



United Nations Environment Programme

برنامج الأمم المتحدة للبيئة • 联合国环境规划署
 PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE
 ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

GEF COORDINATION OFFICE

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TELEFAX TRANSMISSION

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| To: | Mr. Kenneth King Assistant Chief Executive Officer GEF Secretariat Washington, D.C. 20433 USA | Date: | 17 August 1999 |
| | Attn: GEF Programme Coordination | | |
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| From: |  John Pernetta Officer-in-Charge UNEP/GEF Coordination Office | Ref: | GEF/PDF A |

Subject: *PDF A proposal: Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy In Central America and Caribbean*

Reference is made to the PDF A proposal entitled "Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and Caribbean" which was endorsed by the GEF Secretariat on a no-objection basis with comments being provided on 22 July 1999. For your information, please find the revised PDF A proposal taking into account the comments provided by the GEF Secretariat. In addition, please find the remaining letter of endorsement from the Panama GEF focal pint which was omitted in the version sent to you earlier which is the last of the four endorsements received on the proposal.

Best regards.



**MEDIUM-SIZED PROJECT
PDFA-TRAMIL/enda-caribe**

Reviewed July 30/99

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| 1. Project name: Biodiversity conservation and integration of traditional knowledge on medicinal plants in national primary health care policy in Central America and Caribbean | 2. GEF Implementing Agency: UNEP |
| 3. Country or countries in which the project is being implemented: Honduras, Nicaragua, Panamá, Dominican Republic | 4. Country eligibility: CDB ratification dates for the countries listed in this project : Honduras:31.7.95; Nicaragua:20.11.95; Panamá: 17.1.1995 Dominican Republic:25.11.96 |
| 5. GEF focal area(s): Biodiversity | 6. Operational program/Short-term measure: OP 3: Forest ecosystems |
| <p>Project linkage to national priorities, action plans, and programs: The project is linked to the Biological Corridor of Central America and the Caribbean and it is an increment on other activities in the sector supported by the Governments of this region. In the regional action plan on Biodiversity they address several vital aspects related to medicinal plants such as community participation in natural resources management and technical assistance, the sustainable use of medicinal plants, development of options for strengthening protected areas and biosphere reserves through management planning and skill enhancement. The establishment and maintenance of a protected areas system in Central America and Caribbean, which serves to protect medicinal plants in the wild, recognize the protection of medicinal plants as one of the priorities in the action plans and programs. The most important contribution to the conservation of local knowledge and traditional use of medicinal plants is from the TRAMIL Program (Traditional Medicine in the Islands), an applied research Program coordinated by enda-caribe. TRAMIL has 15 Years experience on multidisciplinary scientific validation on Medicinal Plants and a collective publication of a Caribbean Pharmacopoeia in 1997. This activity furthers the activities of the proposed project through supplementing conservation efforts with actions aimed at promoting the sustainable use of plants. A strategy for conservation of the most common used medicinal plants is urgent needed, since Honduras, Nicaragua, Panama and the Dominican Republic are interested in developing national health policies with medicinal plants for the primary health care. A consultative process has started in January with the Ministers of Health and Rectors from Central America, Cuba and Dominican Republic. This consultative meeting was held in Panama from January 27-30, 1999 and was organized by the Minister of Health from Panama, the University of Panama and the TRAMIL Program. This first consultative meeting has been supported by IDRC Canada. During this meeting a common agenda for the incorporation of validated medicinal plants in the policy health systems of Central America, Cuba and Dominican Republic has been discussed and a strategy for the follow up has been developed (see attached documents). The PDFA phase will enclose the identification of target areas for conservation of medicinal plants. It is proposed to work in ecosystems of global significance, where medicinal plants are been collected. These areas are linked to rainforest ecosystems and the focus will be in the following regions: Honduras: La Mosquitia (Biosphera of Rio Platano, Pech communities), Colon (Garifuna communities) and the Central part of the country; Nicaragua: North West/South East (Biosphera of BOSAWAS and Indio Maiz Nature Reserve), Panama: Chiriqui and Colon Province; Dominican Republic: Zambrana, Central East.</p> | |
| <p>8. Status of national operational focal point review (Dominican Republic: dates Nov. 5, 1998 Submitted: Acknowledged: Paolo Oberti, UNDP Representative in the Dominican Republic. Endorsed: Zoila Gonzalez de Gutierrez, GEF Focal point/Dominican Rep.. Honduras: Ing. Enrique Arias Guillen, GEF Focal Point in Honduras, Date: February 5, 1999 Nicaragua , Sr. Garcia A. Cantarero, Focal Point Nicaragua, February 9, 1999 and Panama: Alfredo Broce Cabarcas, Focal point Panama, 3/3/99</p> | |

