ How effective was the implementation approach and more specifically what were the implications of changing the Task Manager in the middle of the project duration in terms of project delivery?

In compliance with the Evaluation Terms of Reference (Annex 1), the following evaluation criteria were assessed: Achievement of outputs; Achievement of outcomes and impacts; Stakeholder participation and public awareness; Sustainability of the project results & country ownership; Implementation approach & Monitoring and Evaluation (M&E); Financial planning; Cost-effectiveness; and, Replicability.

The evaluation was commissioned by the Evaluation and Oversight Unit of UNEP and undertaken by an independent external evaluator.

#### B. Evaluation Methodology

The evaluation was undertaken from September 4th through October 16<sup>th</sup> 2006.

The findings of the evaluation are based on:

- A desk review of the Project Document, the Terminal Report, Quarterly Reports, Project self-evaluation report (November 2005), Project Implementation Reviews (2002-2003 & 2004), TRAMIL Program website and links<sup>5</sup>, selected project publications and consultants reports (See ANNEX 2. List of documents reviewed).
- E-mail correspondence with the Project Manager.

<sup>4</sup> To the extent possible the evaluator should assess quantitative aspects of the impact (e.g. how many plant species have been conserved, how many people/communities involved during and after the project, land surface covered etc.)

<sup>5</sup> <http://www.funredes.org/endacaribe/tramil.html>

- Field visits to project sites in Dominican Republic (11 to 15 of September 2006) and Honduras (17 to 21 of September 2006).
- Individual and group interviews with project staff (national coordinator & consultants), community members, participating national network members, local authorities, directors of national counterpart organizations, project manager, Enda-caribe representative, and the TRAMIL coordinator.
- Phone interview with UNEP task Manager.
- Financial information was provided by the Fund Management Officer, UNEP DGEF, Nairobi.
- E-mail interviews with representatives of national counterparts in Nicaragua and Honduras.

For a complete list of persons interviewed see ANNEX 3, and ANNEX 4 to see questionnaire protocols used in the evaluation.

In view of the limited time and resources available for the evaluation, coupled with the fact that there were no established baselines with respect to the intended outcomes and objectives of the project, the following simplifying assumptions were made in evaluating project outcomes: 1. That the attention to Medicinal Plants by key policy audiences and mainstream healthcare bodies was at a low level (near to zero) before the project activities began (except for Panama that had incorporated traditional medicine in the national health system before the project started); 2. That progress in promoting a focus on Medicinal Plants in key national policies, and among health care workers more generally would have been minimal in the absence of the project. Therefore the outcomes recorded were attributed to the actions of the project.

### ***C. Limitations of the Evaluation***

- The evaluation was limited by the fact that the evaluator was requested to visit two of the four countries in which the project was implemented (Honduras and Dominican Republic).
- Some key individuals of national counterparts in Panama and Nicaragua, and from The World Conservation Union Medicinal Plant Specialist Group (IUCN-MPSG) did not answer the e-mail questionnaires.
- The project document did not include indicators specifying the desired reach of outcomes and impacts. This fact made it difficult to produce evaluative judgments based on quantitative data about the achievement of outcomes and impacts.

## **IV. Project Evaluation**

### ***A. Achievement of Outputs & Activities***

The project has been successful in meeting almost all stated outputs as required in the project documentation. The next section presents the main outputs delivered and not delivered for each project component.

#### **Component 1. Conservation Status Assessment and Priority Setting**

- ✓ Each country identified local priorities in collaboration with indigenous and local communities', inventories and assessments of current populations, threats, uses and

management of Medicinal Plants (MPs) were completed through ethno-botanic and conservation surveys for each of the eight eco-regions selected.

- ✓ National databases were established in each country, and a regional database ('ETNOMETRA') was established in Panama, managed by the Panama Plants Research Centre (CIFLORPAN) Faculty of Pharmacy. ETNOMETRA was developed in consultation with the Medicinal Plant Specialist Group of the Species Survival Commission of IUCN, in order to facilitate its establishment as a regional node, or nodes, of the IUCN-SSC Species Information System (SIS) in the Caribbean and Central America<sup>6</sup>.
- ✓ The results of the conservation surveys conducted with communities and resource managers in the eight selected project sites were evaluated by the national project partners according to the following criteria for selection of conservation assessment and management planning priorities<sup>7</sup>: Species currently listed on the CITES appendices; species previously listed on a Red List of threatened species (national, regional, or global); endemic species; phenological characteristics; abundance / rarity; local knowledge concerning; abundance, importance in local health care, and method of harvest; commercialization; part(s) used.
- ✓ Twelve priority species in the Dominican Republic and sixteen species for Honduras, Panama and Nicaragua were selected for assignment of Red List categories in the Conservation Assessment and Management Planning (CAMP) workshops.

<b>Conservation status assessment and priority setting</b>				
	<b>Nicaragua</b>	<b>Honduras</b>	<b>Panama</b>	<b>Dominican Republic</b>
MPs identified	750	99	223	83
MPs evaluated with CAMPs methodology	9	4	5	12

- ✓ Two CAMP workshops were developed: The first of these workshops was held in the Dominican Republic (February 3-5, 2004). This workshop focused on priority medicinal plant species and habitats selected from project sites in the Dominican Republic, in addition to several species endemic to the island flora of Hispaniola or economically important in the Western Antilles. The second regional workshop was held in Panama (31 March – 3 April 2004), hosted by CIFLORPAN. This workshop focused on priority species and habitats selected from project sites in Panama, Nicaragua, and Honduras, with the addition of endemic medicinal plant species, and emphasizing priorities shared between the participating countries and across the Central American region.
- ✓ Priority MPs assessments were conducted by applying the IUCN Red List criteria for global and regional assessment of conservation status<sup>8</sup>, and included elements of management planning based on the Conservation Assessment and Management Planning (CAMP)<sup>9</sup> process. The synthesis of the assessment results are shown in the

<sup>6</sup> Financial and human resources within IUCN-SSC to facilitate application of the SIS to conservation data management for plants have been slower to materialize than anticipated; however, extension of the SIS to the work of SSC Plant Specialist Groups is a priority for SSC during the upcoming IUCN Quadrennial Program 2005-2008 (SSC Strategic Plan 2001-2010).

<sup>7</sup> The criteria were developed in consultation with the IUCN- MSPSG.

<sup>8</sup> Developed by the Red List Programme of the Species Survival Commission of IUCN – The World Conservation Union.

<sup>9</sup> Developed by the IUCN Conservation Breeding Specialist Group (CBSG).

table below (For a complete List of Medicinal Plants Evaluated in the CAMP Workshops and Assessment Results, see ANNEX 5).

Red List categories to the priority species selected		
Category	Number of species in Honduras, Panama & Nicaragua	Number of species in Dominican Republic
Critical Endangered (CR)	0	3
Endangered (EN)	5	5
Vulnerable (VU)	9	3
Near Threatened (NT) NATIONAL	2	1
(Near Threatened (NT) REGIONAL	(2)	
TOTAL	16	12

- ✓ Results of conservation assessments were reported to resource users and managers, planners, and policy makers through several workshops and publications (See Component 4. Education & Capacity Building).
- ✓ Professionals from each country were trained in CAMP methodology: Four in Nicaragua, three in Honduras, ten in Panama and twenty in the Dominican Republic.
- ✓ Pilot studies to fill information gaps for priority medicinal plant species and habitats were not carried out. This activity will be linked directly to the work plan of the IUCN/SSC Medicinal Plant Specialist Group Global assessment initiative, currently under development.

## Component 2. Conservation and management strategies

### *In-situ Conservation and Management Strategies*

- ✓ Guidelines to design and implement conservation and management strategies for priority MPs were identified through CAMP workshops and validated with local communities and authorities of the protected areas. These guidelines have been presented to local and national authorities in the four countries.
- ✓ Conservation status and management studies were developed with community participation in Honduras for the “Quina Roja” (*Symplocos vernicosa*) and for the “Quina Bejuco” (*Sparattanthelium septentrionale* Sandwith)<sup>10</sup>.
- ✓ In each country, professionals of the participating national networks and other Institutions have been trained in the design of protocols for monitoring MPs and management systems for threatened species and habitats.
- ✓ Collaborative monitoring and management agreements for medicinal plants have not been implemented. Delivering this output was beyond the capacity of the project in terms of the time and resources available.

<sup>10</sup> Plants found in the Guajiquiro Biosphere Reserve and the Rio Plátano Reserve respectively.

**Ex-situ conservation and management strategies:**

- ✓ Collaborative research initiatives on domestication and cultivation were established with local communities for priority wild medicinal plant species in Zambrana, Guajiquiro and Ngobe-Blugle regions.
- ✓ Voucher specimens have been collected and most of the plants have been taxonomically identified. The voucher specimens were deposited in the participating herbaria of each country.
- ✓ Community, family and health centers' MP gardens were established in each country. The following table presents the number and type of MP gardens established by country.

Country	MPs Gardens Established
Nicaragua	<ul style="list-style-type: none"> <li>• 30 breeding grounds of MPs with 90.000 plants and 5 MPs parcels were established in la Segovia.</li> <li>• 1 MP community garden was established at the Traditional Medicinal House "Atsibul" (<i>Panabas Uni Atsibul</i>) in Musawas</li> </ul>
Honduras	<ul style="list-style-type: none"> <li>• 9 community gardens were established: 7 in Guajiquiro, 1 in Santa Helena and 1 in Las Marias.</li> </ul>
Panama	<ul style="list-style-type: none"> <li>• 10 community MP gardens linked to health centers</li> <li>• 1 MP Garden was established in then National Psychiatric Hospital</li> </ul>
Dominican Republic	<ul style="list-style-type: none"> <li>• 11 MP Family gardens were established in Zambrana</li> <li>• 1 MP Pavilion in the National Botanical Garden</li> </ul>

- ✓ Support for local initiatives was given by the project to facilitate community participation with in-situ and ex-situ MPs conservation strategies in Honduras and Nicaragua.

Country	Local initiatives supported
Nicaragua	<ul style="list-style-type: none"> <li>• Construction of traditional medical House "Atsibul" (<i>Panabas Uni Atsibul</i>) in Musawas</li> <li>• Scholarships at the Universidad UNAN-Leon were given for Mayangna Sauni as community members</li> <li>• Two books were published in Mayangna language, broadening opportunities for indigenous communities to be informed on MPs in the Biosphere of Bosawas</li> </ul>
Honduras	<ul style="list-style-type: none"> <li>• A dam was built in order to facilitate the irrigation of the MP garden constructed in the Santa Cruz Community</li> <li>• Tools warehouse was installed in the Duraznal community to keep MP garden inputs</li> <li>• Promotion of commercial blackberry production in el Sauce community</li> <li>• Placement of 14 signs identifying MPs in the nature trail established in the agro-ecological garden of Las Marias community</li> </ul>

- ✓ The National guidelines for an equitable access to benefits from medicinal plant information and germplasm for research and development were not drafted by the appropriate institutions. The evaluation considers that the implementation of this output was beyond the reasonable scope of the project, because implementing this output would have required a thematic research line, in addition to those of conservation and safe and efficient use of MP's, which make up the core of this project.



### Component 3. Scientific Validation of safety and efficacy

- ✓ The process of scientific validation<sup>11</sup> included the research of MPs uses/parts in the treatment of primary diseases. Thirteen MPs uses/parts were validated in the National University of Panama and forty five in the Costa Rica University (UCR). Lists of priority MPs scientifically validated for each eco-region were provided to health professionals and authorities.
- ✓ Scientifically validated MP posters and popular manuals were published and distributed in the eight eco-regions (See ANNEX 7. Publications, Didactic Material & Consultant's Reports).
- ✓ Three meetings of the TRAMIL's Editorial Committee (CETRA) were organized<sup>12</sup> and MP monographs were reviewed and edited. The table below shows the synthesis of results of the ethno-botanical surveys prepared by the TRAMIL coordinator:

Synthesis of Ethno-botanical surveys results 2004	Total
Uses/part that were already in the Pharmacopoeia	37
Uses/part that were already in the TRAMIL waiting list or in research	12
Uses that were already in the REC <sup>13</sup> list but with another part	2
Uses that were already in the scientific validation waiting list but with another part	2
Uses of plants that were already in TRAMIL List	35
New plants for the TRAMIL's waiting list	15

- ✓ Information on ethno-pharmacology uses of new medicinal plants generated in the project has been incorporated in the '*2nd Edition of Caribbean Herbal Pharmacopoeia*'<sup>14</sup>. A special edition of the Pharmacopoeia was published for the Dominican Republic.
- ✓ Criteria for incorporation of MPs in Primary Health Care (PHC) were defined and presented to health authorities in the four countries<sup>15</sup>.
- ✓ Clinical testing<sup>16</sup> of traditional remedies from scientifically validated MPs was not done. The medical follow-up chart was designed and the medical personnel were properly trained for its use. However, due to project time constraints, and the high rotation of medical and nursing personnel who visit the communities, it was not possible to fully accomplish this output.

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- <sup>11</sup>The scientific validation process included phytochemical, pharmaceutical and toxicity studies on significant MP's (reported by 20%, or more, of surveyed people). These studies are carried out through lab analysis and tests on lab animals.

<sup>12</sup> CETRA meetings were held in Mexico (2003), Panama (2004) and Costa Rica (2005)

<sup>13</sup> REC category means part(s) of a plant recommended for human use after a scientific validation process.

<sup>14</sup> "Farmacopea Vegetal Caribeña" Editor Científico: L. Germosén Robineau. – 2<sup>a</sup>. ed. act.- León, Nic.: Editorial Universitaria, UNAN – León, 2005. 486 p.: il

<sup>15</sup> Different criteria were defined according to the following aspects: quality, safety, efficacy and conservation status of the plant.

<sup>16</sup> Clinical testing involves efficacy tests on human of scientifically-validated significant MP's. In order to carry out these tests, medical follow-up charts are required by health personnel, in which the patient's disease evolution is recorded. This process calls for well-trained medical personnel as well as for long follow-up periods of time (6 months-1 year), which can allow to observe the reaction of different patients to a particular plant.

#### Component 4. Education and capacity building

- ✓ Several workshops and seminars were held with community leaders, protected areas authorities and representatives from the Ministries of the environment in the four countries. These events focused on introducing IUCN Red list categories, presenting the list of species in danger that were identified in each of the eco-regions selected, discussing conservation and management guidelines and creating capacities for the design and implementation of in-situ and ex-situ conservation and management strategies.
- ✓ Meetings and workshops were also held with health authorities and WHO representatives in the four countries to present and discuss the criteria of incorporating MPs in PHC, and to disseminate the list of uses/parts of scientifically validated MPs.
- ✓ Eleven Seminar-Workshops about “Medicinal Plants for Primary Health Care: A contribution of the TRAMIL-GEF Medium Project” were held in the four countries. The main contents developed were: botany lectures, Phytochemistry and toxicology, Management of prevalent<sup>17</sup> disease cases through uses / part of MPs; preparation of infusions, decoctions and cataplasms<sup>18</sup>. These seminar-workshops were offered to traditional doctors, midwives, teaching personnel, health-related programs students, health personnel, and local health agents. The following chart shows the number of people who took part in these seminar-workshops per country.

Type of trained personnel	Honduras	Nicaragua	Panama	Dominican Republic
Local health agents & Health personnel	31	85	99	66
Health sector teaching staff	23	0	0	2
Health students	44	83	0	13
TOTAL	98	168	99	81

- ✓ Other training and awareness events were developed, including traditional healers, midwives, students, medicine and nursing faculty professors, and other professionals from the health sector in order to disseminate knowledge on health, traditional practices and the use of scientifically validated MPs in the PHC. Some of these events were used to discuss and define the Phytotherapy program to be included in the curricula of medicine and nursing faculties in the four participating countries.
- ✓ An International training workshop on conservation, sustainable use, harvest methods and cultivation of MPs was held in Costa Rica to train 20 technicians selected by the project to work with local communities in the four countries. The workshop was led by a well known expert in the topic.

<sup>17</sup> Respiratory, gastro intestinal, and dermatological

- <sup>18</sup> *Infusion* is the process of extracting certain medicinal active properties of the plant by soaking it in water; *decoction* is the extraction by boiling of water-soluble drug substances of the plant; and *cataplasma* is a medical dressing consisting of a soft heated mass of a part of plant that is spread on a cloth and applied to the skin to treat inflamed areas or improve circulation.

- ✓ With regard to the indigenous and local communities, the project promoted organizational strengthening in the participatory design and implementation of local initiatives. Workshops on safe and effective use of parts of MPs to alleviate common health problems were held in the eight eco-regions, as well as training on agronomic techniques for the cultivation of MPs. The following chart shows the number of communities / people trained in agronomic techniques for MP Gardens.

<b>Synthesis of people trained in Agronomic techniques for MPs Gardens</b>			
<b>Nicaragua</b>	<b>Honduras</b>	<b>Panama</b>	<b>Dominican Republic</b>
41 community members among both eco-regions	18 community leaders & 67 community members	150 community leaders & members of 9 communities	Members of 3 communities from the East Region & 7 communities from the north

- ✓ Training workshops were also held with community-based organizations, community leaders, and protected areas authorities focusing on the design and implementation of medicinal plant in-situ management and conservation strategies.
- ✓ Primary and secondary school teachers have been trained in the uses of MPs in the participating countries and, in La Segovia Nicaragua, this topic has been integrated into the school curricula.
- ✓ Experiences and lessons learned at the local, national and regional levels have been exchanged among the participating countries through international conferences and seminars, project evaluation reviews, self-evaluation workshops and steering committee meetings<sup>19</sup>.
- ✓ For a complete list of workshops and seminars held in each country see ANNEX 6.
- ✓ The education and capacity building component also included the design, publication and dissemination of different didactic and scientific materials aimed to inform diverse sectors of the population on the conservation and uses of MPs. Books, handbooks, manuals, bulletins and posters were designed and distributed among stakeholders. For a complete list of printed material see ANNEX 7. Publications, Didactic Material & Consultant's Reports.

### **Component 5. Institutionalization & Sustainability**

- ✓ Health policies were reviewed in the four participating countries. The aim of this review was to know whether MP's were included in the General Law of Health as a requirement to institutionalize their use in PHC. It was concluded that in the four countries, MP's are mentioned in different chapters, which makes it feasible to institutionalize its use.
- ✓ National Biodiversity Strategies were reviewed in Honduras, Nicaragua and Panama. It was concluded that MP's are not explicitly included, which implies a challenge for the counterpart organizations to promote their integration.
- ✓ A technical proposal was developed on the uses/parts of scientifically validated MPs to be recommended for primary health care. This was made available to local and national

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<sup>19</sup> For more detail in these events see: Implementation Approach & Stakeholder participation

health authorities' consideration. The authorities of the four countries showed great interest in the proposal. However, the rotation of top officers within the Ministries of Health did not allow for the inclusion of MP use in PHC as a State policy in Honduras and the Dominican Republic. In Nicaragua, important contributions were made to design the draft bill for Traditional Medicine, whereas in Panama support was given to the implementation of the existent traditional medicine policy (For more details see Section: Achievement of Outcomes & Impact).

- ✓ The designed Medical Phytotherapy program was made available to public and private universities in the four countries in order to integrate MPs knowledge into their curricula. To contribute to this purpose, some events to raise awareness and highlight the approach were carried out. In addition, efforts were made to consult and exchange information with academic authorities and teaching personnel of technical and higher education health programs.
- ✓ Events to promote the sharing of experience among local health personnel, midwives, healers, and traditional doctors concerning their role in the promotion and dissemination of medicinal plant use in the four countries were held. These included: A bi-national workshop of health promoters and environmental health technicians from Honduras and Nicaragua (Estelí, Nicaragua, July 2004); Feedback encounters with health promoters in the Dominican Republic (Santo Domingo, October 2004); Experience-sharing between traditional doctors and the health personnel from the Ministry of Health (Chiriquí, Panama, January 2005).
- ✓ Visits and meetings to strengthen the ties among state and private universities, the Pan-American Health Organization (PAHO) and the TRAMIL- Central America Regional Program were also held.
- ✓ National guidelines for conservation of MPs have been discussed with, and activities have been proposed to, the environmental authorities in Honduras, Panama, Nicaragua and the Dominican Republic, after the CAMP workshops held in February and April 2004. These guidelines provide a basis to include medicinal plant conservation in broader management strategies (site, eco-region, national, regional, and global). The project managed to integrate some of these guidelines in the World Guidelines for Medicinal Plant Conservation, The Standardization of Medicinal plant Commercialization Initiative, and the "Global Strategy for Plant Conservation"<sup>20</sup>.
- ✓ The project has been less successful in influencing regional forest management strategies such as the Mesoamerican ecological corridor, national protected areas conservation and other initiatives of the Central American Alliance for Sustainable Development (ALIDES).
- ✓ Experiences and lessons learned at the local, national and regional levels have been shared among the participating countries through international conferences and seminars, project publications, project evaluation reviews, self-evaluation workshops and Steering Committee meetings<sup>21</sup>.
- ✓ Policies for access to biodiversity resources, and the sharing of benefits from these resources with explicit reference to medicinal plants were not drafted. The evaluation considers that the implementation of this output was beyond the reasonable scope of the

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<sup>20</sup> For further details see Section Achievement of Outcomes & Impact, subsection 'Contributions at the International and Regional Level'

<sup>21</sup> For more detail in these events see: Implementation Approach & Stakeholder participation and Public Awareness sections.

project, implementing this output would have required a thematic research line, in addition to those of conservation and, safe and efficient use of MP's, which make up the core of this project.