9. Project rationale and objectives: The Caribbean Basin and Central America are geographical regions known for their biological and cultural diversity. They are characterised by unique concentrations of plant species, and the tropical moist forests are classified among those with greatest habitat diversity worldwide. Within this environment, African, European, and indigenous cultures have created an equally diverse mosaic of knowledge and use of medicinal plants. Due to the geographically particular location of Central America, which forms a sort of land bridge between the two continental ecosystems of North and South America, the tropical moist forests of the area is classified among those of largest habitat diversity worldwide. However, rural poverty, deforestation and uncontrolled resource use, have contributed to the increasing scarcity of plant resources. It is estimated that in 1950 60% of Central America was covered by forests. In 1970 it went down to 49% and in 1980 there was only 41% of land covered by forests. At this pace of destruction, the remaining forests could disappear in the next 15 years. With luck, national parks and natural reserves would be left. At present, El Salvador does not have primary forests and the rest of the Central American countries, with exception of Belize, have a yearly loss of 500 to 1000 km² of forests. In terms of cultural diversity, Guatemala, Belize and the southern part of Mexico is the home of the Maya Indians, a culture well know for its richness of traditional knowledge and traditional agricultural systems. In the other Central American countries many different tribes and ethnic groups of significant importance are found: the Miskitos and Sumus in Honduras and Nicaragua, the Pech, Lencas, Xicaques in Honduras, the Pipiles in El Salvador, the Talamancas in Costa Rica and the Guaymis and Kunas Indians in Panama. All these ethnic groups have been exposed to the "modernization" of the outside world that has influenced their attitude to their environment and nature resource management. As a result, the traditional knowledge of plants is disappearing. Nevertheless, in Central America and the Caribbean (Caribbean Basin) local knowledge and practices have remained an important component of primary health care even though public health policy has opposed traditional health systems using medicinal plants. Due to the economic crisis in Central America and the Caribbean, governments have begun to take an interest in the contribution of applied research on medicinal plants to reducing the cost of primary health care and increasing local access to safe and effective treatments.

Use of medicinal plants has remained largely intact among the rural communities of the Caribbean Basin, where the majority of people either prefer to use traditional herbal remedies, or lack the financial resources needed to ensure access to pharmaceutical medicines. These communities are located in areas of particularly high floristic diversity. Knowledge and use of traditional remedies in these communities is currently threatened by loss of cultural roots and forest ecosystems.

Threats to conservation of medicinal plants in Central America and the Caribbean are very similar to those found elsewhere in the tropics. Cardenal (Nicaragua, 1994) explains some mechanisms and causes for extinction of useful plants in the Caribbean Basin. Among these mechanisms modifications of primary and secondary forest might affect principally the native species, consequently affecting also traditional knowledge and cultural practices associated to the management of the wild, semi-wild and domesticated species at the local level.

It is recognized that knowledge is lacking or very limited concerning the taxonomic identity, biodiversity and conservation status of medicinal plants in the Central American and Caribbean region. National Herbarium collections of useful plant species are weak, and systems for identifying and protecting threatened medicinal species do not exist.

The Proposal

TRAMIL-Phase III: An approach to biodiversity conservation and integration in national primary health care policies

The proposed project intends to incorporate the existing traditional knowledge on medicinal plants by conserving the traditions and encouraging governments to start common agendas on health policies with scientific validated medicinal plants for primary health care programs. This project will approach the

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problem based on the TRAMIL experience related to primary health care and the scientific validation program on medicinal plants in Central America and the Caribbean since 1982, including the TRAMIL-Caribbean Pharmacopoeia.

TRAMIL (Traditional Medicine in the Islands) is an applied research Program about traditional popular medicine in the Caribbean Basin. The main objective has been validation and reevaluation of useful aspects of the local popular therapeutic traditions, through scientific studies conducted by a network of collaborators. The TRAMIL network currently links public and private research organizations, non-government organizations concerned with biodiversity conservation and public health, public health agencies, and local communities in an interdisciplinary program of research on the ethnopharmacology and traditional health practices of communities in the Caribbean Basin and Central America. TRAMIL also supports dissemination projects at the community level, returning remedy evaluations to promote the use of safe and effective treatments that are in harmony with local traditions.

This program is coordinated by **enda-caribe** (Environmental Development and Action in the Third World), an international non-profit organization, through its regional offices in the Caribbean and Central America. Ethnopharmacological studies have been carried out using a uniform methodology, pharmaceutical evaluation of popular remedies and dissemination workshops involving community representatives to promote a common understanding of health problems and solutions between communities, researchers, health practitioners, and policy makers.

The proposed project will incorporate community participation to develop a conservation strategy for common medicinal plants used as the first priority to treat very common health problems and will approach the conservation programs at the universities in the proposed countries. It is also planned to implement activities with the participation of the Ministries of Health in the four countries, following the **Recommendation of Panama** signed by representatives of 8 Ministries of Health and Public Universities on January 29, 1999 in Panama City (see attached document).

In terms of the conservation status of the most common medicinal plants used in the centralamerican region only little information is found. The information gathered by TRAMIL presents 178 TRAMIL medicinal plants, classified as species of significant use in the Caribbean Basin. Most plant species targeted for TRAMIL research through ethnopharmacological surveys are common species grown locally in homegardens. Examples of these common species are: *Ambrosia peruviana*, *Acalypha arvensis*, *Bixa orellana*, *Chenopodium ambrosioides*, *Jatropha curcas*, all native from tropical America.

Of particular interest for conservation measures are 101 native species from a total of 178 TRAMIL plants. Almost all of the species are collected from the wild, sold in local markets, or in a few cases, are exported outside the Caribbean region. In general and with the exception of some species like *Haematoxylon campechianum*, reported as an endangered species in Southern of Mexico, the TRAMIL Caribbean Pharmacopoeia is not encouraging the use of plant species that could be under the category of rare or threatened.

Information on the conservation status of 126 medicinal plants included in the TRAMIL list to November 1992 was gathered as one of the TRAMIL initiatives for conservation. An indicative profile was obtained from the situation of the reported species.

According to these results, several tree species in the *Rubiaceae* and *Simaroubaceae* are vulnerable to over-harvesting. The genus *Smilax*, vines which are harvested for their medicinal roots, appear to be overexploited in the whole Caribbean region. In Guatemala and Costa Rica is one of the most commercialized medicinal plants, considered to be highly at risk of overexploitation. The taxonomy of the Genus is not clear and many problems are found in the classification of its species.

Several species of *Pimenta*, (*Pimenta racemosa*, var *ozua*) aromatic shrubs are reported in several Islands as scarce. Indeed, scarcity of a species may be linked to rural poverty, deforestation and uncontrolled resource use. Deforestation of tropical rain forest in Central America and Caribbean is, despite all efforts, currently faster than ever before and the real potential of medicinal plants is still unknown.