## ***B. Achievement of Outcomes & Impact***

The outcomes of the project were evident at various levels: community, national and international. In this section, the main impacts and outcomes identified for the evaluation and some impacts foreseen for the immediate future are highlighted.

It is important to note that the type of quantitative information available from project documentation coupled with the constraint of the time available to carry out evaluative studies with representative samples of the population in each of eco-regions, and hold interviews with all the authorities involved did not allow the precise determination (or attribution) of some of the achievements mentioned below.

### **General Project Contributions:**

- ✓ The project managed to make visible a clear connection and interdependency between the environmental and health sectors through the issue of conservation and use of medicinal plants. At the national level, it succeeded in bringing these two sectors together and succeeded in introducing the discussion about the need to preserve the diversity of medicinal species as a cost-effective alternative for the improvement of public health.
- ✓ The project was successful in combining traditional and scientific knowledge and empowering community based organizations, community leaders and popular health workers to improve conservation and a sustainable, efficient and safe use of medicinal plants.

### **Community Level Project Contributions:**

The Project worked in 71 communities, traditional users of medicinal plants (For a complete list of Communities involved per country see ANNEX 8). Some of the community level impacts and outcomes as perceived by the people interviewed and reported in the revised documentation are:

- ✓ The communities have a greater knowledge and are more aware of the state of conservation and threats to the plants they consider useful for their health care. Some manifestations of this were identified during the evaluation field visits in Guajiquiro (Honduras) and Parque del Este (Dominican Republic) and included: a decrease in the practice of forest burning, improvements in the extraction techniques of some species, experimentation in the domestication of some species, the maintenance of medicinal gardens, and the protection of endangered species. Other manifestations identified from documentary sources were: the creation of a Biodiversity Defense Committee (CODEBI)<sup>22</sup> in La Segovia, Nicaragua; the consolidation of the medicinal plants Committee of Las Marías (Batiltuk) at the Biosphere Reserve in Rio Plátano, Honduras;

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<sup>22</sup> The Committee is conformed by park rangers, producers, Ecologists, Biologists, medicinal plant suppliers, forest technicians, Engineers, health promoters, and community leaders, among others.

and the strengthening of the Ngöbe Buglé Association of Traditional Doctors (Healers) in Panama.

- ✓ It is important to highlight that the role of these communities vis-à-vis the conservation of medicinal plants and their habitats depends on more complex processes than simply being aware of the value of the surrounding resources e.g. finding effective solutions for the sustainable use of these resources to ameliorate conditions of extreme poverty. To support a process of this kind goes beyond the project, and it will require multi-sector investment and integral efforts of governmental and non-governmental kind.
- ✓ Other direct benefits of the project for the communities were: a greater appreciation of their traditional knowledge; a better application and use of the popular remedies; access to low-cost treatment of common diseases in the medicinal gardens or through the popular health workers<sup>23</sup>.
- ✓ The communities did not obtain direct economic benefits from the project. However as a result of their newly acquired learning, some traditional doctors, healers and midwives started the production of syrups and ointments, on their own, for local commercialization. Likewise, in the community of Naranjal (Guajiquiro, Honduras), a pilot initiative was established for the technical production and commercialization of a wild blackberry species. This is currently sold successfully through a fruit processing plant of which the community has become a partner.

### **National Level Project Contributions:**

The project made various contributions to the environmental and public health sectors at the national level as outlined below.

#### ***Contributions to the Environmental Sector:***

The environmental authorities in each country have been provided with a list of medicinal species identified in the selected eco-regions. This list includes information about the state of conservation and threats to the prioritized MPs, and guidelines for the definition of conservation strategies for plants and their habitats associated with varied degrees of threat. The use of these results for designing policies or implementation of management plans could not be achieved during the lifetime of the project.

The main reasons were: a) the topic of MPs is not considered a priority by the governments; b) there is a lack of vision on the part of the environmental authorities about the potential of useful plants to both economic development and forest ecosystem conservation; c) the technical and financial limitations of governmental institutions constrain their ability to act; d) the rapid turnover of government officers in decision-making posts presents a political limitation.

Other outcomes and long-term potential impacts specific for the participating countries include:

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<sup>23</sup> Popular health workers are people recognized for their knowledge in traditional medicine who provide primary health care in their communities. Some of them are integrated into local health care systems, while others work freelance.

### Contributions in Honduras:

- ✓ The results of the two management plan models and the list of vulnerable and/or endangered species identified have drawn the attention of the Secretary of Natural Resources and the Environment (SERNA) and of the Honduran Corporation of Forest Development (COHDEFOR), about the need to adopt a permanent or temporal 'closed season' system for the extraction of endangered plants and for those that could be affected by the changes in the traditional and commercial uses. At the same time, the need to designate the areas, where these plants are found, as places of conservation interest was considered<sup>24</sup>. At the time of writing this report, a discussion was ongoing about the enactment of a new Wildlife Law that would incorporate the above mentioned aspects.
- ✓ The conservation model for Quina Roja (*Symplocos vernicosa*), that was developed in Honduras, demonstrated the current and potential value of mixed forests for the communities in the southwest of the country and highlighted the threats that put pressure on this ecosystem. In a response to that study, the municipality of Guajiquiro created a system of incentives and disincentives for the communities of the region to avoid the burning of mixed forests during summertime. According to the former Mayor, during 2005 there were no burnings of forest, which in itself represents an impact of the project in Guajiquiro, linked directly to the model developed for Quina Roja.

### Contributions in the Dominican Republic:

- ✓ The National Botanical Garden, as governmental authority on the topic of flora has incorporated medicinal plants in its strategic plan and institutional organizational chart. It is hoped that this fact will allow continuity for the following activities: assessment of MP conservation status, ex-situ conservation initiatives, improvement of the germplasm banks, and domestication and propagation of species with a greater medicinal potential.
- ✓ The construction of the Medicinal Plant Pavilion in the National Botanical Garden. This facility will be used in the development of educational programs with 160,000 children from the country's public schools, and to raise awareness among the 30,000 tourists per year who visit the country.
- ✓ According to the interview with the Director of the National Planning Bureau, the elaboration of the National Strategy for Biodiversity and the explicit incorporation of medicinal species is a priority for the Secretary of the Environment and Natural Resources<sup>25</sup>. The outcomes of the project will be incorporated in this process through the participation of the National Botanical Garden.

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<sup>24</sup> This would be an alternate mechanism to the creation of protected areas which implies an overly lengthy legal procedure, and carries within it difficulties in management effectiveness due to the size of the areas concerned. The environmental authority is entitled to designate these sites by decree and will have legal precedence over the territorial planning processes.

<sup>25</sup> The interest in incorporating medicinal species conservation addresses a great number of existing natural and endemic species, and their use and commercialization traditions in the Dominican people.

### **Contribution in Nicaragua:**

- ✓ The PLAMOTANIC network has included the conservation of MPs within its institutional mission. During the project, this network signed a collaborative agreement with the Ministry of the Environment and Natural Resources (MARENA) to implement the project actions at the local level. This collaboration has transcended the project's duration.
- ✓ Through the co-financing by the International Development Research Center (IDRC), the National University of Nicaragua in León (UNAN-León) and the national herbaria involved in the project participated in the design of the National Biodiversity Strategy, thus guaranteeing the explicit inclusion of MPs. This fact enabled the involvement of the environmental authorities in the TRAMIL-GEF project implementation.

### **Contributions to the Public Health sector:**

- ✓ The scientific validation of MPs contributed to the valuation of traditional medicinal knowledge, and to a greater acceptance of the use of MPs in PHC by health organizations and personnel. MPs are regarded as a cost-effective option to address many PHC issues in remote places, where access is difficult, resources are scarce and livelihoods precarious.
- ✓ The Project did not manage to incorporate the identified MPs directly into public health policies in Honduras and the Dominican Republic. However, it provided the Ministries of Health with information and criteria for the inclusion of significant medicinal species in PHC policies. In Nicaragua, the draft bill for Traditional Medicine is being studied by the Parliament for approval, whereas in Panama, the use of MP's in PHC has been strengthened through the Traditional Medicine Section of the Ministry of Health. The likelihood of the inclusion of significant medicinal species in PHC policies in the four countries is high, provided that adequate follow-up is completed by the counterpart organizations and the national networks.
- ✓ Meetings with PAHO were held in the participating countries in order to promote, design and/or implement the National Strategies for Traditional Medicine, given the specific circumstances of each country.
- ✓ In Panama and the Dominican Republic, the Project obtained the institutional approval of the Ministry of Health for the project's publications related to scientifically-validated medicinal plants. The Ministries of health in Honduras and Nicaragua have adopted these publications as reference documents of traditional medicine for PHC, thus suggesting its use by medical professionals in public fora.
- ✓ The Caribbean Plant Pharmacopoeia has been approved by the Ministries of Health in the four participating countries as the reference document for traditional medicine and has become, along with the MP manuals of popular use, an important reference for health education programs. The academic institutions of health sciences promote the popular manual of medicinal plants and the Pharmacopoeia as resource materials, fundamental for the teaching of Medical Phytotherapy.
- ✓ The Medical Phytotherapy program, designed through the project, is one of the subjects to be analyzed once the cycles for curricular reforms are accomplished in the following Universities<sup>26</sup>: The Faculty of Health Sciences at the University of Panama; the School of

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<sup>26</sup> The Public Universities in these countries have a predetermined timetable for curricular revision and reform. This did not coincide with the Project timeframe fostering this initiative.



Medicine and Nursing of National Autonomous University, Honduras (UNAH); the School of Medical Sciences at UNAN-LEON. The active participation of these Universities in the Project makes it reasonable to think that these initiatives are likely to be developed. So far, the Faculty of Medicine and Nursing at UNAH and UNAN-LEON have included this topic as modules in existing academic subjects.

Other outcomes and long-term potential impacts specific to some of the participating countries are:

### **Contribution in Nicaragua:**

- ✓ The Nicaraguan Ministry of Health supported the work coordinated by popular health workers and officers at health centers in reference and counter-reference of sick people. Likewise, it involved promoters in vaccination programs, educational talks, and home visits developed in the ministerial program. Examples like these show a greater acceptance on the part of health authorities to institutionalize use of MPs by involving popular health workers in PHC
- ✓ PLAMOTANIC signed an agreement with the Nicaraguan Ministry of Health in which the authority of the network in medicinal plants and alternative therapies is acknowledged, and it is appointed to act as an advisor to the Ministry on this subject.
- ✓ In November, 2003, an Inter-institutional Committee of Traditional Medicine was set up among the PLAMOTANIC network, Ministry of Health, and PAHO in order to advance the institutionalization of MPs in PHC in Nicaragua.
- ✓ The PLAMOTANIC network, along with MINSA and PAHO, took part in the preparation of the National Strategy to incorporate the Traditional Medicine and Medicinal Plants to the National Health Care System. This strategy served as the foundation for the preparation of the draft bill for Traditional Medicine which underwent national consultation through the PLAMOTANIC Network, and was presented before the National Assembly<sup>27</sup>.

### **Contributions in Panama:**

- ✓ The performance of the Traditional Medicine Section of the Ministry of Health was strengthened by the Project. There is an initiative underway to make this section a Department of Traditional Medicine responsible for the validation, diffusion and promotion of MPs in the country.
- ✓ The Manual of Medicinal Plants and the Pharmacopoeia were accepted by MINSA and made available to The Department of Health Promotion and the Section of Indigenous Peoples and Traditional Medicine as a tool for Primary Health Care.
- ✓ The Office of Social Security (ULAPS) and the Department of Indigenous Peoples in Panama have announced their intention to incorporate the MPs suggested by the project, in the PHC activities of their units.

### **Contributions in Honduras:**

- ✓ The list of MPs provided to the Honduran Ministry of Health as scientifically-validated by TRAMIL are being used at the Director's Office of Pharmacies and Drugs of the Ministry

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<sup>27</sup>The draft bill is still to be approved by the Nicaraguan Parliament, but the initiative is not expected to succeed until the next presidential election is over.

to regulate, along with the customs office, the natural products commercialized in Central America.

### **Contributions at the International and Regional Level:**

- ✓ The outcomes and experiences of the Project were incorporated into different Global Conservation Strategies: The creation of the “World Guidelines for Medicinal Plant Conservation” , organized by IUCN, WHO and WWF; the discussion for the creation of protocols for “The Standardization of Medicinal plant Commercialization<sup>28</sup>”, in which the list of endangered MPs identified by the project was provided, and the inclusion of habitat evaluation in the standardization protocols was achieved; contributions to the development of guidelines for the implementation of The “Global Strategy for Plant Conservation’ adopted in The Hague by the Convention of Biological Diversity (CBD) in 2002, in particular, the project’s outputs contribute to the implementation of articles 1, 13, and 16<sup>29</sup>, and to the establishment of methodological basis to continue moving forward in the implementation of these articles nationwide.
- ✓ The applications to incorporate 16 plants for Central America (Nicaragua, Panama and Honduras) and 12 for Dominican Republic to the Red Lists were filled out, and these will be evaluated by the IUCN in March 2007 with the support of an authority in this field.
- ✓ The analysis on the conservation status of the MPs published in the Caribbean Plant Pharmacopoeia was completed, and this is regarded as a contribution to the implementation of ‘Global Strategy for Plant Conservation’ for the Caribbean Basin.

### ***C. Implementation Approach (including Monitoring and Evaluation)***

#### **Mechanisms of implementation and organizational chart:**

- ✓ In accordance with what was planned in the project document, the project worked on five components, in four countries and eight eco-regions<sup>30</sup>.
- ✓ The project manager did an excellent job concerning technical, operative, administrative and financial project management. She used her experience and network of contacts to the benefit of the project, and adopted an adaptive management style which allowed the project to take advantage of opportunities and overcome difficulties. Some examples included: profiting from the capacity installed by the TRAMIL network in Central America to implement different activities of the project; their ability to get support from experts at low, or no cost at all; their ability to get in-kind support from multiple sources of co-financing<sup>31</sup>; the training given to national counterparts for an efficient management of the project; the way in which the demands of the communities were negotiated to establish collaboration agreements with the project<sup>32</sup>; among others mentioned in this section.

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<sup>28</sup> An international initiative financed by The Ministry of Environment and Protected Areas of Germany.

<sup>29</sup> Article 1 regarding plant species inventory; article 13 regarding culture and peoples’ traditional knowledge recovery; article 16 regarding network operations.

<sup>30</sup> Biosphere of Rio Platano & Guajiquiro Reserve in Honduras; Biosphere of Bosawas & Las Segovias in Nicaragua; Darien & Comarca Ngobe Buglé in Panama; and, National Park del Este and Zambrana Cotuí in the Dominican Republic.

<sup>31</sup> See ‘Cost Effectiveness Section’, sub-section: ‘Contributions of cash and in-kind co-financing to project implementation and additional resources leveraged’.

<sup>32</sup> See this same section: Operational and Administrative Problems and Constraints.

- ✓ Enda-caribe established collaborative agreements with national counterparts for the project implementation<sup>33</sup>. Activity planning and implementation in each country was done according to the project document. The national counterparts reported with the same frequency and formats to the Project Manager, as was required for reporting to UNEP/DGEF. The Project Manager performed inductions for project personnel on how to fill out the required formats and meet the financial management requirements. This fact facilitated the prompt fulfillment of the reporting requirements demanded by UNEP/DGEF.
- ✓ The national counterparts established contracts and collaboration agreements with national consultants and community-based organizations in which plans, budgets and desired products were defined. The establishment of collaboration agreements facilitated coordination and communication between the parties involved, enhancing the effectiveness in the achievement of outputs and helping to optimize the use of project resources.
- ✓ The organizational chart, as initially planned, was adjusted in compliance to the performance scheme previously described (See ANNEX 9. Planned and Actual Organizational Chart). This change allowed for savings in the project budget, making it possible to implement some unplanned activities and finance the extension to project activities.
- ✓ Activities requiring highly technical or specialized knowledge were undertaken by renowned experts.

#### **Roles Assumed by the Parties Involved:**

- ✓ The administrative and accounting support was supplied by Enda-caribe staff which was paid on the basis of actual hours worked, greatly reducing the fringe-benefit burden and overhead costs of the project.
- ✓ The National Botanical Garden of the Dominican Republic supplied the office and the secretarial support for the project development.
- ✓ Four Steering Committee meetings were held (2002, 2003 and 2004). The Steering Committee assumed responsibility for the project's strategic decisions related to technical issues, project planning, contract development and budget management.
- ✓ The national counterparts complied with the agreements with Enda-caribe.
- ✓ NGOs and Local Communities complied with the agreements with the National Counterparts.
- ✓ The consultants hired by the project did a high quality and effective job.

#### **Project Document, Logical Framework, M&E and Reporting**

- ✓ The project document is reasonably clear and informative. A limitation identified was in the formulation of adequate quantitative impact and outcome indicators. Most of the indicators included in the project were output-oriented.

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<sup>33</sup> The agreements specified the contributions of the components, the agreed activities, the estimated budgets and the way to financially manage the project, deliver reports, monitor and evaluate it.

- ✓ The implementation of project activities had an initial delay of three to six months in the participating countries, due to the period required for the formalization of agreements with the national counterparts and the set-up of financial and administrative processes to work in a decentralized fashion. Other minor delays occurred due to the difficulties while transferring the funds to the participating countries.
- ✓ Few unplanned activities were implemented, mainly those related to the incorporation of interests and needs of the communities to enable their participation in the project (for greater detail, see Achievement of Outputs section). Another unplanned activity undertaken was the construction of the MP pavilion garden in the National Botanic Garden, Dominican Republic.
- ✓ A fifteen-month project extension was requested and approved to enable the completion of the planned project implementation. It was possible to cover all of the administrative and operational expenses of the extension, thanks to strict project management, the co-financed activities and resources leveraged (For further details see Cost-effectiveness section).
- ✓ Despite the project extension, it is considered that the time and resources available to guarantee the attainment of some planned objectives and outcomes were underestimated (i.e. the implementation of management plans, the incorporation of MPs in national policies, the inclusion of medicinal plants in the curricula of health related studies, and the monitoring of MP use in PHC).<sup>34</sup>
- ✓ The project document and logical framework were used as a management tool by the Project Manager and the National Coordinators. For example, the project 'log-frame' was used as a building block for elaborating the workplans and budgets.
- ✓ Project monitoring was carried out by the Project Manager through the quarterly financial and technical reports requested from the national counterparts, permanent electronic communication and the follow-up of key consultancy implementation. Likewise, two Project Internal Reviews (September 2003 and 2004) and one self-evaluation (November 2005)<sup>35</sup> were performed, in which the pace of the progress against the indicators was revised, the risks of the project were monitored and the required adjustments and steps to follow were identified. These tools were useful in informing project management decisions.
- ✓ During the implementation of the project not a single external evaluation or review was carried out, though the Task Manager visited the project in October, 2004. His visit was greatly appreciated and of great value for directing project decisions in the last year of the project. For future projects it would be recommended to carry out at least one mid-term formative evaluation and two visits of the task manager to the different project sites.
- ✓ Quarterly project progress and financial reports were presented in a timely manner to the DGEF Coordination Office in UNEP-Nairobi. The counterpart organizations handed in quarterly reports to the Project Manager, who then consolidated the information in a report to be sent to DGEF. According to the Task Manager the reports were highly detailed and were useful in informing on the advancements and inconveniences encountered in the project. According to National Coordinators and the Project Manager,

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<sup>34</sup> The timeframes associated with 'windows of opportunity' for such outcomes were beyond the control of the project

<sup>35</sup> Documents available in the project files.

making quarterly reports in Spanish and then translating them into English, was highly demanding in terms of both time and effort. They suggest that reports be made semiannually. This evaluation concludes that the quarterly project progress reports focused mainly on activity implementation and output accomplishment, but did not report with the same clarity on advancements and difficulties in accomplishing outcomes and impacts

- ✓ Performance quality and project outcomes were mainly assessed through project manager supervision missions, project internal reviews and self-evaluation exercises.
- ✓ The Project kept detailed documentation of the regional coordination and project performance both centrally and in each country including established agreements, consultant's reports, technical and financial reports, project accounting, and external financial audit reports.

### **Operational and Administrative Problems and Constraints**

Some difficulties in the Project implementation and design process are mentioned below:

- ✓ The process of formulation and approval of the project proposal by UNEP/DGEF was complex and lasted a little over a year. This fact generated a high cost in time and dedication for Enda-caribe and the counterparts involved in the project formulation. The delay in the acceptance of the proposal resulted in the execution of IDRC's programmed co-financed activities before the project's inception. This fact limited the dissemination of the research project outputs to other Central American countries (Component 1 and 3), as the IDRC co-financed resources were spent before the outputs were accomplished.
- ✓ Accessing some of the selected eco-regions was more costly and difficult than expected. Notwithstanding the difficult access, the implicit risks for the project personnel and the high cost of travel to some of the selected eco-regions, the project worked in the eight programmed eco-regions.
- ✓ The project faced some difficulties in establishing collaboration agreements with the indigenous communities of some selected eco-regions who made their participation in the project conditional to the delivery of some benefits that were not considered in the project formulation. This situation was solved through the mediation of the national counterparts, which resulted in the support of some local initiatives benefiting the Lencas and Mayagna communities (For further detail see Achievement of Outputs section).
- ✓ The Representative of Enda-caribe and the General Coordinator of the TRAMIL network was replaced in his function as Enda Representative for the Caribbean region. This fact generated some confusion and highlighted the existing differences between the Project Manager and former incumbent about the Project Manager's role and decision-making power concerning the definition of priority activities, the decentralization of project execution, the establishment of agreements, budgetary decisions, access to documentation and approval of publications. The evaluation considered that the conflicts that arose and the changes made to the project's focus and management did not affect its effective performance. The project manager continued making decisions and counting on the new Enda-caribe's Legal Representative, as executing agency for UNEP/DGEF.

### **Effectiveness of the UNEP/DGEF supervision and support**

- ✓ Once the Project was approved the communication, supervision and support received from UNEP/DGEF Task Managers were considered prompt and effective. Likewise, the support received from UNEP GEF's Fund Management Officer was effective. According to those interviewed, the replacement of the initial Task Manager with another did not affect the flow of the relationship with UNEP/DGEF, nor the project execution.

### ***D. Stakeholder participation and public awareness***

- ✓ The project was designed in a participative manner during the PDF A phase in 1999, at which consultation workshops were held in the four countries involving the following stakeholders: representatives of local communities previously identified as medicinal plant users from the eight eco-regions; government officials of the health and environmental sector; managers of protected areas; conservation, developmental and health non-governmental organizations (NGO's); and, development and research institutions. Subsequently, a regional workshop involving individuals designated as TRAMIL national focal points was held in February 2000 to review the results of the consultation process and draft the Project proposal.
- ✓ The organizational bases and national networks ascribed to TRAMIL and strengthened through initiatives financed by IDRC until 2001 were used for the project implementation. This strategy facilitated access to key stakeholders in each of the participating countries and the effective interaction among the national counterparts, and between these and the Regional Coordination.
- ✓ It can be said that the decentralized approach adopted for project management favored the development of capacities, the participation and ownership of the project by the counterpart organizations and the national networks.
- ✓ Three main mechanisms for the direct involvement of local and indigenous communities and national stakeholders were utilized: a) establishment of collaborative agreements for the identification of priorities and the implementation of project activities<sup>36</sup>; b) Consultation processes with the purpose of collecting local and traditional knowledge in the use and conservation of MPs, to be supplemented with already existing scientific information, experts' advice and scientific validation results; c) Devolution of information to the stakeholders through workshops and publications.
- ✓ Additionally, indigenous people and local communities participated in various project activities e.g.: the training and technical assistance accomplished by the project for the construction of medicinal gardens; the research on the domestication of medicinal species; the improvement in species extraction processes; and the use of medicinal plants in the preparation of remedies, soaps, essential oils, and other products.
- ✓ The high staff turnover among central government officers within the environmental and health sectors did not allow for continuity in their participation in the project. In response to this situation, greater efforts on working with middle-level officers of the central authorities and with municipal officers were made. It is important to stress the difficulty in securing the continuous participation of representatives of the authorities in charge of

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<sup>36</sup> These agreements were established between ENDA-CARIBE and the national counterparts and, between these and the mestizo and indigenous communities of the selected eco-regions

protected areas in Honduras, Panama and Nicaragua. The reasons include the following: Insufficient personnel assigned to the protected areas; few resources for travel; underestimation and lack of knowledge of the potential of MPs for habitat conservation; and, low 'convening power' of participating national networks and counterpart organizations of the environmental sector.

- ✓ The participation and support of PAHO, IUCN Medicinal Plant Specialists Group (MPSG), IDRC and members of the TRAMIL regional network to develop and/or legitimate the outputs generated by the project, were fundamental to ensure their scientific quality and aid their diffusion.
- ✓ The participation of the National University of Nicaragua in Leon (UNAN-LEON), the National Autonomous University of Honduras (UNAH) and the National University of Panama in the research processes and the diffusion of project results were exceptional. As national counterparts, these universities provided staff time to support the development of different project activities such as: making ethno-botanic surveys and inventories; filling out the information cards for the CAMP workshops, training and assisting indigenous communities, facilitating contact with national authorities, among others. The National University of Panama took part in the scientific validation of MP's and the design of the project data base. Likewise, these universities participated in the development of project publications, helped with the convocation, logistics, and provision of infrastructure and organization of national dissemination seminars, which will be mentioned below.
- ✓ The information dissemination and public awareness activities at national level were achieved through distribution of printed material and several seminars about the conservation and use of MPs in the Primary Health Services. Among the national seminars held, the most outstanding were: "MPs a Valuable Resource to be Conserved", in Honduras (September 2004); "Saber Curar", in Dominican Republic (November 2003); National Forum on 'Traditional Medicine National Strategy' in Nicaragua, (November 2002), and the Presentation of the Caribbean Herbal Pharmacopoeia 2nd Ed. 2005 in Panama (December 2005), in Nicaragua (November 2005) and in Costa Rica (December 2005).
- ✓ The NGO's, part of the national networks participating in the project, facilitated the access and agreements with indigenous communities for their participation in the project. Likewise, they contributed to the development of some training and assistance activities for the communities through consulting contracts.
- ✓ The experiences and results of the project were presented at different international events, among the most outstanding were: Congress of the Latin American Botany Association in Cartagena, Colombia (October 2002); TRAMIL X in Merida, Yucatan, Mexico (March 2003); the IX Latin American Botany Congress in Santo Domingo, Dominican Republic (June 2006); the Brazilian Network of Botanical Gardens meeting; Course on the criteria for the Incorporation of MPs in the IUCN Red Lists at the Brazilian National School of Tropical Botany; Meeting convened by the initiative of the World Guidelines for Medicinal Plant Conservation in China (July 2004); Meeting on Implementation of the Global Strategy for Plant Conservation of the CBD, Ireland 2003 and Santo Domingo 2006.

## ***E. Sustainability (including country ownership)***

### **Socio-political Sustainability (Including Country Ownership)**

- ✓ Local counterparts and national networks are now empowered to continue working on the issues and problems addressed in the various project components. Through their participation in the Project they broadened their working horizons, established new inter-institutional relationships, gained access to involved local communities, acquired thematic positioning at the national and local level, and enhanced their project management capacity.
- ✓ The conservation of MPs has been included as a new working line of the counterpart organizations and national networks. Due to the project, they have now trained personnel for undertaking botanic inventories, implementing and interpreting botanic and ethno-botanic surveys, identifying plant conservation status, and developing CAMP workshops.
- ✓ The publications and the local and national database (ETHNOMETRA) produced by the project contains information which can be utilized for the development of other MP conservation and research initiatives.
- ✓ The message that medicinal plants are a valuable resource to be conserved penetrated deep into the communities, and in the case of Guajiquiro, has become a focus for the Municipal Corporation in its local government plan.
- ✓ The Project's investment to support local communities in creating medicinal gardens, and training them for the use and transformation of medicinal plants, contributes to enhance access to popular remedies. However, the sustainability of this initiative and the effect on home economy will be marginal, unless these processes take a commercial approach. The medicinal gardens developed in schools, health centers, and hospitals are more likely to be sustainable for they are linked to educational processes or primary health care which will continue to work without the support of the Project.

### **Institutional framework and governance**

- ✓ The Project included the conservation and sustainable use of MPs in the local and national agendas. Through the development of national seminars and fora, in which environmental and health authorities and professionals took part, as well as, community leaders, popular health workers, NGO's representatives, university professors and students. However, the lack of continuity of governmental initiatives following a change of government makes it necessary to include this issue as a state policy and look for sustainable ways to raise awareness on the importance of these activities among incoming officers.
- ✓ The implementation of free trade agreements as a priority mechanism for the economic development of the region disfavors the design and implementation of solid environmental policies. However, the new commercial configuration of the region also represents an opportunity to value MPs as promissory species for local socio-economic development, which can lead to concrete state policies of conservation and medicinal species use.



- ✓ The existence of global agreements or initiatives such as the Global Strategy for Plant Conservation, National Strategies of Traditional Medicine promoted by WHO/PAHO, IUCN the Red Lists and CITES, could have a positive impact on the design of national policies that incorporate and enhance the Project outcomes.

### **Follow up work initiated**

Among the activities that have continued after Project closure are:

- ✓ The National University of Panama foresees the development of the following activities: Continued dissemination of scientifically-validated MPs; promotion of 'bio-prospecting' studies to identify new plants with therapeutic potential which can be prescribed as phyto-medications; and insist on approaching the ANAM in order to promote the conservation of MPs.
- ✓ The Honduran network is filing its legal status in order to continue deepening the work done in the two eco-regions and expanding it nationwide. Currently, the network is negotiating the support of IDRC-Honduras for the design of its strategic plan. Likewise, the Network is undertaking follow-up activities and giving support to the new Mayor of Guajiquiro in his interest to include promotion of scientifically-validated MPs use in PHC, development of new community MPs gardens, and MP habitat conservation in the Governmental Plan.
- ✓ The PLAMOTANIC Network still holds its position as advisor to the Ministry of Health and seeks the approval of the Medicinal Plant draft bill. Currently, the network is following-up on the interest shown by the Minister of Health in training medical practitioners in traditional medicine and integrating them with healers through internships in the areas where they complete their social service. Finally, the Network is developing a project of "Conservation, expansion and domestication of medicinal plants: *Equisetum myriochaetum* Schtdl & Cham. (cola de caballo) y *Phlebodium pseudoaureum* (Cav.) Lellinger (calaguala)", negotiated with the fund of small donations from GEF/PPD. The CECALLI Foundation is strengthening the work of popular health workers, seeking to turn them into producers and suppliers of scientifically-validated MPs for national markets.
- ✓ In the Dominican Republic, The National Botanical Garden will guarantee the inclusion of MPs in The Biodiversity National Strategy, and is in search of funds to give continuity to the ex-situ MP conservation activities and educational programs within its strategic plan.

It can be concluded that the Project created an appropriate atmosphere, enabled the development of local capacities, and generated the information required for the development of new initiatives that can allow for the deepening or expansion of the outcomes achieved.

### **F. Replicability**

The following aspects of the project are very likely to be used in other initiatives in the Caribbean Basin, or in other parts of the world:

- ✓ The project's regional approach, management and implementation model through consolidated national networks and institutions.

- ✓ The methodologies used to carry out inventories, identify the conservation status of medicinal plants (e.g. CAMP workshops), and design MP management models proved to be useful, effective, relatively rapid to apply and easy to adapt to local and national contexts.
- ✓ The designed Medical Phytotherapy program.

Steps taken to replicate some of these aspects in other places:

- ✓ The possibility of replicating the Project is being considered by the Group of Specialists in Medicinal Plants (IUCN-SSC-MPSG).
- ✓ TRAMIL project methodologies and approach have been adopted by other countries in Latin America through the South Cone Medicinal Plants Network (supported by IDRC)<sup>37</sup>.
- ✓ The Project Manager has proposed the development of a conservation program as part of the Natural Products and Medicinal Plant Program in Costa Rica, for which funds are being sought.
- ✓ The TRAMIL Network has continued the process of scientific validation of MP's newly-identified uses, and the enrichment of the monographs, aiming at a third edition of the Pharmacopoeia, with the support of the island of Martinique. The publications generated by the project have been distributed among the network members in the Spanish-speaking countries. The English language version of the Pharmacopoeia will be distributed in the English-speaking countries of the Caribbean basin. It is quite possible that the TRAMIL experience will be replicated in other areas in the world. Currently, talks are being held with institutions in Malaysia and South Africa. This initiative could be supported by the World Bank. At the same time, it is expected that the survey in eight Caribbean countries using TRAMIL-GEF methodology will continue to take place.
- ✓ Enda-caribe is currently in discussions with the European Development Fund to obtain support for micro-businesses that will manufacture and commercialize MP by-products (syrups, oils, ointments, soaps, beverages). This initiative hopes to make use of the installed capacities the project developed in the local communities.
- ✓ Likewise, Enda-caribe showed the project experience and outcomes at the 24<sup>th</sup> Forest Commission for the Caribbean and Latin America (COFLAC)<sup>38</sup>, and in the meeting of the Regional Network Directory of Model Forests for Latin America and the Caribbean (LAC-Net)<sup>39</sup>, with the idea of incorporating some of the project components in integrated forest management strategies, which both organizations advocate.

## **G. Cost-Effectiveness**

The evaluator's lack of familiarity with some technical aspects of the project and associated scientific research costs does not allow for a definitive judgment about its cost-effectiveness. Those interviewed, consider that the results obtained are cost-effective in relationship to

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<sup>37</sup> The South Cone MPs Network is comprised of several institutions from Chile, Argentina (national networks), Uruguay, Paraguay, Southern Brazil and the Amazonian region.

<sup>38</sup> Held in Santo Domingo from June 26-30, 2006.

<sup>39</sup> The meeting was held in Santo Domingo from June 22-23, 2006. The International Model Forest Network (IMFN) is a voluntary association of partners from around the world working toward the common goal of sustainable forest management and use. For further information see: [http://www.idrc.ca/en/ev-22891-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-22891-201-1-DO_TOPIC.html)

outputs, resources and time invested. It is especially perceived that Components 1 and 3 exceeded the expected outcomes concerning the limited financial investment made.

The main reasons for this were:

- The recognition, of the work done and the experience gathered by the TRAMIL Network regionally which provided technical capacity and, favourable methodological and networking conditions that were used by the project enabling time and resources saving, and guaranteeing the scientific quality in the research processes developed.
- The high commitment of the national counterparts and other partners, which resulted in considerable in-kind contributions to develop project activities. So did the creation of synergies with other organizations to develop some of the project research and publication activities (for further details see next section: Cash contributions and in-kind co-financing to project implementation and additional resources leveraged).

Other issues that contributed to the project cost-effectiveness in implementing project components were the development of bi-national meetings, the participation in regional seminars, as well as in international congresses of representatives of counterpart organizations, national networks and community leaders. These favored the harmonization of methodologies, experience sharing, and collective learning in the four countries, thus saving time, funds and human resources in the implementation of project components.

### **Contributions of cash and in-kind co-financing to project implementation and additional resources leveraged**

According to The Project Manager, both cash and in-kind contributions included in the Project initial budget, were indeed obtained and surpassed as for the case of in-kind contributions made by MPSG (IUCN) and participating universities in Honduras, Nicaragua and Panama. However, assessing the cash value of additional in-kind contribution is difficult.

The following chart shows the planned contributions which were effectively obtained:

<b>Organization</b>	<b>Cash \$US</b>	<b>In-kind</b>	<b>Description</b>
IDRC	266.390.00		TRAMIL's Central America MPs Network Phase III project support (1999-2001), of critical importance to network strengthening in Central America, and organizational bases at the national level for the implementation of the TRAMIL-GEF Project.
MPSG (IUCN)		50.694.00	Staff working time to expand the base of donor support for the TRAMIL Program. Professional and advisory support.
National Counterparts & Enda Caribe		330.916.00	Local counterparts contributed with staff working time and infrastructure. The Project Regional Office has been provided in Santo Domingo by the National Botanical Garden 2001-2006. Enda Caribe provided administrative support.

Some additional project contributions and co-financed funds identified by the evaluation include:

- ✓ The Dominican Republic National Botanical Garden provided the Project's office, which will be maintained until December 2006. The office monthly rent is estimated US \$500 (including utilities and security). Likewise, The Botanical Garden provided secretarial

support during the Project lifetime, with an estimated monthly cost of US\$ 300 (June 2001-December 2005).

- ✓ The national project coordination, as well as the development of some consulting were carried out by the staff of the national counterparts. The national counterparts continued to pay for the base salaries of these workers and the Project offered them monetary incentives without incurring the cost of fixed salaries.
- ✓ The technical support and the highly-specialized staff time of the expert from SSC/IUCN and Director of Fairchild Botanical Garden, and the Professor of Botany- University of Puerto Rico, in the development of the Component 'Conservation Status Assessment and Priority Setting', and the continuous advice from MPSG (IUCN) staff acting as a member of the Steering Committee, were greater than expected in terms of in-kind contribution from IUCN. Additionally a modeling expert, who made the two models of MPs in Honduras and conducted training sessions on that subject, charged the Project a fee below his standard.
- ✓ The national fora carried out in each country obtained a contribution from the national organizations. The universities provided infrastructure, equipment, logistic support and staff working time in order to make these activities possible.
- ✓ The UNAN-León financed the Project office, and that of TRAMIL-Central America at the University, from April 2001 to December 2005. The monthly cost of this Project resource office for Central America is estimated US \$ 300.
- ✓ The University of Costa Rica and the National University of Panama carried out a greater number of scientific validation experiments than the originally planned without increasing the cost.
- ✓ Co-financed publication of "Manual de Cultivo y Conservación de Plantas Medicinales (Manual of Cultivation and Conservation of medicinal plants), Volume III, Dominican trees". The Project contributed to the publication of this work, whereas the research process and field work were financed by the French Progress Volunteer Association (AFVP), The Moscoso Puello Foundation, The Institut Superieur Technique d'Outre-Mer (ISTOM), The University of the Antillas Guayanas (UAG), and Enda-caribe.
- ✓ IDRC contributed with US\$28,900 to cover the Spanish-English translation of 'The Caribbean Herbal Pharmacopoeia – Second Edition', and to publish the experience of TRAMIL-Central America and Cuba, including the work done by The TRAMIL-GEF Project: 'Traditional Medicine and Public Health – The experience and lessons of the TRAMIL Network'
- ✓ The Project did not cover the salary of either the Project Manager, or her assistant between September 2005 and late November 2005. During 2006, the project manager volunteered to make the Project final reports and assist the final audit and external evaluation, including travel expenses.
- ✓ The Deutscher Entwicklungsdienst (DED), provided the salary of a German technical assistant (\$3,000 Euros a month), for two years in order to support the Project activities with the community of Zambrana, in Dominican Republic
- ✓ The European Union sponsored the publication of 'Farmacopea Vegetal Caribeña – Dominican Special Edition'. The contribution is estimated RD \$1.200-000 Dominican Pesos.

- ✓ The Project contributed with a seed capital of US \$ 20,000.00 for the construction of the Medicinal Plants Pavilion of the Botanical Garden. The other contributions which have allowed for the advancement of the construction have been made by private companies CEMEX and MARMOTECH (cement, cash, and incomes from the sales of donated books), and working time of the personnel from The Botanical Garden. The incomes obtained from the sale of 'Farmacopea Vegetal Caribeña - Edición Especial Dominicana' are also being invested for finishing the construction. These contributions are estimated US \$ 50,000 approximately.
- ✓ PAHO financed the poster of the congress on medicine and popular health "Saber Curar" held in Dominican Republic on November 27<sup>th</sup> and 28<sup>th</sup>, 2003.
- ✓ Enda-caribe contributed to the payment of the financial audit of 2005.
- ✓ The National Botanical Garden in Dominican Republic and the Laboratory of Ethnobotany at UNAH, contributed to the external evaluation by providing the costs of travel expenses to the communities and the cost of the meetings held with the different stakeholders involved.
- ✓ The travel expenses of the Project Manager and, in some cases, of counterpart organization representatives for the participation in meetings, international conferences on Conservation and MPs, were covered by the organizers of each event.
- ✓ The island of Martinique government supported a US\$300.000 project through the 'Association pour la Recherche sur la valorisation des Ressources Naturelles de la Martinique (ARVARNAM). This project contributed partially financed the scientific validation of MP uses / part identified by the TRAMIL-GEF project. Additionally, this project partially financed the staff time invested by the TRAMIL coordinator to assess some of the project consultancy research contracts and reports, incorporate data found in research works, present research works to the CETRA committee and publication editing

## ***H. Financial Planning and Management***

- ✓ A summary report of the financial management and expenditures during the life of the project, and the audit reconciliation is presented in ANNEX 10.
- ✓ The financial planning, management and control were of high quality and were effective. The project director would always notify UNEP/DGEF and request for approval for any change that was deemed necessary in the budget in good time. All expense reports and yearly audits<sup>40</sup> were submitted on-time and prompt replies were received when concerns were raised by UNEP/DGEF.
- ✓ The Project Coordination sent resources to each country in advance for the implementation of activities agreed and budgeted on a quarterly basis. Budget execution reports were done quarterly as well. Financial management criteria, formats and procedures were harmonized for the four countries and the regional coordination. The budget execution reports and their frequency were considered useful to inform management decisions.

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<sup>40</sup> The required audits were made in agreement with the norms of generally accepted audits, for the following periods: October 1 – December 31, 2001; January 1 – December 31, 2002; January 1 to December 21, 2003; January 1- December 31, 2004; and October 1 to December 31, 2005.