The more TRAMIL ethno-pharmacological surveys are undertaken in nature or biosphere reserves, the larger the number of vulnerable species that may meet the scientific criteria for inclusion in the TRAMIL-Pharmacopoeia. Examples of vulnerable species found in Nicaragua (Indio Maiz Nature Reserve) and Honduras (Biosphere of Rio Platano) include *Tetragastris panamensis* (Kerosin), an important medicinal

species. Preference for the bark in popular remedies will make cultivation challenging. *Quassia amara*, found in the TRAMIL surveys in Costa Rica, where the species is abundant and cultivated, is reported as scarce in Guatemala and Honduras. This is again an important factor to start a new approach on conservation in those areas with more vulnerable species, like biosphere reserves and protected areas in Central America and Caribbean.

An important factor to be mentioned is the high percentage of native plants (more than 64%, reported by Martin and Sample, 1992). Largely, the leaves are the part of TRAMIL plants that is utilized followed by the roots, seeds, and bark. It is noticeable that with regards to geographic distribution 40% are found in all the tropics and only 5% are endemic species, taking into account that 32% are found distributed in Latin America and the Caribbean. Of the plants mentioned, 95% is not found in any category of risk, threat or scarcity; 2% resulted in a medium risk and 3% in a low risk.

Despite this analysis, medicinal plants included in the TRAMIL program, scarce or common, will need to be investigated more in terms of the biological information, techniques of measuring resources use, management and agro-ecological issues.

The information gathered by the TRAMIL Program is the most extensive compilation of medicinal plants uses in traditional medicine in the Caribbean and Latin America, and have been published in several editions of a Caribbean Pharmacopoeia. Of the 178 species of TRAMIL medicinal plants, 101 species are collected from the wild, sold in local markets, or exported outside the Caribbean region.

The integration of these medicinal plants into the national health systems to support programs for primary health care will need a conservation strategy and a sustainable management of this resource, due to the increasing demand of the raw material. The proposed project is focussed on the conservation component of the medicinal plants validated and recommended by TRAMIL as effective and safe remedies for common health problems. TRAMIL will also develop and support local initiatives for domestication and sustainable harvesting of medicinal plants, particularly those native and endemic medicinal plants of the Caribbean region. It is also in our interest to review other experiences in Latin America that could help to achieve the goals of this project.

The project development will be under the responsibility of an specialists team of the TRAMIL-Program coordinated by **enda-caribe/Dominican Republic**, with participation of the Universities of Panama, National Autonomous University of Nicaragua-Leon, National Autonomous University of Honduras and University of Santo Domingo, Dominican Republic. The activities within this project to be proposed in Nicaragua with the Nicaraguan Network for Traditional Health Systems with Medicinal Plants will be presented as an international initiative effort with the direct participation of several institutions like UNICEF/PROSERBI, FORSAP/Holland and PROSIM/GTZ Germany.

The proposed project is a non-profit conservation project, a commercialization of medicinal plants is not part of the project activities. The issue of sharing benefit with local communities, however, is part of the recommended incorporation of the relevant articles from the CBD that are important to the project. It is proposed to discuss the issues of future benefit that communities could get from integrating the traditional medicine into the primary health care system of the countries involved in this project. It is also proposed to integrate the issues of intellectual and property rights into the discussions within the national consultative workshops planned with the PDFA in each of the 4 involved countries. Recommendations will be done for the GEF-cooperative programs on medicinal plants for the Caribbean and Central American region and to the possible answers regarding sharing of financial benefits between the different target groups at national level and Governments.

Goals and objectives:

The proposed project has the following main goals:

- Provision of scientific basis for the rational application of traditional health practices using medicinal plants, based on criteria for safety and efficacy in primary health care;
- Contribution to the development of national health policy, education, and primary health care delivery that integrates safe and effective traditional remedies; and

- Integration of lessons learned between the 4 countries and in other part of Latinamerica
- Assessment of the conservation status and development of *in-situ* and *ex-situ* management strategies for medicinal plants in identified sites of Honduras, Nicaragua, Panama and the Dominican Republic.