- ✓ Conditions were created for the individual review of accounting records from each country and from regional coordination, facilitating the audits: Project-specific bank accounts in each country and for the regional coordination were opened. Accounting books were adequately filled and managed (bank books, check registries, deposits, ledgers and auxiliary ledgers). Vouchers, original invoices and other documentation justifying project regional management and execution in each country are available in the project archives.
- ✓ The resources were controlled according to the project components. The application and completion of clauses in the project agreements were constantly monitored.
- ✓ To date, five budget revisions have been concluded. The main purposes of the revisions were year-end mandatory revisions to reflect actual expenditures of the year and to re-phase/carry-forward the unspent balance to the next fiscal year. The first revision re-allocated the unspent balance of \$208,984 in U.S. currency for the year 2001 into the years 2002, 2003 and 2004. It also introduced the 2004 budget which was originally included under the existing three year budget due to a difference in the use of "fiscal year" by the Executing Agency and by UNEP. Finally, it introduced two new items of expenditure (5306 for Audit Costs & Accountancy and 5307 for bank costs). The fourth revision was done to extend the project duration by twelve months in order to enable completion of project activities. All the revisions were done with no additional costs.
- ✓ The recommendations made by the audits were adequately applied. Funds were used in a modest and efficient manner in each country and regionally. It can be said that appropriate standards of due diligence in the management of funds and financial audits were applied.
- ✓ A breakdown of actual costs and co-financing prepared in consultation with UNEP's FMO is presented in ANNEX 11. Co-financing and Leveraged Resources.

## **V. Conclusions and rating**

- ✓ The development of five components in four countries and eight eco-regions proved to be more complex and too ambitious given the available time and budget. The difficulty of access and high travel costs to some of the eco-regions, the time and resources required to implement the components of research and scientific validation, did not allow for the successful realization of some of the outcomes and outputs proposed in the project document.
- ✓ The Project has been successful in meeting almost all objectives and outcomes except for the implementation of MP management plans, the integration of medicinal plants in environmental and health policies, as well as into university curricula in health and natural science departments in each country (except for Honduras). The achievement of these outcomes requires time and resources beyond the project scope and suggests that the project document was too ambitious.
- ✓ The Project generated the information, technical capacity and awareness necessary in the national stakeholders. This will enable the counterpart organizations to deepen the Project outcomes achieved so far, and make progress towards those which were not achieved.
- ✓ The Project has been successful in meeting almost all outputs stated in the project document. However a number of outputs have not been achieved. For a synthesis of

outputs not delivered see the chart below 'Assessment of project ratings and performance'.

- ✓ A great part of the Project's success can be attributed to the excellent coordination efforts provided by the Project Manager, and to the commitment of the counterpart organizations and national networks. Assigning the coordination of regional coverage projects, to people with a wide contact network, who are well-known and accepted, proved to facilitate the project success.
- ✓ The adequate financial management, the in-kind contributions, and the establishment of synergies with other organizations or projects, made it possible for the highly cost-effective achievement of products and outcomes.
- ✓ The Project is an excellent example of practical co-operation between the environmental and health sectors, and the effective utilization of a combination of traditional and scientific knowledge.
- ✓ The scientific validation of medicinal plant use that local communities report represents an important contribution to guarantee the safety and efficacy of this use. Likewise, it opens the doors to the creation of synergies between western and traditional medicine.
- ✓ The communities from the selected eco-regions are more aware of the value of their traditional knowledge and local natural resources. They know the conservation status and threats facing the most-frequently-used medicinal plants, and have defined general strategies for their conservation. However, their role in the conservation of medicinal plants and their habitats depends on much more complex processes such as finding effective solutions to conditions of extreme poverty though sustainable use of these resources.
- ✓ The Project provides an important example of how traditional knowledge needs to be rethought, not as something static but dynamic and adaptive. Communities use what they have today, and as the resource runs out, they look for a way to replace it, and incorporate new resources in their cultural practices. This fact holds great importance for the definition of appropriate models of medicinal plant management.
- ✓ The knowledge built in relation to the conservation status of medicinal plants and on the scientific validation of their use is an excellent project contribution which can be used by national stakeholders in decision-makers, in formulating and designing policies. However, a greater research investment is needed, as well as effective dissemination among 'policy communities', so that national decision-makers are made aware of importance of medicinal plants in the conservation of forest eco-systems, local health and development.
- ✓ The urban growth patterns and intensive agriculture that valleys undergo, have led to the extinction of species traditionally used by local communities, generating stress upon species with similar use, which are found at higher altitudes. The use of new species is not generally accompanied by a change in the traditional management, which can turn out to be unsustainable for the newly-used species, and thus, cause its extinction. This fact confirms the importance of clarifying the dynamics of protected areas based on what takes place in the buffer zones.

- ✓ There is great potential for the design and implementation of National Strategies for Traditional Medicine with the support of PAHO, and the local implementation of World Strategies for the Conservation of Medicinal Plants by the OMS/IUCN/WWF.
- ✓ The empowerment of counterpart organizations and national networks achieved through the Project and the conditions generated make it reasonable to suggest that these will continue to foster conservation and sustainable use of medicinal plants. In each country, the networks have started to take steps to consolidate a working niche on this issue.
- ✓ The Project's outcome of integration in global conventions and initiatives of biodiversity conservation could result in the consolidation of national policies for the conservation and sustainable use of medicinal plants.
- ✓ The participation of the different national stakeholders at the design and implementation stage of the Project was important. The national counterparts also participated actively in its monitoring and evaluation.
- ✓ The Project had the technical support of experts from the IUCN Medicinal Plant Specialist Group (IUCN-MPSG), and the advisory of the Steering Committee.
- ✓ The Project development through collaborative agreements between Enda-caribe and the national counterparts, and between these and the local communities, proved to be a cost-effective mechanism for the Project implementation.
- ✓ The technical, financial and external auditing reports were appropriately completed and submitted to UNEP/DGEF in a timely manner.
- ✓ The regional approach of the Project represents an extra cost in administration and coordination, but it turns out to be a cost-effective investment with respect to collective knowledge-building and the design and validation of methodologies, which can be replicated in other places of the region.
- ✓ The information published by the Project is useful for the development of similar initiatives in other countries; and the information available in the Project's regional database (ETNOMETRA) can be used by the national networks for the design and implementation of new projects.
- ✓ The Project was constantly monitored through the visits of the Project Manager to the countries and the elaboration of technical reports. It was also internally evaluated three times in a participative way. However, the project would have benefited from a mid-term evaluation in order to make necessary adjustments during the project implementation, and make adjustments on the over-estimated project components.



The success of Project performance has been rated according to categories determined by the UNEP Evaluation and Oversight Unit in the following table:

<b>Assessment of project ratings and performance</b>		
<b>CRITERION</b>	<b>EVALUATOR'S PROJECT RATING</b>	<b>COMMENT</b>
Attainment of objectives and planned results	Satisfactory (5)	<ul style="list-style-type: none"> <li>The overall objective of the project has only been partially met- while conservation management needs of medicinal plants have been identified they have not been fully integrated into the broader management of selected forest ecosystems. One of the objective's indicators was fully achieved<sup>41</sup>, and the other two were partially achieved i.e. only <i>ex-situ</i> conservation management strategies for medicinal plants were implemented in collaboration with local communities, resources managers, and other stakeholders (in-situ strategies were not implemented); and, '<i>experience and lessons relevant to developing a common regional strategy for rational and sustainable use of medicinal plants identified and disseminated</i>', were not compiled in a single document, but in several publications and scientific articles disseminated in seminars and international conferences. At the time of this evaluation, a book compiling experiences and lessons of the Central American TRAMIL experience (including the UNEP-GEF project experiences), was in its last editing phase to be published with IDRC's funding support.</li> <li>The implementation of <i>in-situ</i> management plans for priority species and habitats of medicinal plants (Component 2), and the institutionalization (component 5) were not been fully met.</li> <li>Some project objectives and outcomes were too ambitious, given the time and budget available. Reaching them would have required incorporating strategies, resources and time -not contemplated in the project design-, to compensate for the government officers' instability, the limited governmental resources assigned to forest ecosystems conservation, as well as to deal with the extreme poverty conditions of the indigenous communities involved in the project. At least two more years and the budget of a full size GEF project would be needed to attain outcomes related with in-situ management strategies and institutionalization not reached during the lifetime of the project. Moreover, it is time consuming and challenging to produce sound information in Components 1 and 3 which is required to inform decision makers.</li> <li>Leveraging in kind contributions from the national counterpart organizations and inputs from the global scientific community on voluntary basis contributed to project efficiency and legitimacy.</li> </ul>

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<sup>41</sup> '*Conservation and management status of medicinal plants in key sites of medicinal plant biodiversity and utility to indigenous and local communities assessed.*'

<b>CRITERION</b>	<b>EVALUATOR'S PROJECT RATING</b>	<b>COMMENT</b>
Achievement of outputs and activities	Satisfactory (5)	<ul style="list-style-type: none"> <li>The Project has been successful in meeting almost all outputs stated in the project document. However a number of outputs have not been achieved mainly because delivering them was too ambitious, or because the project design did not consider suitable strategies to overcome some of the contextual difficulties faced during the project implementation, such as the instability of governmental officers. The main undelivered outputs are: Conservation strategies for MPs were not drafted for 6 of the selected sites; national guidelines for an equitable access to benefits from MP information and germplasm for research and development, were not drafted by the appropriate institutions; Clinical testing of traditional remedies from scientifically-validated MPs was not done; Medicinal plants were not specifically included in biodiversity strategies; Policies to access biodiversity resources, and the sharing of benefits from these resources that refer explicitly to medicinal plants, were not drafted; no influence was achieved to regional management strategies, and very little influence was achieved to national protected areas management strategies.</li> </ul>
Cost-effectiveness	Satisfactory (5)	<ul style="list-style-type: none"> <li>The recognition, of the work done and the experience gathered by the TRAMIL Network regionally, provided human resource capacity, methodological and networking conditions that were used in the project implementation to save time, resources, and guarantee scientific quality in the research processes developed. These particularly contributed to the project cost-effectiveness in Components 1 and 3.</li> <li>The project leveraged an enormous in-kind effort from multiple sources of co-financing that contributed greatly to attainment of project outputs and outcomes.</li> <li>Finally, the regional nature of the project made economies of scale possible in the design and implementation of methodologies, as well as in the capacity-building of national counterparts.</li> </ul>
<b>Impact</b>	Moderately Satisfactory (4)	<ul style="list-style-type: none"> <li>The project had little significant direct impact on policy formulation and decision making or on biodiversity conservation. However with the work achieved so far there is great potential for future impact. The project was too ambitious.</li> </ul>

CRITERION	EVALUATOR'S PROJECT RATING	COMMENT
Sustainability	Moderately Satisfactory (4)	<ul style="list-style-type: none"> <li>• Some programming initiatives and project design activities have been developed by the national networks to sustain project results. However, strong commitment of the member organizations and fundraising are required to generate the enabling conditions to implement them.</li> <li>• Local counterparts and national networks are empowered to continue working with the project components. However, the topic is still not a government priority, and its full potential is not fully realized.</li> <li>• MPs have been included into local and national agendas. However, the lack of continuity of governmental initiatives beyond the change of governments makes it necessary to include MPs in state polices and look for sustainable ways to keep lobbying new government officials.</li> <li>• Minimal ecological effects have been detected (e.g. the municipality of Guajiquiro created an incentive and disincentive system for the communities to avoid burning of mixed forest during summertime). However, Sustained ecological effects 'on the ground' are a long way 'downstream'.</li> </ul>
Stakeholders' participation	Moderately Satisfactory (4))	<ul style="list-style-type: none"> <li>• The decentralized set up of the project and the broad array of tools used to involve participants through: a) collaborative agreements, b) consultation process, and c) devolution of information to the stakeholders resulted in good participation of a number of key stakeholders.</li> <li>• Indigenous communities were involved in providing key information to attain Component 1 outcomes and outputs. They were also involved in implementing <i>ex-situ</i> management strategies, and participated in project capacity-building and dissemination activities.</li> <li>• NGOs and Universities participating in the project were involved in supporting project research activities, development of project activities at community level and results dissemination.</li> <li>• The high rotation of central government officers within the environmental and health sectors did not allow for the continuous participation in the project. The participation of protected areas managers was also weak due to the precarious human and financial resources that characterized most of the selected areas.</li> <li>• The project lacked a coherent strategy to involve and influence decision-makers, and which takes into account the political instability and weak governmental institutions, common to the countries involved.</li> </ul>

<b>CRITERION</b>	<b>EVALUATOR'S PROJECT RATING</b>	<b>COMMENT</b>
Country ownership	Satisfactory (5)	<ul style="list-style-type: none"> <li>The empowerment of counterpart organizations and national networks achieved through the project and the conditions generated make it reasonable to suggest that these will continue to foster conservation and sustainable use of medicinal plants. In each country, the networks have started to take steps to consolidate a working niche on this issue.</li> <li>There are some indications that the project can/has catalyzed action among national governments (e.g. in Honduras the Secretary of natural Resources and the Environment and the Honduran Corporation of Forest Development were considering to establish a close season system for the extraction of endangered plants, inclusion of endangered species in the enactment were being discussed; the incentives and disincentives system implemented by the Guajiquiro municipality in order to avoid the burning of mixed forests during summertime; the draft bill for Traditional Medicine to be approved by the Nicaraguan Parliament, etc.). However, it remains to be seen whether these initiatives will indeed be implemented.</li> </ul>
Implementation Approach	Satisfactory (5)	<ul style="list-style-type: none"> <li>The decentralized approach of project management and implementation guaranteed access to local communities and stakeholders, facilitating the implementation project activities at local and national levels. The development of collaborative agreements with national counterparts guaranteed high quality professional support and a considerable number of in-kind contributions.</li> <li>The Project management was excellent. The available resources were optimized, generating savings in some items which were later used in developing unplanned activities which were beneficial to the local communities, and in enabling the Project extension for fifteen months.</li> </ul>
Financial planning	Satisfactory (5)	<ul style="list-style-type: none"> <li>Transparent &amp; timely. Procedures for the four countries were harmonized as well as for the regional coordination. Conditions were created for the individual review of accounting records from each country and from regional coordination, facilitating the audits.</li> </ul>
Replicability	Satisfactory (5)	<ul style="list-style-type: none"> <li>The project tested generic methodologies adaptable to diverse contexts where MPs are used by local communities.</li> <li>The project is well suited for replication. However, in several cases it remains to be seen whether replication will actually take place.</li> </ul>

<b>CRITERION</b>	<b>EVALUATOR'S PROJECT RATING</b>	<b>COMMENT</b>
Monitoring and Evaluation	Moderately Satisfactory (4)	<ul style="list-style-type: none"> <li>• There were no established baselines with respect to the intended outcomes and objectives of the project.</li> <li>• Outcome and impact indicators included in the project document were weakly formulated and in some cases repetitive with project output indicators.</li> <li>• M&amp;E activities were developed in compliance with what was stated in the project document. Quarterly operational reports were mostly focused on activities and output delivery. Performance quality and project effects were mainly assessed through following up on key consultancy implementation, project internal reviews and self-evaluation exercises.</li> <li>• No external formative evaluation was carried out during the project implementation, and only one visit was done by the GEF Task Manager.</li> </ul>
<b>Overall Rating</b>	<b>53/11 = 4.8</b>	<b>Satisfactory</b>

## VI. Lessons Learned

- ✓ The Project's decentralized implementation through national organizations favored the empowerment and leadership of medicinal plant networks nationwide. This approach can be very useful for the development of projects which make use of thematic networks.
- ✓ Validating and complementing traditional and local knowledge with scientific research proved to be useful to re-assess the value of indigenous traditions and to provide decision-makers with sound information for program and policy design and implementation. This strategy of collective knowledge-building to inform decision-makers can be replicated by other initiatives aiming to influence policy-making.
- ✓ The identification of “bandera or representative”<sup>42</sup> species in the chosen eco-regions contributes to the valuation of their habitats, and interest can be raised towards making conservation efforts by different stakeholders, which can also favor other existing species in the area<sup>43</sup>.
- ✓ The designation of conservation sites, inside and outside the protected areas, as a conservation mechanism for native or endemic plants, could prove highly effective and more legally practical than the creation of new protected areas in countries with low resources to manage these areas. This mechanism could facilitate a true involvement of municipalities and local communities in concrete conservation and management actions, thus making this task more feasible both economically and operationally than the management of large size protected areas.
- ✓ Future Medicinal plants initiatives developed with inputs from the national counterparts generally need to be handled in a multi-sectoral way including the environmental, health, and agricultural sectors. This multi-sectoral approach should take into account the different services and uses of a particular resource, and provide support to its sustainable use in order to promote the conservation and management of other plant species.
- ✓ The mainstreaming and institutionalization process requires more time and a more structured strategy which takes into account the lack of continuity in the governmental policies and the instability of public officers, typical of the countries in the region.
- ✓ The sustainability of activities and benefits promoted at the community level upon project closure has been highly affected by the poor living conditions experienced by the communities involved. Inclusion of project components that focus on processing and marketing for MP by-products to consolidate small community enterprises could help to enhance project sustainability at the community level.
- ✓ There is the need to stimulate the analysis and discussion on the issue of intellectual property regarding reported uses of native and endemic plants in the region. The inclusion of this topic in future projects should be considered a priority by organizations researching and promoting the use of medicinal plants.
- ✓ The project ‘reach’ concerning outcomes and impact need to be defined more precisely through more accurate indicators. These should be taken into account in future UNEP-

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<sup>42</sup>By “bandera or representative species” we mean those holding great cultural and economic, nutritional, health, infrastructure value. Therefore, they evidence the opportunity cost of deforesting an existing forest. These are species that are being affected, like many others, by several types of stress such as: a change in use tradition, inappropriate extraction methods, habitat loss, and market pressure, among others.

<sup>43</sup> Cinchona represents an example of “bandera or representative species” to the Guajiquiro region in Honduras.

GEF project formulation to allow for proper assessment of the use of project outputs by the stakeholders involved, and how such use contributes to project objectives.

## VII. Recommendations

Recommendations to strengthen the project's outcomes:

- ✓ The cost of financial audits was not included in the initial Project budget. For future projects, it's advisable to include this cost in order to avoid negative affects on other budget items. Project approval guidelines should ensure that this cost is included in the project budget.
- ✓ It is recommended that the national counterparts make use of the momentum generated by the project in order to achieve the following outcomes: i) inclusion of the medical phytotherapy program in the curricula of the universities that participated in the Project by ensuring their participation in the next curricula adjustment period programmed in each of the universities; ii) inclusion of medicinal plants in public health policies by using the results of the project to design new initiatives to develop a political awareness campaign and lobbying new authorities until the use of MPs in PHC becomes a state policy; and, iii) design and implement management plans for vulnerable or threatened medicinal plants and their habitats by designing and negotiating new projects with the international cooperation, national and/or local government environmental authorities.
- ✓ Ideal institutions to further promote the project outcomes are the municipal Secretaries of the Environment, Health and Agriculture. The administrative decentralization devolves responsibilities to actors that lack financial resources and technical know-how. By being comprehensible and easy to use, the methodologies and information generated by the project can become useful working tools to contribute to the development of the roles of those institutions<sup>44</sup>. Their presence in the eco-regions and access to local communities could make the work more cost-effective than if developed by organizations without permanent presence in these regions. The new projects to be developed by the national counterparts could focus on promoting the inclusion of the conservation and use of MPs in the programs of such organizations. Some of the activities that could be taken up by these institutions include: domestication of MPs with commercial potential; development and maintenance of communal medicinal plant gardens; continuous community capacity development for effective and safe use of MPs in PHC; and the design and implementation of MP management plans. For this to be feasible, it is necessary that the new projects support the strengthening of the technical and technological capacity needed to perform these duties. Likewise, it would be necessary to strengthen these organizations' capacities to design and negotiate initiatives with the central government and international cooperation, as well as the establishment of alliances with ONGs and community local organizations.

A natural extension of the project in each country led by the national networks and/or project counterpart organizations could focus on the following topics:

- ✓ In **Panama**: Take advantage of the work done along with the Ministry of Health through the Traditional Medicine Unit to encourage the design and implementation of the National Strategy of Traditional Medicine. Include in this process the post-clinical follow up process of the effect of local medicinal plants included in the Pharmacopoeia in the treatment of common illnesses.

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<sup>44</sup> Such as the use of the Pharmacopoeia and health guides, medicinal orchard development; methodologies to do inventories and identify conservation status through CAMP workshops, among others.



- ✓ In **Nicaragua**: Take advantage of the two laboratories linked to the PLAMOTANIC network focused on the processing and commercialization of medicinal plant registered products, in order to encourage the design and implementation of a project which enhances their production capacity with the purpose of supplying the demand of national markets and the Ministry of Health. This initiative could be developed through the integration of local producers in the production and commercialization chain, and establishing agreements with the Ministry of Health to supply Medical health centers directly.
- ✓ In the **Dominican Republic**: Take advantage of the installed capacity in the communities to produce medicinal plants and manufacture cosmetics, essential oils and popular remedies, in order to develop the means to establish small businesses oriented to the production and commercialization of those products. An initiative of this kind should involve the strengthening of the organizational and entrepreneurial capacity of the local communities, and an analysis of their sustainable integration toward the target markets.
- ✓ In **Honduras**: Take advantage of the acquired experience in developing the two MP management plan models, to design models for new medicinal plants and implement the two existing ones. The information gathered may be used to inform the design and implementation of the new Forest Law. This initiative could be focused on installing capacities in the communities and local authorities to replicate the design and implementation of those management plans through the use of adequate technologies. The implementation of the existing management plan for the Quina Rona in Guajiquiro, would require the incorporation of a domestication component, MP production and commercialization to be developed by the communities. As for the implementation of the Quina Bejuco management plan in the Biosphere of Rio Plátano, it might be useful to include an educational component that helps increase community knowledge with the aim of guaranteeing the self-supply of popular remedies.

## ANNEXES

### **ANNEX 1. TERMS OF REFERENCE**

**Terminal Evaluation of the UNEP GEF project  
“Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal  
Plants in National Primary Health Care Policy in Central America and the Caribbean”  
GF/2010-01-12**

#### **1. PROJECT BACKGROUND AND OVERVIEW**

##### **Project rationale**

Species with medicinal value are included in Annex I of the CBD amongst those elements of biological diversity that warrant particular attention in identification and monitoring activities. Many medicinal plants are found in forest ecosystems, where they are important to the health and livelihoods of indigenous and local communities. Forests have been targeted in Central America and the Caribbean as priority eco-regions for conservation. However, little is known about the conservation status of the medicinal flora in those priority eco-regions or in the region generally, notwithstanding the increasing recognition of their importance to sustainable development particularly as sources of safe, effective, and accessible health care that integrates indigenous and community knowledge, innovations, and practices with modern scientific approaches to health research. Unless research focuses equally on conservation and management of medicinal plants as an important component of biological diversity, much of this diversity will be lost through over-exploitation, degradation and destruction of forest habitat.

The overall goal of the project was stated as ‘to support the conservation of forest ecosystems in Central America and the Caribbean through the rational and sustainable use of medicinal plant resources.’

##### **Relevance to GEF Programmes**

The project sought to contribute to the conservation and management of medicinal plants in globally significant ecoregions of Central America and the Caribbean. The primary focus of this project was on forest ecosystems and indigenous and local knowledge; it was therefore most relevant to the implementation of GEF Operational Programme Number 3 – Forest Ecosystems, and to the directives of the COP to the GEF concerning research on forest biodiversity and the importance of indigenous knowledge.

##### **Executing Arrangements**

Enda-caribe<sup>45</sup> was to execute the project activities, through the Tramil programme, with a team of project staff and technical staff contracted for the project. A small team of advisors and project staff were to act as a Steering Committee. Membership of the Steering Committee was to include the Regional Coordinator of TRAMIL/Enda-caribe activities in Central America; the Enda-caribe Representative of the Caribbean and General Coordinator of the TRAMIL Programme, an Agronomist and Ethno botanist (advisor to WWF and IUCN regional offices and programmes on medicinal plants in Central America); and representatives of the national counterparts. The steering committee was also to include a

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<sup>45</sup> Enda Caribe is an international no-profit organization.

Programme Officer from IDRC; the Chair, IUCN/SSC Medicinal Plant Specialist Group<sup>46</sup> and a representative from UNEP. Steering Committee Members could change over the term of the project but representation and a high level of technical involvement from IDRC and IUCN/SSC/Medicinal Plant Specialist Group was to be maintained.

### **Project Activities**

The project duration was initially 36 months starting October 2001, which was later revised and extended to be completed in September 2005, making a total duration of 48 months.

The project had five components:

- 6) Conservation status assessment and priority setting for medicinal plants and habitat;
- 7) Conservation and management strategies for medicinal plants and habitat;
- 8) Scientific validation of safety and efficacy of traditional plant-based remedies;
- 9) Education and capacity building for conservation and sustainable use of validated medicinal plants;
- 10) Institutionalization and sustainability

### **Budget**

The total budget was US\$ 1,398,000, with US\$ 750,000 funded by the GEF Trust Fund and co-funding from; IDRC US\$266,390, MPSG(IUCN) US\$ 330,916, National Counterparts and Enda-caribe US\$ 330,916.

## **TERMS OF REFERENCE FOR THE EVALUATION**

### **1. Objective and Scope of the Evaluation**

The objective of this terminal evaluation is to examine the extent and magnitude of any project impacts to date and determine the likelihood of future impacts. The evaluation will also assess project performance and the implementation of planned project activities and planned outputs against actual results. The evaluation will focus on the following main questions:

1. To what extent have the assessment of the Medicinal Plant's conservation status and the development of management plans contributed to conservation and sustainable use of forest systems<sup>47</sup>? To what extent has the specific needs of the target stakeholders been taken into consideration in developing priorities for management and conservation?
2. To what extent has the project facilitated/contributed to the inclusion of scientifically validated remedies from locally important medicinal plants into primary health care?
3. What is the extent of, and evidence supporting, increased participation of NGO's and national government agencies to integrate conservation and management of medicinal plants with rational use of traditional remedies in primary health care?

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<sup>46</sup> The Medicinal Plant Specialist Group (MPSG) is a global voluntary network of experts contributing within their own institutions and in their own regions to the conservation and sustainable use of medicinal plants.

<sup>47</sup> To the extent possible the evaluator should assess quantitative aspects of the impact (e.g. how many plant species have been conserved, how many people/communities involved during and after the project, land surface covered etc.)

4. How effective was the implementation approach and more specifically what were the implications of changing the Task Manager in the middle of the project duration in terms of project delivery?

## **2. Project Evaluation Criteria**

The success of project implementation shall be **assessed and rated** with respect to the eleven aspects defined below:<sup>48</sup>

### **1. Attainment of objectives and planned results:**

The evaluation should assess the extent to which the project's major relevant objectives were effectively and efficiently achieved or are expected to be achieved and their relevance.

- *Effectiveness*: Evaluate how, and to what extent, the stated project objectives have been met, taking into account the “achievement indicators”. In particular, evaluate whether and to what extent the results of this project will assist indigenous peoples in conserving forest eco-systems through rational use of medicinal plants.
- The analysis of impact and outcomes achieved should include, *inter alia*, an assessment of the extent to which the project has (1) resulted in conservation of priority species; and (2) enhanced sustainable use of medicinal plants in priority eco-systems (3) strengthened knowledge sharing among the countries involved and provided a basis for a regional strategy for rational and sustainable use of medicinal plants.
- *Relevance*: In retrospect, were the project's objectives, its design, outcomes (original and/or modified) consistent with the focal areas/operational program strategies?

### **2. Achievement of outputs and activities:**

- *Delivered outputs*: Assessment of the project's success in producing each of the programmed outputs, both in quantity and quality as well as usefulness and timeliness.
- Assess the soundness and effectiveness of the methodologies used for the assessment of the conservation status of MPs and the development of management plans, the approach for involving indigenous people and local community and the strategy for identifying and disseminating lessons learnt.
- Assess to what extent the project outputs produced have the weight of scientific authority / credibility, necessary to be incorporated in PHC and adopted by relevant policy institutions.

### **3. Cost-effectiveness:**

Cost-effectiveness assesses the achievement of the environmental and developmental objectives as well as the project's outputs in relation to the inputs, costs, and implementing time. It also examines the project's compliance with the application of the incremental cost concept. The evaluation will:

- *Efficiency*: Include an assessment of *outcomes* in relation to inputs, costs, and implementation times based on the following questions: Was the project cost-effective? How does the cost-time vs. outcomes compare to other similar projects? Was the project implementation delayed?

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<sup>48</sup> However, the views and comments expressed by the evaluator need not be restricted to these items.

- Assess the contribution of cash and in-kind co-financing to project implementation and to what extent the project leveraged additional resources.

#### **4. Financial Planning**

Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. Evaluation includes actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co-financing. The evaluation should:

- Assess the strength and utility of financial controls, including reporting, and planning to allow the project management to make informed decisions regarding the budget and allow for a proper and timely flow of funds for the payment of satisfactory project deliverables.
- Present the major findings from the financial audit if one has been conducted.
- Identify and verify the sources of co-financing as well as leveraged and associated financing (in co-operation with the IA and EA).
- Assess whether the project has applied appropriate standards of due diligence in the management of funds and financial audits.
- The evaluation should also include a breakdown of final actual costs and co-financing for the project prepared in consultation with the relevant UNON/DGEF Fund Management Officer of the project (table attached in Annex 1 Co-financing and leveraged resources).

#### **5. Impact:**

- Evaluate the immediate impact of the project on the role of the Indigenous people and local communities in the conservation and sustainable use of forest ecosystems in the region.
- As far as possible, also assess the potential longer-term impacts of setting priorities and presenting agreed actions for implementation, considering that the evaluation is taking place upon completion of the project and that longer term impact is expected to be seen in a few years time. Frame recommendations to enhance future project impact in this context. Which will be the major 'channels' for longer term impact? The evaluation should formulate recommendations that outline possible approaches and necessary actions to facilitate an impact assessment study in a few years time.

#### **6. Sustainability:**

Sustainability is understood as the probability of continued long-term project-derived outcomes and impacts after the GEF project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits after the project ends. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives / or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes. The evaluation should ascertain to what extent follow-up work has been initiated and how project outcomes will be sustained and enhanced over time.

Five aspects of sustainability should be addressed: financial, socio-political, institutional frameworks and governance, ecological (if applicable), and

replication<sup>49</sup>. The following questions provide guidance on the assessment of these aspects:

- *Financial resources.* What is the likelihood that financial and economic resources will be available such as the project outcomes/benefits will be sustained once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and market trends that support the project's objectives)? Was the project successful in identifying and leveraging co-financing?
- *Socio-political:* What is the likelihood that the level of stakeholder ownership will allow for the project outcomes/benefits to be sustained? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?
- *Institutional framework and governance.* What is the likelihood that institutional and technical achievements, legal frameworks, policies and governance structures and processes will allow for the project outcomes/benefits to be sustained?
- *Ecological.* The analysis of ecological sustainability may prove challenging. What is the likelihood that project achievements will lead to sustained ecological benefits?
- *Replication and catalysis.* What examples are there of replication and catalytic outcomes that suggest increased likelihood of sustainability? Replication approach, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated or scaled up in the design and implementation of other projects. Replication can have two aspects, replication proper (lessons and experiences are replicated in different geographic area) or scaling up (lessons and experiences are replicated within the same geographic area but funded by other sources).

#### **7. Stakeholder participation / public awareness:**

This consists of three related and often overlapping processes: information dissemination, consultation, and "stakeholder" participation. Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or stake in the outcome of the GEF- financed project. The term also applies to those potentially adversely affected by a project. The evaluation will specifically:

- Assess the mechanisms put in place by the project for identification and engagement of stakeholders and establish, in consultation with the stakeholders, whether this mechanism was successful, and identify its strengths and weaknesses. Particular attention should be paid to the level of participation by Indigenous Peoples and local communities but the involvement of NGOs, research institutions and national government agencies should also be assessed.
- Assess the degree and effectiveness of collaboration/interactions between the various project partners and institutions during the course of implementation of the project.
- Assess the degree and effectiveness of any various public awareness activities that were undertaken during the course of implementation of the project.

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<sup>49</sup> Replication refers to repeatability of the project under quite similar contexts based on lessons and experience gained. Actions to foster replication include dissemination of results, seminars, training workshops, field visits to project sites, etc. GEF Project Cycle, GEF/C.16/Inf.7, October 5, 2000

#### **8. Country ownership / drivenness:**

This is the relevance of the project to national development and environmental agendas, recipient country commitment, and regional and international agreements. The evaluation will:

- Assess the level of country ownership. Specifically, the evaluator should assess whether the project was effective in catalyzing action taken by national government authorities by explicitly recognising the value of medicinal plants in national health and biodiversity policies.

#### **9. Implementation approach:**

This includes an analysis of the project's management framework, adaptation to changing conditions (adaptive management), partnerships in implementation arrangements, changes in project design, and overall project management. The evaluation will:

- Ascertain to what extent the project implementation mechanisms outlined in the project document have been closely followed. In particular, assess the role of the various committees established and whether the project document was clear and realistic to enable effective and efficient implementation, whether the project was executed according to the plan and how well the management was able to adapt to changes during the life of the project to enable the implementation of the project.
- Evaluate the effectiveness and efficiency and adaptability of project management and the supervision of project activities / project execution arrangements at all levels particular attention should be paid to (1) policy decisions: Steering Committee; (2) day to day project management: Enda-caribe.
- Assess the effectiveness of supervision and administrative and financial support provided by UNEP/DGEF.
- Identify administrative, operational and/or technical problems and constraints that influenced the effective implementation of the project.
- Assess whether the logical framework was used during implementation as a management tool and whether feedback from M&E activities more broadly was used for adaptive management.

#### **10. Replicability:**

- Assess whether the project has potential to be replicated, either in terms of expansion, extension or replication in other countries and/or regions and whether any steps have been taken by the project to do so and the relevance and feasibility of these steps.

#### **11. Monitoring and Evaluation:**

- The evaluation shall include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The evaluation shall comment on how the monitoring mechanisms were employed throughout the project's lifetime and whether this allowed for tracking of progress towards project objectives and how the project responded to the challenges identified through these mechanisms. The tools used might include a baseline, clear and practical indicators and data analysis systems, or studies to assess results that were planned and carried out at specific times in the project. In addition, the evaluator should provide an account of the extent to

The **ratings will be presented in the form of a table**. Each of the eleven categories should be rated separately with **brief justifications** based on the findings of the main analysis. An overall rating for the project should also be given. The following rating system is to be applied:

HS	= Highly Satisfactory (6)
S	= Satisfactory (5)
MS	= Moderately Satisfactory (4)
MU	= Moderately Unsatisfactory (3)
U	= Unsatisfactory (2)
HU	= Highly Unsatisfactory (1)

### **3. Methods**

This terminal evaluation will be conducted as an in-depth evaluation using a participatory approach whereby the UNEP/DGEF Task Manager, key representatives of the executing agencies and other relevant staff are kept informed and regularly consulted throughout the evaluation. The consultant will liaise with the UNEP/EOU and the UNEP/DGEF Task Manager on any logistic and/or methodological issues to properly conduct the review in as independent a way as possible, given the circumstances and resources offered. The draft report will be circulated to UNEP/DGEF Task Manager, key representatives of the executing agencies and the UNEP/EOU. Any comments or responses to the draft report will be sent to UNEP / EOU for collation and the consultant will be advised of any necessary revisions.

The findings of the evaluation will be based on the following:

1. A desk review of project documents including, but not limited to:
  - (a) The project documents, outputs, monitoring reports (such as progress and financial reports to UNEP and GEF annual Project Implementation Review reports) and relevant correspondence.
  - (b) Review of specific products including inventories of MP use and conservation status management plans for priority species, ex-situ strategies for the production and conservation of germplasm and model strategies identified from experience.
  - (c) Notes from the Steering Committee meetings.
  - (d) Other MP related material produced through e.g. the Tramil Programme and the Medicinal Plant Specialist Group
  - (e) Relevant material published on web-sites such as the Tramil web-site.
2. Interviews with project management (such as the Project Coordinator, ENDA Caribe-staff, members of the Tramil Programme and the Medicinal Plant Specialist Group involved government agencies, universities and members of the Steering Group).
3. Interviews with Indigenous Peoples organizations, intended users for the project outputs and other stakeholders in the region, which were involved with this project. As appropriate, these interviews could be combined with an email questionnaire.
4. The Consultant shall determine whether to seek additional information and opinions from representatives of donor agencies and other organisations by e-mail or through telephone communication.
5. Interviews with the UNEP/DGEF project task manager and Fund Management Officer, and other relevant staff in UNEP dealing with conservation/MP related activities as necessary. The Consultant shall also gain broader perspectives from discussions with relevant GEF Secretariat staff.



#### **4. Evaluation report format and review procedures**

The report should be brief, to the point and easy to understand. It must explain; the purpose of the evaluation, exactly what was evaluated and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should be presented in a way that makes the information accessible and comprehensible and include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

**The evaluation will rate the overall implementation success of the project and provide individual ratings of the eleven implementation aspects as described in Section 1 of this TOR. *The ratings will be presented in the format of a table with brief justifications based on the findings of the main analysis.***

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. Dissident views in response to evaluation findings may be appended in an annex. The evaluation report shall be written in English, be of no more than 50 pages (excluding annexes), use numbered paragraphs and include:

- i) An **executive summary** (no more than 3 pages) providing a brief overview of the main conclusions and recommendations of the evaluation;
- ii) **Introduction and background** giving a brief overview of the evaluated project, for example, the objective and status of activities;
- iii) **Scope, objective and methods** presenting the evaluation's purpose, the evaluation criteria used and questions to be addressed;
- iv) **Project Performance and Impact** providing factual evidence relevant to the questions asked by the evaluator and interpretations of such evidence;
- v) **Conclusions and rating** of project implementation success giving the evaluator's concluding assessments and ratings of the project against given evaluation criteria and standards of performance. The conclusions should provide answers to questions about whether the project is considered good or bad, and whether the results are considered positive or negative;
- vi) **Lessons learned** presenting general conclusions, based on established good and bad practices, with a potential for wider application and use. The context in which lessons may be applied should be specified, and lessons should state or imply some prescriptive action;
- vii) **Recommendations** suggesting *actionable* proposals regarding improvements of current or future projects. They may cover, for example, resource allocation, financing, planning, implementation, and monitoring and evaluation. They should always be specific in terms of who would do what and provide a timeframe;
- viii) **Annexes** include Terms of Reference, list of interviewees, documents reviewed, summary cofinance information and so on.

Examples of UNEP GEF Terminal Evaluation Reports are available at [www.unep.org/eou](http://www.unep.org/eou)

#### **5. Submission of Final Terminal Evaluation Reports.**

The final report shall be submitted in electronic form in MS Word format and should be sent to the following persons:

Segbedzi Norgbey, Chief, Evaluation and Oversight Unit  
 UNEP, P.O. Box 30552-00100  
 Nairobi, Kenya

Tel.: (254-20) 7624181  
Fax: (254-20) 7623158  
Email: [segbedzi.norgbey@unep.org](mailto:segbedzi.norgbey@unep.org)

With a copy to:

Olivier Deleuze, Officer-in-Charge  
UNEP/Division of GEF Coordination  
P.O. Box 30552-00100  
Nairobi, Kenya  
Tel: + 254-20-7624686  
Fax: + 254-20-7624041/4042  
Email: [Olivier.Deleuze@unep.org](mailto:Olivier.Deleuze@unep.org)

Alain Lambert  
National Coordinator UNEP/GEF Brazil  
SCN Quadra 2 - Bloco A  
Ed. Corporate Financial Center, 11 andar  
70712-901 Brasilia DF  
Tel: + 55 61 30 38 92 34  
Fax: + 55 61 30 38 92 39  
E-mail: [alain.lambert@undp.org.br](mailto:alain.lambert@undp.org.br)

Nigel Sizer  
UNEP/GEF SPO Biodiversity  
United Nations Environment Programme (UNEP)  
Division of GEF Coordination (DGEF)  
PO Box 30552-00100  
Nairobi, Kenya  
Tel: 254 20 7625077  
Fax: 254 20 7624041  
Email: [nigel.sizer@unep.org](mailto:nigel.sizer@unep.org)

The final evaluation report will be printed in hard copy and published on the Evaluation and Oversight Unit's web-site [www.unep.org/eou](http://www.unep.org/eou). Subsequently, the report will be sent to the GEF OME for their review, appraisal and inclusion on the GEF website.

## **6. Resources and schedule of the evaluation**

This final evaluation will be undertaken by an international evaluator contracted by the Evaluation and Oversight Unit, UNEP. The contract for the evaluator will begin on September 4, 2006 and end on October 25, 2006 (1 month) spread over 8 weeks (7 days of travel and 13 days desk study). The evaluator will submit a draft report on 9<sup>th</sup> October 2006 to UNEP/EOU, the UNEP/DGEF Task Manager, and key representatives of the executing agencies. Any comments or responses to the draft report will be sent to UNEP / EOU for collation and the consultant will be advised of any necessary revisions. Comments to the final draft report will be sent to the consultant by 16<sup>th</sup> October 2006 after which, the consultant will submit the final report no later than 25<sup>th</sup> October 2006.

The evaluator will after an initial telephone briefing with EOU and UNEP/GEF travel to Dominican Republic and Honduras. In accordance with UNEP/GEF policy, all GEF projects are evaluated by independent evaluators contracted as consultants by the EOU. The evaluators should have the following qualifications:

The evaluator should not have been associated with the design and implementation of the project. The evaluator will work under the overall supervision of the Chief, Evaluation and Oversight Unit, UNEP. The evaluator should be an international expert in human health and have the following minimum qualifications: (i) experience of conservation and medicinal plant issues; (ii) experience with management and implementation of projects and in particular with policy-related assessments that generate knowledge and information; (iii) experience with project evaluation. Knowledge of UNEP programmes and GEF activities is desirable. Field experience in Central America and knowledge of Indigenous Peoples issues an advantage. Fluency in oral and written English and Spanish is a must.