The specific objectives of the proposed project in the four target countries are:

1. Extension of ethnopharmacological research and interdisciplinary validation of household plant-based remedies to additional communities;
2. Incorporation of the CARIBBEAN PHARMACOPOEIA in primary health programs of the Ministries of Health and universities; following on the recommendation of the Panama meeting
3. Implementation of national and regional Conservation Assessment Monitoring Plan (CAMP) exercises for TRAMIL and other important medicinal plants;
4. Development of community-based conservation and management plans for vulnerable species of medicinal plants;
5. Establishment of experimental gardens for conservation and cultivation of medicinal plants, and support for home gardens;
6. Provision of multidisciplinary training and curriculum development in primary health care and conservation of medicinal plants:
 - in rural communities for mothers, nurses and midwives, and primary schools;
 - in urban communities for street children (linking efforts with the centralamerican Association for "street children")
 - in universities for students of medicine, nursing, public health, chemistry, pharmacy, biology, an agronomy;
7. dissemination of results through community education and public awareness programs for radio, newspapers, postal stamps, web home page and television;
8. evaluation of the legal status of traditional remedies in national health systems, and development of case studies to evaluate acceptance of recommended remedies by medical doctors and other health practitioners; and
9. Integration of the WHO/PAHO National Centers into the proposed activities
10. Promotion of local initiatives to protect the property rights related to the traditional knowledge of medicinal plants.
11. Incorporation of the relevant articles of the CBD and the application of the convention to this project, with emphasis in sharing financial benefits in the future

10. Expected outcomes:

- Analytical report on the lessons learned, sharing of experiences between the 4 countries and best practices for integrating traditional knowledge on medicinal plants into national health systems
- Conservation assessments for TRAMIL medicinal plants and management plans for threatened medicinal plant species; Community-based projects on management of medicinal plants will be implemented.
- A model for the integration of traditional knowledge on medicinal plants into the primary health care for the Caribbean Basin
- Updated editions of the Caribbean Pharmacopoeia;
- Recommendations to the GEF-cooperative programs on medicinal plants
- Curriculum and other training materials;
- Strategic contributions to national health policy with medicinal plants; and
- Dissemination material: Videos, poster productions, popular manuals and other local language publications.

11. Planned activities to achieve outcomes:

- Conduct ethnopharmacological surveys in selected communities
- Carry out the necessary and possible pharmacological, phytochemical and toxicological research for determining scientific validation according to the TRAMIL scientific criteria

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- Assess the safety and efficacy of the plants identified in the ethnopharmacological surveys using the TRAMIL criteria and categories.
- Establish agroecological experimental gardens for the conservation and cultivation of medicinal plants, and provide support for homegardens.
- Establish the conservation status of medicinal species with significant use and recommend initiatives for their conservation.
- Provide validated information on the popular uses of these plants to local communities through dissemination workshops in local communities.
- Extend and consolidate collaboration with Ministries of health for the incorporation of research results in national primary health care policy and programs.
- Strengthen the communication and activities of the national networks on medicinal plants including exchange of expertise on the sustainable use of medicinal plants in the 4 countries.
- Provide multidisciplinary training in the areas related to community development for primary health care and conservation of medicinal plants.
- Develop a long-term strategy for diversification of support to ensure the sustainability of the TRAMIL network.

12. Stakeholders involved in project:

Rural communities, primary health care programs for women and children, biodiversity conservation in protected areas and environment educational programs, local scientists, universities and other research institutions are the principal stakeholders. Local initiatives have been involved in the project development and implementation of preliminary phases in all 4 countries.