#### **7. Schedule Of Payment**

The evaluator will receive 40% of the SSA fee upon signature of the contract for travel to the Dominican Republic and Honduras, 30% upon submission of the draft report and 30% upon satisfactory completion of work. The fee is payable under the individual SSAs of the evaluator and is inclusive of all expenses such as travel, visas, accommodation, telephone calls and incidental expenses.

In case, the evaluator cannot provide the products in accordance with the TORs, the timeframe agreed, or his/her products are substandard, the payment to the evaluator could be withheld, until such a time the products are modified to meet UNEP's standard. In case the evaluator fails to submit a satisfactory final product to UNEP, the product prepared by the evaluator may not constitute the evaluation report.

## Annex 1. Co-financing and Leveraged Resources

### Co-financing

Co financing (Type/Source)	IA own Financing (mill US\$)		Government (mill US\$)		Other* (mill US\$)		Total (mill US\$)		Total Disbursement (mill US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
- Grants										
- Loans/Concessional (compared to market rate)										
- Credits										
- Equity investments										
- In-kind support										
- Other (*)										
-										
-										
-										
-										
-										
Totals										

\* Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

## Annex 2

### Review of the Draft Report

Draft reports submitted to UNEP EOU are shared with the corresponding Programme or Project Officer and his or her supervisor for initial review and discussion. The DGEF staff and senior Executing Agency staff provide comments on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The review also seeks agreement on the findings and recommendations. UNEP EOU collates the review comments and provides them to the evaluators for their consideration in preparing the final version of the report. General comments on the draft report with respect to compliance with these TOR are shared with the reviewer.

### Quality Assessment of the Evaluation Report

All UNEP GEF Terminal Evaluation Reports are subject to quality assessments by UNEP EOU. These include assessment against the GEF Office of Evaluation quality assessment criteria. The quality assessment is used as a tool for providing structured feedback to the evaluator.

The quality of the draft evaluation report is assessed and rated against the following criteria:

<b>GEF Report Quality Criteria</b>	<b>UNEP EOU Assessment notes</b>	<b>Rating</b>
A. Did the report present an assessment of relevant outcomes and achievement of project objectives in the context of the focal area program indicators if applicable?		
B. Was the report consistent and the evidence complete and convincing and were the ratings substantiated when used?		
C. Did the report present a sound assessment of sustainability of outcomes?		
D. Were the lessons and recommendations supported by the evidence presented?		
E. Did the report include the actual project costs (total and per activity) and actual co-financing used?		
F. Did the report include an assessment of the quality of the project M&E system and its use for project management?		
<b>UNEP EOU additional Report Quality Criteria</b>	<b>UNEP EOU Assessment</b>	<b>Rating</b>
G. Quality of the lessons: Were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
H. Quality of the recommendations: Did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?'). Can they be implemented?		
I. Was the report well written? (clear English language and grammar)		
J. Did the report structure follow EOU guidelines, were all requested Annexes included?		
K. Were all evaluation aspects specified in the		

TORs adequately addressed?		
L. Was the report delivered in a timely manner		

**Rating system for quality of terminal evaluation reports**

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1, and unable to assess = 0.

<b>GEF Quality of the MTE report = <math>0.3*(A + B) + 0.1*(C+D+E+F)</math></b>
<b>EOU assessment of MTE report = <math>0.3*(G + H) + 0.1*(I+J+K+L)</math></b>
<b>Combined quality Rating = <math>(2* \text{'GEF EO' rating} + \text{EOU rating})/3</math></b>
The Totals are rounded and converted to the scale of HS to HU

**Annex 3**

In order to ensure a more systematic approach to reviewing ratings given EOU has developed the table below. UNEP reviews the ratings based on the evidence presented in the report.

**UNEP EOU Assessment of project ratings and performance**

Criterion	Evaluator's Project Rating	UNEP EOU Project Rating	UNEP EOU Comment on rating
Attainment of objectives and planned results			
Achievement of outputs and activities			
Cost-effectiveness			
Impact			
Sustainability			
(EOU rating incorporates consideration of the sub-criteria)			
Financial			
Socio Political			
Institutional framework and governance			
Ecological			
Examples of replication and catalytic outcomes			
Stakeholders participation			
Country ownership			
Implementation			

Criterion	Evaluator's Project Rating	UNEP EOU Project Rating	UNEP EOU Comment on rating
approach			
Financial planning			
Replicability			
Monitoring and Evaluation			
Overall Rating			

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1, and unable to assess = 0.

## Annex 4

### **Evaluation Ethics (from the UN Evaluation Group Norms and Standards for evaluation)**

#### **Selected Norms**

Evaluators must have personal and professional integrity.

Evaluators must respect the right of institutions and individuals to provide information in confidence and ensure that sensitive data cannot be traced to its source. Evaluators must take care that those involved in evaluations have a chance to examine the statements attributed to them.

Evaluators must be sensitive to beliefs, manners and customs of the social and cultural environments in which they work.

In light of the United Nations Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender inequality.

Evaluations sometimes uncover evidence of wrongdoing. Such cases must be reported discreetly to the appropriate investigative body. Also, the evaluators are not expected to evaluate the personal performance of individuals and must balance an evaluation of management functions with due consideration for this principle.

#### **Selected Standards**

- Evaluations should be carried out in a participatory and ethical manner and the welfare of the stakeholders should be given due respect and consideration (human rights, dignity and fairness). Evaluations must be gender and culturally sensitive and respect the confidentiality, protection of source and dignity of those interviewed.
- Evaluation procedures should be conducted in a realistic, diplomatic, cost-conscious and cost-effective manner.
- Evaluations must be accurate and well-documented and deploy transparent methods that provide valid and reliable information. Evaluation team members should have an opportunity to disassociate themselves from particular judgments and recommendations. Any unresolved differences of opinion within the team should be acknowledged in the report.
- Evaluations should be conducted in a complete and balanced manner so that the different perspectives are addressed and analysed. Key findings must be substantiated

through triangulation. Any conflict of interest should be addressed openly and honestly so that it does not undermine the evaluation outcome.

Evaluators should discuss, in a contextually appropriate way, those values, assumptions, theories, methods, results, and analyses that significantly affect the interpretation of the evaluative findings. These statements apply to all aspects of the evaluation, from its initial conceptualization to the eventual use of findings.

- The rights and well-being of individuals should not be affected negatively in planning and carrying out an evaluation. This needs to be communicated to all persons involved in an evaluation, and its foreseeable consequences for the evaluation discussed.

Full details from:

UNEG Norms and Standards. <http://www.unep.org/eou/Pdfs/Norms.doc>

CP 6.07.2006



## ***ANNEX 2. List of persons interviewed***

### **NICARAGUA:**

#### E-mail Interviews:

- ✓ Dylia Saavedra Cabrera  
PLAMOTANIC Coordinator and National Project Coordinator
- ✓ Ing. Alejandro Floripe  
Director CECALLI
- ✓ Lic. Angela Maria Ríos Pérez.  
Researcher CECALLI
- ✓ Roberto Quintana  
Project Technical Assisstant

### **PANAMA:**

#### E-mail Interviews:

- ✓ Dr. Mahabir Gupta, Panama  
Director Panamian Plants Research Center (CIFLORPAN, National University of Panama), and National Project Coordinator.

### **DOMINICAN REPUBLIC**

#### Face to face interviews:

- ✓ Sonia Lagos-Witte, Project Manager
- ✓ Mamerto Valerio, Enda Caribe Representative
- ✓ Daisy Catillo, Project National Coordinator
- ✓ Milciades Mejia, Director General National Botanic Garden
- ✓ Ricardo Garcia, Sub- Director National Botanic Garden
- ✓ Brigido Peguero, Taxonomist National Botanic Garden
- ✓ Alberto Velozo, Taxonomist National Botanic Garden
- ✓ Lionel Germosén Robineau, TRAMIL Network Coordinator
- ✓ Omar Ramírez, GEF Focal Point
- ✓ Sesar Rodríguez

#### Group Interview in Santo Domingo:

Sara Mercado Education Division National Botanic Garden  
Mercedes Núñez, COSALUD  
Marcial Núñez, COSALUD  
Prácides Polanco, COSALUD  
Victor Núñez, COSALUD  
Brigitte Faltase, Natural Doctor

#### Zambrana Health Popular Workers:

Cristobalina Amparo  
Victor Nieves  
Sofia Bautista  
Pascuala Reinoso  
Francisco Encarnación

### **Group Interview East National Park Stakeholders:**

Julio Castillo, General Supervisor National Park  
Ramón Leyva, Park Manager  
Jesús Mercedes, Park Ranger  
Isidro Garcia, Park Ranger  
Francisco Cedeño, Park Ranger  
Rafael Rodríguez, Park Collaborator  
Antonio Núñez, Park Guard  
Ana Violeta Puello, Woman Association Boca de Yuma  
Rafael Seberino, President Apiculture Association  
Antonio Sánchez, Apiculture  
Julio Alcalá, Apiculture

### **HONDURAS**

#### **Face to face interviews:**

- ✓ Maritza Martínez  
CIMN-H Coordinator  
Project National Coordinator

#### **Conservation Component consultants**

- ✓ Otilia Hernández
- ✓ Elia Sarmiento
- ✓ Paul House

#### **Education & Institutionalization Components Consultant**

- ✓ María Medina

#### **Group Interview CIMN-H Members:**

Roberto Ugarte, Medical Science Faculty  
Otilia Hernández, Cimiente Foundation  
Auristela Vásquez, Red Cross  
Raúl Hernández, APROSAMH  
Gustavo Endara, Layer CIMN-H

#### **Group Interview Guajiquiro Stakeholders:**

Leopoldo García Major of Guajiquiro  
Raúl Hernández, Director APROSAMH  
Manuel Garcia, Previous Major Guajiquiro  
Rigoberto Hernández, former Regidor  
Lenca Communities Representatives:  
Maria Isabel Cruz  
Famelia Correa  
Rosaura E. López  
Juana Cruz  
Maria Santos  
Karen Correa  
Maura Hernández  
Francisco Mendoza  
Maria Isabel Corea  
Rosa Medina  
Evelia Mendoza  
José Correa

Maria Irma Gozález  
Arnolfo Hernández  
Justino Hernández

**UNEP-GEF :**

**Phone interview:**

- ✓ Alain Lambert  
Task Manager

**E-mail correspondence:**

- ✓ Sandeep Bhambra  
Division of GEF Coordination

### ANNEX 3. EVALUATION QUESTIONNAIRE PROTOCOLS

#### INTERVIEW WITH THE PERSON IN CHARGE OF THE PROJECT MANAGEMENT

##### COST- EFFECTIVENESS OF THE PROJECT

1. Compared to other similar experiences, you think that the time used versus outcomes was:

1.1 Assessment of Medicinal Plant’s conservation status Component and establishment of Conservation and management priorities

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very cost-effective	Rather cost-effective	Not very cost-effective	Not cost-effective at all	Do not know

Explain your answer:

1.2 Design and implementation of management strategies for the conservation of medicinal plants species and habitats

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very cost-effective	Rather cost-effective	Not very cost-effective	Not cost-effective at all	Do not know

Explain your answer:

.3 Scientific validation of efficacy and safety of traditional remedies made from plants of local importance.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Very cost-effective	Rather cost-effective	Not very cost-effective	Not cost-effective at all	Do not know
---------------------	-----------------------	-------------------------	---------------------------	-------------

Explain your answer:

--

1.4 Increased education and capacity development at institutions and communities in the sustainable use and management of medicinal plants

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very cost-effective	Rather cost-effective	Not very cost-effective	Not cost-effective at all	Do not know

2. Was the project implementation carried out according to the planned chronogram?

Yes \_\_\_\_\_ No \_\_\_\_\_

If your answer is NO, answer questions 2.1 and 2.2. Otherwise, proceed to question 3

2.1. If your answer is NO, mention the components in which there was any type of delay, for how long and the reasons for it

--

2.2 What implications and costs did this delay represent to the project? If possible, mention figures of administrative costs, or of any other kind that took place, and explain how they were covered.

--

3. What was the contribution in either cash or kind effectively provided to co-finance the project implementation?

Describe the in-kind contribution and its monetary value

Include source and amount of cash co-financing


4. Did the Project co-finance additional funds? YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, include source and amount

SOURCE	AMOUNT

2. What type of financial control did the project implement, and frequency?  
(Include financial reports)

Type of financial control	Frequency

2.1 Were the above financial controls carried out on time and according to donors' requirements?

YES \_\_\_\_\_ NO \_\_\_\_\_  
If NO, mention the reasons

--

2.2 To what extent were the above financial controls useful in the reported budget decision-making, and in the appropriate cash flow for supplies payment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very useful	Rather useful	Not very useful	Not useful at all	Do not know

Explain your answer:

--

## Enda-caribe REGIONAL COORDINATION-PROJECT MANAGER INTERVIEW

### PROJECT IMPLEMENTATION STRATEGY

1. What implications, if any, did the change of the Task Manager of the Project have?

--

2. How effective were the supervision and financial and administrative support provided by the UNEP-DGEF throughout the project?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very effective	Rather effective	Not very effective	Not effective at all	Do not know

Explain your answer:

--

3. What was the work team composition which took part in the Project implementation? Briefly describe each member's duties, pointing out which of these had national or international coverage.

--

3.1 Was the work team composition appropriate to the effective and efficient performance of the project?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very appropriate	Rather appropriate	Not very appropriate	Not appropriate at all	Do not know

Explain your answer, pointing out the strengths and weaknesses of the work team composition to guarantee an efficient and effective implementation of the Project

--

3.2 What were the functioning conventions-agreements for the Project implementation?

--

3.2.1 Were these conventions-agreements appropriate to the effective performance of the Project?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very appropriate	Rather appropriate	Not very appropriate	Not appropriate at all	Do not know

Explain your answer pointing out strengths and weaknesses of these conventions-agreements.

3.2.2 How effective and useful were the functioning conventions of the Project? Point out strengths and weaknesses (Steering Committee; Agreements with local counterparts, administrative support from Enda-caribe; support from IUCN e IDRC.

3.3 What administrative, technical, or operational difficulties, if any, arose throughout the Project? Describe briefly

3.3.1 What effect, if any, did the above difficulties have in the effective implementation of the Project?

4. What mechanisms were used for the coordination and supervision of activity development in the different countries, and how flexible and effective were they? Describe briefly.

5. To what extent was the document of the Project useful to the management and coordination of the Project?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very useful	Rather useful	Not very useful	Not useful at all	Do not know

Explain your answer:



5.1 To what extent was the logical framework useful to the management and coordination of the Project?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very useful	Rather useful	Not very useful	Not useful at all	Do not know

Explain your answer:

5.2 In general, was the Project carried out as planned?

YES \_\_\_\_\_ NO \_\_\_\_\_

If NO, answer questions 5.2 and 5.3. Otherwise, proceed to question 6.

5.2.1 Briefly describe the planned outputs which were not developed and the reason for it. Point out the differences in each country.

5.2.2 Briefly describe the unexpected products that were generated and the reason for it.

6. How flexible and adaptable was the Project management concerning the changes required to facilitate the implementation of the Project?

**GUIDE QUESTIONNAIRE -NATIONAL COUNTERPARTS´ REPRESENTATIVES INTERVIEWS**

**Name:**  
**Organization:**  
**Date:**

Briefly answer the following questions according to your viewpoint and experience in the TRAMIL-GEF Project.

**Project reach data:**

1) How many communities per eco-region did the Project work with? Name them:

IMPORTANT NOTE: The following question is to be answered only by Project representatives in Panama.

2) How many uses of medicinal plants identified by the TRAMIL-GEF Project were scientifically validated at the Universidad de Panama laboratory?

**Project impact on Conservation and Health**

3) To what extent do you consider that the Project contributed to the improvement of public health in the involved communities in the selected eco-regions? Explain

4) To what extent did the Project impact the local or national health policies or programs? Include specific examples or reasons as to why this impact was not achieved.

5) To what extent do you consider that the outcomes of the project contribute to the conservation of essential medicinal species? Explain

6) To what extent did the Project get to influence the inclusion of Medicinal Plants in the National Strategy of Biodiversity, and other policies or programs of conservation at both local and national levels? Include specific examples or reasons as to why this impact was not achieved.

7) Which long-term impacts are foreseen in your country based on the products and outcomes generated by the Project? Include specific examples and mention projects, agreements and conventions that could contribute to the mentioned impacts.

8) Do you have any suggestions about how to increase the long-term Project impact?

9) What lessons or experiences of the Project do you think can be replicated in the eco-regions of the Project or other places?

**Institutional benefit**

10) To what extent did your organization benefit from its participation in this project? Explain

11) Which were the main contributions of your organization to the project?

12) To what extent did your organization's participation in this project strengthen your ties and interaction with the TRAMIL network and other organizations of regional nature? Explain

**Further comments:**

13) Would you like to make any further comments?

## **GROUP INTERVIEW- LOCAL COMMUNITIES QUESTIONNAIRE**

1. How do you apply the lessons learned in the Project?
2. What difficulties have you had in applying the lessons learned?
3. What benefits did the Project bring to your community?
4. Did the Project address the priorities identified by the community?
5. How do you think these benefits can be sustained in the future?
6. What lessons did the Project leave you?

## **QUESTIONNAIRE FOR SCIENTISTS WHO TOOK PART IN THE PROJECT**

1. To what extent has the assessment of Medicinal Plant's conservation status done by the TRAMIL-GEF project contributed, or have the potential to contribute, to the conservation and sustainable use of forest systems? Explain the contributions, or the potential to contribute.
2. In your view, which have been the main contributions of the TRAMIL-GEF project to specific national, regional and/or international conservation and health conventions, policies, programs and/or projects? If possible give concrete examples
3. Do you have any recommendations to enhance future project impact in the regional and international context? Which will be the major channels for longer term impact?
4. Are there any other issues you would like to raise?

**ANNEX 5. List of Medicinal Plants Evaluated in the CAMP Workshops and Assessment Results**

**TABLE 1: MEDICINAL PLANTS EVALUATED IN THE CAMP WORKSHOP FOR THE DOMINICAN REPUBLIC FEBRUARY 2004**

SCIENTIFIC NAME	COMMON NAME	CRITERIA FOR SELECTION[1]	Assessment / Validation	Results
<i>Agave antillarum</i> <i>Descourt</i>	Maguey de Bestia	b,c,e,f,g,h(planta entera)	A3 c,d B1 b ii,iii,v,i,ci,ii,iii,iv	VU- EN Haitian Trade (N)
<i>Argusia gnaphalodes</i> <i>(L.) Heine</i>	Nigua de Playa	d,e,f,g,h(Planta entera)	B1 , a B1 a i,ii,iii,iv,v bi,ii,iii,iv,vC B2 c iii	B2 EN (N)
<i>Caesalpinia brasiliensis</i> L.	Palo de Brasil	b,c,d,f,g,h(madera), i	A3 c , d A4 a, c, d C1 C2 a i	EN (N)
<i>Caesalpinia coriaria</i> <i>(Jacq.) Willd.</i>	Guatapaná	d,e,f,g,h(fruto, madera)	A3 c , d B1 ab,i,ii,iii,v B2 ab,i,ii,iii,v	VU (N)
<i>Ekmanianthe longiflora</i> <i>(Griseb.) Urb.</i>	Roblillo	b,d,f,h(raíz, madera y corteza),i	B2 B2 a b i,ii,iii,iv,v C2 a i	CR (N)
<i>Eugenia samanensis</i> <i>Alain</i>	Canelilla	b(Nacional), c,d,f,g,h (hoja), i	B1 a,b,i,ii,iii B2 a,b,i,ii,iii D	CR (G)
<i>Eugenia yumana</i> <i>Alain</i>	Canelilla	b,c,f,g,h(hoja), i	A3c (Hotel) D B1 a,b i,ii,iii,iv,v B2 a,b i,ii,iii,iv,v	CR (G)
<i>Guaiacum officinale</i> L.	Guayacán	a,b,d,e,f,g,h, (Planta entera)	A4 b , c, d B1 a, i,ii,iii,iv,v B2 a,b,i,ii,iii,iv,v	VU (N)
<i>Melocactus lemairei</i> <i>(Monv.) Miq.</i>	Melón Espinoso	a,b,c,d,e,f,g,h(planta entera)	A3d	CR (N) (G)
<i>Pimenta haitiensis</i> <i>(Urb.) Landrum</i>	Canelilla	b,c,d,f,g,h(hojas), i	A2 a,c,d B1 b,i,ii,iii,iv,v B2 b,i,ii,iii,iv,iv	EN (N)
<i>Pimenta racemosa</i> <i>var. grisea</i> <i>(Kiaersk) Forst.</i>	Ozúa	d,e,f,g,h(hoja, madera)	B1 a bi,ii,iii, v B2 a b,i,ii,iii,v	EN (N)
<i>Smilax domingensis</i> <i>Willd.</i>	Bejuco de Riñón	d,e,f,g,h (raíz)		NT (N)

**TABLE 2: Medicinal Plantas Evaluated in the CAMP Workshop for Honduras (HON), Nicaragua (NIC) and Panama (PAN). Panama, April 2004**

Name of the TAXON	Category in the National Red List	Category in the Global Red List	Proportion (%) of the global population
<b>1. <i>Crinum darienensis</i></b> Por ser una especie endémica se trabaja la evaluación a nivel global		EN-D ENDEMICA	100%
<b>2. <i>Bauhinia guianensis</i></b>	PAN VU A3cd HON VU A3cd NIC VU A3cd REG VU A3cd	Probablemente vulnerable global, pero vulnerable en América Central.	
<b>3. <i>Sparattanthelium septentrionale</i></b> Sandwith	HON EN C1		20%
<b>4. <i>Myroxylon balsamum</i> (L.) Harms</b>	NIC EN A3cd	Probablemente EN A3cd	70%
<b>5. <i>Columnnea nicaraguensis</i></b> Berst	PAN EN B2ab (iii)	¿?	¿?
<b>6. <i>Columnnea tulae</i> Urb.</b>	PAN EN B2ab (iii)	¿?	¿?
<b>7. <i>Hoffmannia vesciculifera</i></b> Standl.	PAN VU A3c	¿?	¿?
<b>8. <i>Symplocos vernicosa</i></b> L.O. Williams	HON NT		
<b>9. <i>Slonea picapica</i></b> Standl	HON NT		
<b>10. <i>Bursera graveolens</i> Kunth</b>	NIC VU A3cd Regional NT		
<b>11. <i>Morella cerifera</i> (L) Small</b>	VU A3 de Regional NT		
<b>12. <i>Croton draco</i></b>	VU A3cd Regional		
<b>13. <i>Piper cenocladum</i> C Dc</b>	NIC VU A3c		
<b>14. <i>Calliandra rodocephala</i></b> Donn Sw	NIC VU A3c		
<b>15. <i>Heisteria macrophylla</i></b> Oerst.	NIC VU A3c		
<b>16. <i>Lycianthes nitida</i> Bitter</b>	NIC VU A3c		

## ANNEX 6. List of Workshops and Seminars per Country

WS = Workshop; S-WS = Seminar-Workshop; FG = Focused Group; SEM= Seminar;  
NF = National Forum

Honduras workshops and Seminars				
Activity	Date	Name of Workshop	Workshop Site	# of Participants
WS	August 1,22,29 2002	Workshop on the use of the MPs for respiratory Infections	Municipality of Guajiquiro	53
WS	October 31 and November 1, 2002	Medicinal Plants for Primary Health Care (for nurses & physicians)	Marcala, La Paz	23
WS	October 31, 2002	In-Situ and Ex-Situ Conservation of Medicinal Plants (for members of agricultural committee 'Superación)	Santa Cruz de Pasguare	17
WS	November 1, 2002	In-Situ and Ex-Situ Conservation of Medicinal Plants	Centre Guajiquiro	22
WS	November 20-21, 2002	Medicinal Plants for Primary Health Care (3 workshops for health leaders of Guajiquiro municipality)	Centre Guajiquiro	30
WS	December 6-9, 2002	Medicinal Plants for Primary Health Care (3 workshops for community leaders of Las Marías)	Las Marías, Río Plátano	26
FG	December 10, 2002	Focus group for group conservation survey	Las Marías, Río Plátano	17
WS	September - October, 2002	Use of Medicinal Plants for Respiratory Diseases (7 workshops, one per community)	Seven communities of Guajiquiro municipality	158
WS	March 14, 2003	Conservation Status of Forest Plants (persons familiar with MPs)	Guajiquiro, La Paz	25
S-WS	March 17,18, 19, 2003	Use of Medicinal Plants for PHC (for: sophomore nursing students)	Tegucigalpa	13
WS	April 25, 2003	Natural Medicine, Its Characteristics and the Use of MPs to Improve Health	Tegucigalpa	55
WS	August 28, 2003	Establishment of MPs Gardens and Implementation of Forestry Nurseries	El Duraznal, Guajiquiro	24
WS	October 10, 2003	Fact-Finding and Organizational Visit for the establishment of a medicinal garden in Santa Helena	Santa Helena, La Paz	17

<b>Continuation: Honduras workshops and Seminars</b>				
<b>Activity</b>	<b>Date</b>	<b>Name of Workshop</b>	<b>Workshop Site</b>	<b># of Participants</b>
WS	October 16-17, 2003	Medicinal Plants Scientifically Validates for Use in PHC	Marcala, La Paz	26
WS	November 5, 2003	Establishment of Medicinal Gardens and Implementation of Forestry Nurseries	Santa Helena, La Paz	37
WS	December 8, 2003	In-Situ and Ex-Situ Conservation (for group of health leaders)	Las Marías, Río Plátano	13
WS	December 9, 2003	Establishment of Medicinal Gardens and Implementation of Forestry Nurseries (for a group of community leaders)	Las Marías, Río Plátano	18
WS	December 10, 2003	Validation of Methodological Process (MP Manual) and Collective Consultation on MP Use for Health Problems (for a group of community leaders)	Las Marías, Río Plátano	18
WS	December 11, 2003	Prioritization of MPs to be Evaluated fro the Local Perspective (for a group of community leaders)	Las Marías, Río Plátano	13
WS	July 7-9 - September 8-11 2004	Information not available in reports	Honduras	99
WS	December 20, 2002	Information not available in reports	Honduras	18
WS	March 10-11, 2005	Information not available in reports	Honduras	19
WS	June 9, 2005	Information not available in reports	Honduras	17
WS	July-Sep, 2005	Information not available in reports	Honduras	63
	August 2005	Events: Scientifically validated MPs, PHC and Regulation	Honduras	Not available
WS	September 20, 2004	TRAMIL-GEF Project Scientific Event (Framework of he XVI Science Week at UNAH)	Framework of the XVI Science Week at UNAH	Not available



<b>Panama workshops and Seminars</b>				
<b>Activity</b>	<b>Date</b>	<b>Name of Workshop</b>	<b>Workshop Site</b>	<b># of Participants</b>
WS	September 24-25, 2002	Training of promotion, diffusion and sustainability of plants and Medicinal Gardens	Palenque, upper coast of Colon	7
WS	October 4-5, 2002	First Introductory meeting in the Ngöbe Buggle reservation	Ngöbe Buggle reservation	23
WS	November 24-30, 2002	Use of the MPs and Validation of their own knowledge	Panama	36
WS	January 30, 2003	The use of the MPs in PHC	Panama	32
WS	January 31, 2003	Use of scientifically validated MPs in PHC	Regional hospital of Colon	53
WS	July 13-17, 2003	Meeting with Traditional Healers and Project Coordinators.	San Felix, Chiriqui Province	17
WS	October 17, 2003	Ethno-botany, Chemistry and Pharmacology of Panamanian Flora	Panama	274
WS	December 11-13, 2003	MPs. Scientifically Validated in PHC in the prioritized eco-regions of Panama	San Felix, Chiriqui Province	Not available
WS	January 24-25, 2004	Workshop on the use of the MPs. for PHC: A contribution of the project TRAMIL-GEF/Enda-caribe	Ngöbe Buggle reservation	25
WS	January 26-27, 2004	Workshop on the use of the MPs. for PHC: A contribution of the project TRAMIL-GEF/ Enda-caribe	Ngöbe Buggle reservation	38
WS	March 31-April 3 2004	Red List Training /Conservation Assessment and Management Planning (CAMP) Workshops for Panamá, Nicaragua and Honduras	Hosted by CIFLORPAN , Panama	18
WS	February 2-4, 2005	Training of: Promotion and diffusion of MPs and Family Gardens	Upper coast of Colon	60
WS	March 1-5, 2005	Training of: Promotion and diffusion of MPs and Family Gardens	Lower coast of Colon	90
SEM	August. 10-12 2005	Seminar on the use of the MPs for PHC: A contribution of the project TRAMIL-GEF/ Enda-caribe	Panama	22
WS	November 30, 2005	Cultivation, post harvest care and use of validated MPs.	Province of Colon	43
SEM	December 09, 2005	TRAMIL-GEF/PNUMA/ Enda-caribe Project: Organization and presentation of the Caribbean Herbal Pharmacopoeia 2nd Ed. 2005	Panama	40
WS	December 13-15, 2005	Health Indigenous People and traditional Medicine. An Intercultural approach in Panama	Panama	35

<b>Nicaragua workshops and Seminars</b>				
<b>Activity</b>	<b>Date</b>	<b>Name of Workshop</b>	<b>Workshop Site</b>	<b># of Participants</b>
WS	July 25-26, 2002	Elements for a strategy of Conservation and Sustainable Use of MPs in Mayangna Sauni As	León	44
WS	October 14-15, 2002	Indigenous Culture, Traditional Knowledge and Conservation of the Biodiversity	Musawas	15
WS	October 16, 2002	Study of Botany Management and collection	Musawas	15
WS	October-23, 2002	Conservation strategy and Sustainable use of MPs	Las Segovias	20
WS	November 08, 2002	Conservation and Integration of Traditional Knowledge on MPs on National PHC Policy in Central America and Carribean	Miraflor	23
WS	November 21-22, 2002	Survey elaboration and herbarium set up.	Estelí	24
WS	March 07, 2003	Survey elaboration and herbarium set up.	Musawas	13
WS	March 2003	Use and applications of MPs to treat common illness	Estelí	25
WS	June 19, 202003	Presentation of Priority Species	Miraflor	29
WS	June 19 202003	Presentation of Research Results	Miraflor	29
WS	June 19-20, 2003	First Botany Course	Miraflor	30
WS	June 24, 2003	Presentation of Research Results	Miraflor	32
WS	June 24, 2003	Use and management of MPs	Miraflor	30
WS	July 10, 2003	Basic Study	Estelí	25
WS	September 01, 2003	MPs Conservation: Taxonomy, Morphology, Ecology and Phyto-chemistry	UNAN- León	18
WS	November 6-7, 2003	MPs. Scientifically Validated for PHC for Health Promoters	Tisey and Miraflor	33
WS	November 18-19, 2003	MPs. Scientifically Validated for PHC for Health Promoters	Tisey and Miraflor	28
WS	February 4-5, 2004	Workshop for Community Leaders and Functionaries of the Ministry of Education, Culture and Sports (MECD)	Bonanza	60

<b>Continuation: Nicaragua workshops and Seminars</b>				
<b>Activity</b>	<b>Date</b>	<b>Name of Workshop</b>	<b>Workshop Site</b>	<b># of Participants</b>
WS	May 24-25, 2004	National consultation of the preliminary design of the Traditional Medicine Law	León	45
WS	June 11-12, 2004	Indigenous Culture, Traditional Knowledge and Conservation of the Biodiversity	Bonanza	56
WS	July 7-8, 2004	Bi-national MPS for the PHC: a contribution of the project TRAMIL-GEF/ Enda-caribe	Esteli	27
WS	July 30-31, 2004	Indigenous Culture, Traditional Knowledge and Conservation of the Biodiversity	Bonanza	43
WS	August 19-20, 2004	Management Plan for MPS in the Tisey Reservation and Miraflor	Estelí	45
WS	July 07, 2004	Conservation of the MPS and the Traditional Knowledge in the Indigenous territory Mayangna Sauni As	Bonanza	15
WS	October 23-24, 2004	III teachers and forester of the Territory Mayangna Sauni As	Bonanza	51
WS	November 05-06, 2004	MPS for the PHC: A contribution of the project TRAMIL-GEF/ Enda-caribe	León	44
WS	November 12-13, 2004	MPS for the PHC: A contribution of the project TRAMIL-GEF/ Enda-caribe	León	118
WS	Feb 15, 2005	Exchange of experiences among Tisey and Miraflores Reserve	Las Segovias	24

<b>Dominican Republic Workshops and Seminars</b>				
<b>Type</b>	<b>Date</b>	<b>Name of Workshop</b>	<b>Workshop Site</b>	<b>Number of Participants</b>
WS	January-2002	Operational Planning Workshop 202002	Zambrana Cotui.	33
WS	January-2002	Operational Planning Workshop 202002	East Region	25
WS	March-2002	1st MPs in the Family Health Workshop	East Region	29
WS	May- 2002	MPs Scientifically Validated for PHC in Dominican Republic Eco-regions	Botanical Garden, Santo Domingo	30
WS	June- 2002	Methodology for the application of TRAMIL surveys and the exchange of experiences between communities involved in the TRAMIL/GEF MPs conservation Project	Botanical Garden Santo Domingo	17
WS	November 2002	Installment and Management of MPs gardens	Jabo Claro Cotui.	13
WS	December 2002	Preparation of organic fertilizers	Sabana del Rey	9
WS	December 2002	MPs Pests and Diseases Management	Jiminillo, Cotui	11
WS	December-2002	Installment and Management of MPs gardens	La Cabirma, Cotui	10
WS	November-2003	MPs Conservation and Management Strategies	Botanical Garden Santo Domingo	8
NF	November-2003	National Encounter of Scientific and Traditional Medicine: "SABER CURAR VI"	Santo Domingo	*Taller Músico-terapia, Jardín Botánico Nacional 41 *Taller de Promotores de Salud (Pomadas y Jabones) 25 *Taller elaboración de Pomadas 19 *Taller de elaboración de jarabes 46 *Taller elaboración de pomadas y aceites 15 *Taller Saber Curar VI" 128
WS	November-2003	Socialization of TRAMIL-GEF survey results applied in Zambrana on MPs used to treat health problems.	Zambrana Cotui	10
WS	February 3-5, 2004	National Workshop to socialize and training on the Application of IUCN Red List Criteria & CAMP Workshop	Santo Domingo	18
WS	April 28-2004	Socialization of TRAMIL-GEF survey results applied in Benerito	Benerito	21

<b>Continuation: Dominican Republic Workshops and Seminars</b>				
<b>Type</b>	<b>Date</b>	<b>Name of Workshop</b>	<b>Workshop Site</b>	<b>Number of Participants</b>
WS	October 14-15, 2004	MPs for PHC in Dominican Republic	Santo Domingo	15
WS	September 14-15, 2004	Internship on herbarium management and 'herborizacion' of the members of popular health practitioners.	Santo Domingo	Not available
WS	May 26, 2004	Socialization of TRAMIL-GEF survey results applied in Boca del Yuma	Boca de Yuma	15
WS	June 8-9, 2004	First National socialization and training workshop "Criteria and category application of IUCN's Red List"	Santo Domingo	25
WS	June 16-17, 2004	MPs for PHC, methodological design for health local promoters	Santo Domingo	Not available
WS	June 23-24, 2004	National Workshop to socialize the results of the MPs categorization for the IUCN Red List	Santo Domingo	25
WS	August 4, 2004	Socialization of TRAMIL-GEF survey results applied in San Rafael de Yuma	San Rafael de Yuma	40
WS	July-2005	Socialization of TRAMIL-GEF survey results applied in the buffer zone of the East National Park	East Region	17

## ANNEX 7. Publications, Didactic Material & Consultant's Reports

PANAMA	
Type	Title
Booklet	<b>Solís, Pablo N. Suárez, Oralia. Molina, Paulino y Espinosa, Alex.</b> <i>"Plantas Medicinales para la Atención Primaria de Salud"</i> . Panamá. 2005.
Poster	<b>Mahabir Gupta, Oralia Suárez y Pablo N. Solís.</b> <i>"Plantas Medicinales para la Atención Primaria de Salud"</i> . Panamá. 2005.
Booklet	<b>Sonia Lagos-Witte, Oralia Suárez, Nidia Martínez y Mahabir P. Gupta</b> <i>"Plantas Medicinales para la Atención Primaria de Salud"</i> . Tegucigalpa, Honduras. 2006.
Cartel	<b>Dionisio A. Olmedo, Oralia Suárez, Alex Espinosa, Libardo Martínez, José De Gracia, Nelson Rodríguez, Yelkaira Vázquez, Nydia Saavedra, Pablo N. Solís y Mahabir P. Gupta.</b> <i>"Proyecto Mediano Tramil-GEF-Enda-caribe: Experiencia de Panamá (1996-2005), en el uso de plantas medicinales en la atención primaria de salud"</i> . Presented in the X congreso of Science and Technology organized by APANAC. 17 – 20 August 2005.
Handbook	<b>Solis, P. Editor Científico, Suarez, O. Diseño educativo y coordinación.</b> <i>"Plantas Medicinales para la Atención Primaria de la Salud: Tratamientos naturales en afecciones: Respiratorias, Digestiva, De la piel, Urinarias, Nerviosas"</i> .
CD -Room	<b>CIFLORPAN.</b> "Base de datos del Proyecto - ETNOMETRA", GFL/2713-01-4356. 2005
HONDURAS	
Type	Title
Handbook	<b>Lagos-Witte S. &amp; Guardado J.</b> <i>"Manual Popular de Plantas Medicinales Comunes de la Costa Atlántica de Honduras"</i> (eds) 3ra. Edición
Bulletin	<b>CIMN-H.</b> <i>"Boletín Técnico: La Farmacia en el Patio y la Comunidad (Huertos de Plantas Medicinales)"</i> .
Posters	<b>CIMN-H.</b> 2 posters that summarize the MPs management plans for the 2 eco-regions
Poster	<b>CIMN-H.</b> "Estado de Conservación de Plantas Medicinales de Honduras", Presentación en cartel IX CLB
Handbook	"Propuesta de usos/parte de plantas medicinales científicamente validadas a recomendar en atención Primaria en salud"
Bulletin	<b>CIMN-H.</b> "Medicinal Plants Cultivation Bulletin", based on the experiences on training workshops on conservation and organic cultivation.
DOMINICAN REPUBLIC	
Type	Title
Book	<b>Isabeth, Laure. Villafaña, Martha. Guezou, Nolwen. Chanbal, Fany. &amp; Germosén-Robineau, Lionel.</b> <i>"Manual de Cultivo y Conservación de Plantas Medicinales, Tomo III Árboles Dominicanos"</i> . 1ra Edición.
Book	<b>Editor Científico L. Germosén Robineau.</b> <i>"Farmacopea Vegetal Caribeña - Edición Especial Dominicana-"</i> . – 2da Ed.act. – Editorial Universitaria. UNAN-León, 2005.

Poster	Contribución del proyecto TRAMIL/GEF/PNUMA/Enda-caribe a la conservación de plantas medicinales en Centro América y República Dominicana, Presentación en cartel IX Congreso Latinoamericano de Botánica.
Book	Libro de Resúmenes IX Congreso Latinoamericano de Botánica
<b>NICARAGUA</b>	
Book	<i>"Las Plantas del Territorio Indígena Mayangna Sauni As, Bosawas, Nicaragua, y sus Usos" (Mayangna Sauni As Panan Balna Dawak Usni)</i>
Book	<i>Medicina Tradicional del territorio Indígena Mayangna Sauni As, Bosawas, Nicaragua (Panabas Balna, Mayangna Sauni As (Bosawas), Nicaragua)</i>
Poster	Poster Elaboration for the 1st National Seminar of Medicinal Plants
Bulletin	Synthesis of Activities made by the project in Segovia
Book	Farmacopea Vegetal Caribeña" 2ª. ed. act.- León, Nic.: Editorial Universitaria, UNAN – León, 2005. 486 p.: il.

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1. **Lagos-Witte, S.** 2002. Conservation of medicinal plants in Central America and the Caribbean: a GEF Project begins. Medicinal Plants Conservation Newsletter. IUCN. Vol 8, p21-24, Germany.
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3. **Lagos-Witte, S.** 2004. Tendencias actuales y desafíos de la Etnobotánica en la realidad Latinoamericana, en: Rangel-Ch., J.O., J. Aguirre-C., M.G. Andrade-C., Giraldo-Cañas (eds.) 2004. Instituto Nacional de Ciencias Naturales, Universidad Nac. de Colombia, Bogotá, Colombia. 29-41
4. **Lagos-Witte, S.** 2006. Acceso al conocimiento tradicional y avance en la investigación etnobotánica en Centroamérica y República Dominicana. Rev. de la Red de Jardines Botánicos de Brasil. Jardín Botánico de Río de Janeiro, Brasil, 55-61.
5. **Lagos-Witte, S.** 2006. Conservation of Medicinal Plants in Central America and the Caribbean. IK-Notes No 93, World Bank
6. **Lagos-Witte, S** et al 2006: Manual de difusión regional, TRAMIL-GEF/UNEP-Enda-caribe
7. **Leaman, D. & Lagos-Witte, S.** 2004. Meeting of the Medicinal Plant Specialists Group in Cartagena, Colombia Medicinal Plant Conservation Newsletter, vol 9/10, IUCN/MPSG, p. 20
8. **Leaman, D.J. and Lagos-Witte, S.** 2004. CAMP-Workshops. Summary report: Red List training/CAMP workshops in Central America. Medicinal Plant Conservation Newsletter, MPSG-IUCN, Germany, Vol. 9/10, 68-70p

### **TECHNICAL REPORTS CAMP/RED LISTING READY TO BE PUBLISHED BY IUCN ON 2007:**

**Lagos-Witte, S., Espinosa A., Quintana Roberto and Leaman, D.** 2007: Aplicación de los Criterios de la Lista Roja de la UICN al plan de asesoría y manejo para la conservación (CAMP) de plantas medicinales priorizadas en Panamá, Nicaragua y Honduras. MPSG/IUCN

**Lagos-Witte, S., García, R., Castillo D., Peguero, B. and Leaman, D.** 2007: Aplicación de los Criterios de la Lista Roja de la UICN al plan de asesoría y manejo para la conservación (CAMP) de plantas medicinales priorizadas en República Dominicana. MPSG/IUCN

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**Germosen-Robineau, L. (ed.)** Farmacopea Vegetal Caribeña TRAMIL. UNAN-Leon/Enda-caribe. 486pp.(versión general)

**Germosen-Robineau, L. (ed.)** Farmacopea Vegetal Caribeña TRAMIL. UNAN-Leon/Enda-caribe. 486pp.(versión especial dominicana)

**Lagos-Witte, S. and Leaman D.** (ed) 2006. The TRAMIL-Experience. IDRC/Canadá. En proceso de edición para publicación en Canadá en tres idiomas (Español, inglés y francés). Libro en proceso de publicación.

**Ocampo Sánchez, R.** 2005. Estado de Conservación de plantas medicinales TRAMIL: Un aporte a la implementación de la Estrategia Global para la Conservación Vegetal. 72pp.

#### **MAIN CONSULTANT'S REPORTS:**

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Medina Sandino, M.E. 2005. Integración del conocimiento tradicional de plantas medicinales en políticas de atención primaria de salud en Honduras Nicaragua y Republica Dominicana. Resumen Ejecutivo Panamá

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Medina Sandino, M.E. 2004. Propuesta de Programa de Fitoterapia Medica dirigido a Carreras ligadas a la salud en Universidades estatales y/o privadas de Honduras, Nicaragua, Panamá y Republica Dominicana

Medina Sandino, M.E. 2004. Usos/Parte de plantas medicinales científicamente validadas a recomendar para la Atención Primaria de Salud en Honduras, Nicaragua, Panamá y Republica Dominicana. Propuesta técnica dirigida a Ministerios de Salud.

Medina Sandino, M.E. 2005. Desarrollo de capacidades en torno al uso/parte de plantas medicinales científicamente validados para Atención Primaria de Salud. Honduras

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Rivera, G. 2000. Informe Taller de Consenso y/o Completación de la Propuesta del Proyecto Mediano TRAMIL-GEF. León, Nicaragua.

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Paul House Ph.D., Elia M. Sarmiento M.Sc. & Iris M. Rodríguez M.Sc. "ESTADO DE CONSERVACIÓN DE LA QUINA BEJUCO, *Sparattanthelium septentrionale* Sandwith en la Comunidad de las Marías, Río Plátano" Tegucigalpa M.D.C. 31 de marzo del 2005.



Dr. Paul R. House, M Sc. Elia Maria Sarmiento, M Sc. Iris Masiel Rodríguez. "ESTADO DE CONSERVACIÓN DE 'QUINA ROJA' *Symplocos vernicosa*, en la Reserva Biológica de Guajiquiro, La Paz. Tegucigalpa M. D. C. 15 de Diciembre del 2004.

Pérez Méndez, Jesús. "Organización, Reorganización y Funcionamiento de los Huertos de Plantas Medicinales de Zambrana, Cotui, República Dominicana". Febrero 2003.

## ANNEX 8. List of Communities Involved in the Project per Country

NICARAGUA		
Bosawas Biosphere Reserve	La Segovia	
<ul style="list-style-type: none"> <li>- Alal</li> <li>- Atipak</li> <li>- Betlehem</li> <li>- Kuahbul</li> <li>- Musawas</li> <li>- Paniawas</li> <li>- Sabawas</li> <li>- Sakalwas</li> <li>- Suniwas</li> <li>- Tuybangkana</li> <li>- Waslandakna</li> <li>- Wilu</li> <li>- Wingpulu</li> </ul>	Miraflores Reserve: <ul style="list-style-type: none"> <li>- Puertas Azules</li> <li>- El Cebollal</li> <li>- El Robledal</li> <li>- La Pita</li> <li>- Racho Largo</li> </ul> El Tisey Reserve: <ul style="list-style-type: none"> <li>- La Estanzuela</li> <li>- El Quebracho</li> <li>- El Despoblado</li> <li>- La Almaciguera</li> <li>- Sabana Larga</li> </ul>	

DOMINICAN REPUBLIC	
Zambrana	Este National Park
<ul style="list-style-type: none"> <li>- La Plazeta</li> <li>- La Cabirma</li> <li>- Jobo Arriba</li> <li>- Jobo Abajo</li> <li>- Tojin</li> <li>- Sabana de Rey</li> <li>- La Palma</li> </ul>	<ul style="list-style-type: none"> <li>- Boca de Yuma</li> <li>- San Rabel</li> <li>- Benerito</li> </ul>

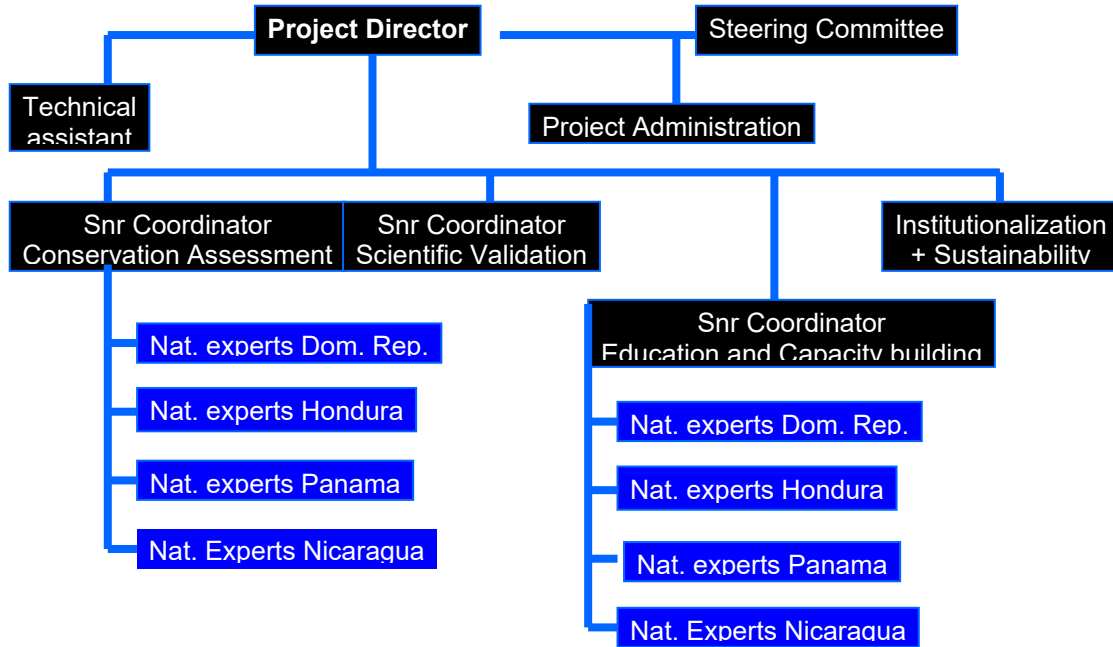
HONDURAS	
Guajiquiro Municipality	Biosphere Río Plátano
<ul style="list-style-type: none"> <li>- Santa Cruz</li> <li>- Buenos Aires</li> <li>- Guajiquirito</li> <li>- Támara</li> <li>- Duraznal</li> <li>- Palo Blanco</li> <li>- Lás Vegas del Paraíso</li> <li>- San Juan</li> <li>- Sauce</li> <li>- Aldea el Palmar</li> </ul>	<ul style="list-style-type: none"> <li>- Las Marías</li> </ul>

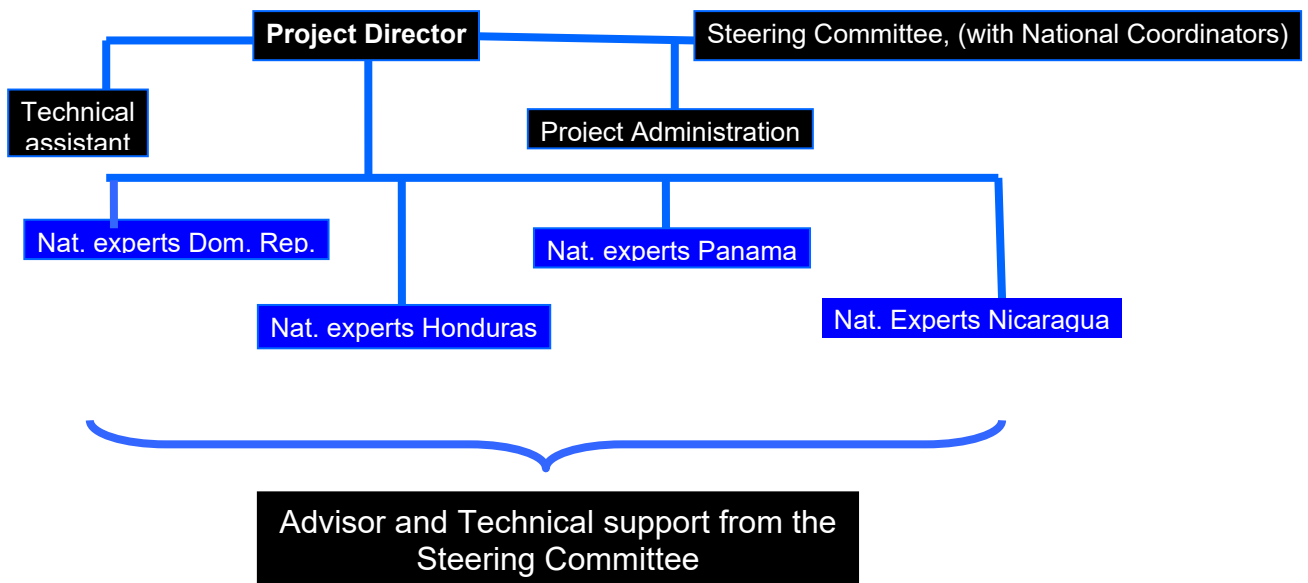
PANAMA		
Colon Province	Comarca Ngöbe Buglé	Provincia de Darién
<ul style="list-style-type: none"> <li>- Colón capital</li> </ul> Costa Arriba: <ul style="list-style-type: none"> <li>- Nombre de Dios</li> <li>- Palenque</li> <li>- Viento Frío</li> <li>- Miramar</li> <li>- Cuango</li> </ul> Costa Abajo de Colón: <ul style="list-style-type: none"> <li>- Coclé del Norte</li> <li>- Guásimo</li> <li>- Santa Rosa</li> <li>- Miguel de la Borda</li> </ul>	<ul style="list-style-type: none"> <li>- Soloy</li> <li>- San Félix</li> <li>- Kuerima</li> <li>- Corote</li> <li>- Camarón</li> <li>- Hato Pilón</li> <li>- Cerro Mesa</li> <li>- Río Santiago</li> <li>- Alto Cañazas</li> <li>- Cerro Cenizas</li> <li>- Cerro Iglesias, Chiriquí</li> <li>- Kankintú, Bocas del Toro</li> </ul>	5 Communities in the Comarca Emberá Furú and Santa Fé

**ANNEX 9. Planned and Actual Organizational Chart**

**Figure 1. Planned Organizational Chart**



**Figure 2. Actual Organizational Chart**



**ANNEX 10. Financial management and expenditures during the life of the project and audit reconciliation**  
**Disbursements to-date**

	2001	2002	2003	2004	2005	2006	Total
<b>10PROJECT PERSONNEL COMPONENT</b>							
<b>1100Project Personnel</b>							
1101Programme Manager (Project Director 13m/m)	7.224	28.899	28.899	28.899	20.007	1.671	115.599
1102Technical Assistant Central America Y2/6.5m;Y3/13m;Y4/9.7m		3.900	7.800	7.800	5.400	450	25.350
<b>1199Sub-Total</b>	<b>7.224</b>	<b>32.799</b>	<b>36.699</b>	<b>36.699</b>	<b>25.407</b>	<b>2.121</b>	<b>140.949</b>
<b>1200Consultants</b>							
1201Activity 1. Conservation status assessment and priority setting		5.732	16.948	11.049	4.068	563	38.361
1202Activity 2. Conservation and management strategies		10.163	21.743	9.319	2.007	288	43.520
1203Activity 3. Scientific validation of safety and efficacy		1.240	8.515	21.245	8.877	1.825	41.702
1204Activity 4. Education and capacity building		7.397	9.680	12.709	9.470	1.944	41.200
1205Activity 5. Institutionalization and sustainability		1.500	5.500	6.000	500	500	14.000
<b>1299Sub-Total</b>	<b>-</b>	<b>26.032</b>	<b>62.386</b>	<b>60.322</b>	<b>24.921</b>	<b>5.121</b>	<b>178.783</b>
<b>1300Administrative Support</b>							
1301Project Management, secretarial help, 1 secretary 13m/m		5.470	1.364	(14)	2.204	3.479	12.503
<b>1399Sub-Total</b>	<b>-</b>	<b>5.470</b>	<b>1.364</b>	<b>(14)</b>	<b>2.204</b>	<b>3.479</b>	<b>12.503</b>
<b>1600Travel on Official Business</b>							
1601Monitoring and evaluation missions		5.948	6.914	6.352	2.665	-	21.879
1602Travel to Meetings, Steering Conf. And Partnerships Conf.	67	1.156	1.592	4.961	3.546	-	11.322
<b>1699Sub-Total</b>	<b>67</b>	<b>7.104</b>	<b>8.506</b>	<b>11.312</b>	<b>6.211</b>	<b>-</b>	<b>33.201</b>
<b>1999Component Total</b>	<b>7.291</b>	<b>71.405</b>	<b>108.955</b>	<b>108.320</b>	<b>58.743</b>	<b>10.721</b>	<b>365.435</b>

<b>20SUB-CONTRACT COMPONENT</b>							
<b>2200Sub-Contracts with supporting organisation (NGOs, Govts.)</b>							
2201	Scientific validation Lab work	-	-	50	23.010	1.940	25.000
2202	CAMP Specialists IUCN		3.000	6.894	1.419	108	11.420
<b>2299</b>	<b>Sub-Total</b>	<b>-</b>	<b>3.000</b>	<b>6.944</b>	<b>24.429</b>	<b>2.048</b>	<b>36.420</b>
<b>2999</b>	<b>Component Total</b>	<b>-</b>	<b>3.000</b>	<b>6.944</b>	<b>24.429</b>	<b>2.048</b>	<b>36.420</b>
<b>30TRAINING COMPONENT</b>							
<b>3200Group-Training</b>							
3201	Activity 1. Conservation status assessment and priority setting	10.643	3.030	9.942	5.900	7.486	37.000
3202	Activity 2. Conservation and management strategies	939	7.752	22.860	13.680	2.769	48.000
3203	Activity 3. Scientific validation of safety and efficacy (G6)	-	-	1.000	4.310	6.690	12.000
3204	Activity 4. Education and capacity building	4.366	14.503	22.674	13.114	5.762	60.421
3205	Activity 5. Institutionalization and sustainability	1.905	3.366	4.743	6.212	2.773	19.000
<b>3299</b>	<b>Sub-Total</b>	<b>17.853</b>	<b>28.651</b>	<b>61.220</b>	<b>43.216</b>	<b>25.481</b>	<b>176.420</b>
<b>3300Meetings/Conferences</b>							
3301	Activity 1. Conservation status assessment and priority setting	2.838	13.206	5.723	22	212	22.002
3302	Activity 2. Conservation and management strategies	7.036	-	10.279	14	671	17.999
3303	Activity 3. Scientific validation of safety and efficacy (G6)	378	21.454	3.990	2.800	2.379	31.001
3304	Activity 4. Education and capacity building	371	5.126	948	898	157	7.500
3305	Activity 5. Institutionalization and sustainability	-	-	-	7.307	693	8.000
<b>3399</b>	<b>Sub-Total</b>	<b>10.623</b>	<b>39.786</b>	<b>20.941</b>	<b>11.041</b>	<b>4.112</b>	<b>86.502</b>
<b>3999</b>	<b>Component Total</b>	<b>28.476</b>	<b>68.437</b>	<b>82.160</b>	<b>54.257</b>	<b>29.593</b>	<b>262.922</b>

<b>40EQUIPMENT AND PREMISES COMPONENT</b>								
<b>4100Expendable Equipment</b>								
4101Office Supplies	137	1.336	1.497	2.555	468	993	6.985	
4102Computer Software		78	18	200	3.105	599	4.000	
<b>4199Sub-total</b>	<b>137</b>	<b>1.414</b>	<b>1.514</b>	<b>2.755</b>	<b>3.573</b>	<b>1.591</b>	<b>10.984</b>	
<b>4200Non-Expendable Equipment</b>								
4201Office Equipment	448	1.054	1.800	1.191	1.392	114	5.998	
<b>4299Sub-total</b>	<b>448</b>	<b>1.054</b>	<b>1.800</b>	<b>1.191</b>	<b>1.392</b>	<b>114</b>	<b>5.998</b>	
<b>4999Component Total</b>	<b>584</b>	<b>2.468</b>	<b>3.314</b>	<b>3.946</b>	<b>4.965</b>	<b>1.705</b>	<b>16.982</b>	
<b>50MISCELLANEOUS COMPONENT</b>								
<b>5200Reporting Costs</b>								
5201Translation/copying/distribution of documents Coord. Off.			154	473	574	47	1.248	
5202Translation/copying/distribution of documents Panama		-	459	-	120	1.421	2.000	
5203Translation/copying/distribution of documents Nicaragua		80	511	326	276	807	2.000	
5204Translation/copying/distribution of documents Honduras		71	254	182	1.236	257	1.999	
5205Translation/copying/distribution of documents Dom. Rep.		-	143	172	134	1.551	2.000	
<b>5299Sub-total</b>		<b>151</b>	<b>1.521</b>	<b>1.153</b>	<b>2.339</b>	<b>4.084</b>	<b>9.247</b>	
<b>5300Sundry</b>								
5301Communications project: fax/email/tel:	133	1.243	962	1.451	1.077	12	4.867	
5302Communications Panamá: fax/email/tel:		-	41	397	1.105	1.456	1.544	
5303Communications Nicaragua: fax/email/tel:		271	1.097	1.509	123	-	3.000	
5304Communications Honduras: fax/email/tel:		310	535	863	857	433	2.566	
5305Communications Dom. Rep.: fax/email/tel:		181	52	139	2.091	537	2.462	
5306Audit costs and Accountancy		815	1.971	1.932	2.584	147	7.303	
5307Bank costs	250	526	537	810	543	207	2.666	
5308Insurance costs			281	-			281	
<b>5399Sub-total</b>	<b>383</b>	<b>3.346</b>	<b>5.475</b>	<b>7.101</b>	<b>8.381</b>	<b>2.794</b>	<b>24.687</b>	

<b>5400Hospitality &amp; Entertainment</b>								
54013 Meetings Steering Committee (Dom.Rep., Panama, Nic.)		-	900	-	536	5.074		1.436
<b>5499Sub-Total</b>		-	<b>900</b>	-	<b>536</b>	<b>5.074</b>		<b>1.436</b>
<b>5999Component Total</b>	<b>383</b>	<b>3.497</b>	<b>7.897</b>	<b>8.254</b>	<b>11.256</b>	<b>11.952</b>		<b>35.371</b>
<b>99GRAND TOTAL</b>	<b>8.258,93</b>	<b>105.844,87</b>	<b>191.602,61</b>	<b>209.623,97</b>	<b>153.650,32</b>	<b>56.018,47</b>		<b>724.999,17</b>
Previous Budget	8.259	105.845	191.603	209.624	209.670	-		725.001
Variance	(0)	(0)	(0)	(0)	(56.020)	56.018	-	1,83

<b><i>Audit reconciliation</i></b>								
<b>Audited accounts FROM TRAMIL/Enda-caribe</b>	<b>8.258,93</b>	<b>105.844,87</b>	<b>191.738,12</b>	<b>208.341,87</b>	<b>153.494,72</b>	<b>57.320,66</b>		<b>724.999,17</b>
Difference between UNEP accounts and audit (Row 96 less Row 102)	-	-	(135,51)	1.282,10	155,60	(1.302,19)		-

**ANNEX 11. Co-financing and Leveraged Resources**

Co financing (Type/Source)	IA own Financing (US\$)		Government (US\$)		Other* (US\$)		Total (US\$)		Total Disbursement (US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
- Grants IDRC-Canada European Union/Grant support			266,390	294,590		37,000	266,390	294,590	266,390	294,390
- In-kind support  MPSG /IUCN)					50,694	70,000	50,694	70,000		
- National Counterparts & Enda-caribe					330,916	400,000	330,916	400,000		
- Other (*) DED Germany, partial support/2 years technical help Zambrana.				50,000				50,000		
<b>Total</b>			266,390	344,590	381,610	507,000	648,000	851,590	266,390	294,390

\* Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.