13. Information on project proposer:

| PDF/A Activities/budget US-\$ | PDF Grant | Other contribution | |
|--|-----------|--------------------|---------------------------|
| a) National consultations in each of the 4 participating countries: | | | |
| Panamá 15 persons/\$65/dayx2days | 1,950.00 | Facilities | 400.00 CIFLORPAN Panamá |
| Honduras 20 persons/\$35/daysX2 days | 1,400.00 | Facilities | 400.00 CIMNH-Honduras |
| Nicaragua 25 persons/\$30/days X2 days | 1,500.00 | Facilities | 400.00 Nicaraguan Network |
| Dominican Republic 20 persons/\$50/dayx2days | 2,000.00 | Facilities | 400.00 enda-caribe |
| b) Personnel: | | | |
| National TRAMIL focal points: (Baseline) | | | |
| 1 person Panamá | 1,500.00 | 1,500.00 | IDRC/TRAMIL |
| 1 person Honduras | | 1,500.00 | IDRC/TRAMIL |
| 1 person Nicaragua | | 1,500.00 | IDRC/TRAMIL |
| 1 person Dominican Republic | | | |
| Facilitation for 4 Workshops | 4,800.00 | | |
| Coordination at regional level | | 4,000.00 | IDRC/TRAMIL |
| Technical staff | 3,000.00 | | |
| Advisor | 2,500.00 | | |

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| C) OTHERS | | | |
| Communication , office costs | 1,300.00 | | |
| Translation | 1,500.00 | | |
| Travel (local and regional / Accommodation (Advisor, Coordinator, technical staff: 3p) | 3,500.00 | | |
| Meeting of national focal points in Dominican Republic October 99 for final proposal review | | 6,000.00 | IDRC |
| TOTAL PDF Grant: | US-\$ 24,950.00 | TOTAL Other Contribution: | 16,100.00 US-\$ |
| <p>14. Information on proposed executing agency: The project will be co-ordinated by ENDA (Environmental Development Action in the Third World), an international non-profit organization, through its regional programmes in the Caribbean (ENDA-CARIBE, Santo Domingo, Dominican Republic) and TRAMIL-Centroamérica with its regional office in Managua, Nicaragua), in collaboration with an existing network of counterparts in each of the countries of implementation. These counterparts include research institutes and universities, rural development and community health NGOs, national herbaria and botanical gardens. A principal co-financial partner for the Central American countries in the network is the International Development Research Centre (IDRC) in Ottawa, Canada, which has funded a preliminary phase of the proposed project and the consultative regional workshop with Minister of Health and Universities of Central America and Caribbean in Panamá (January 27-30, 1999). IDRC will also support with cofunds the PHASE III for the next two years. The TRAMIL network and methodology has been developed by ENDA-CARIBE in the Caribbean Basin since 1982. The GEF fund will be used to support the conservation component of the TRAMIL-Program. This is a new element to be added to the TRAMIL work after the Panama Recommendation from 29 January, 1999. There is an urgent need to develop a strategy for management of medicinal plants, including cultivation and sustainable harvesting from the forest. TRAMIL is a regional program from the Caribbean Basin, working in an very efficient network of collaborators and institutions. This regional experience will be enclosed in the proposed activities in sharing of lesson learned and sharing of new experiences for conservation.</p> | | | |
| <p>15. Estimated budget (in US\$ or local currency):</p> <p>Project duration: Four years</p> <p>Estimated budget: USD \$1,600,000 and USD \$ 25,000 for the Project Proposal Development</p> <p>Support requested to GEF: USD \$750,000</p> <p>PDF: USD \$ 25,000 (for the Project Proposal Development</p> <p>Co-funding: The International Development Research Centre (IDRC), Canada has supported previous phases of the TRAMIL program in Central America, including the present project development activities. Other sources will be the PROSERBI-Project/ UNICEF Nicaragua and local support by the Universities of Nicaragua-Leon, Panamá and National University of Honduras and National NGO's.</p> <p>Contribution by IDRC (1997-99): USD \$280,000 and US-D \$ 15,000 Consultation Workshop with Ministers of Health and Rectors from Central America and Caribbean, January 1999, Panamá, organised by the Minister of Health from Panamá and the TRAMIL Program.</p> <p>Other possible sources: Support to be requested for NICARAGUA ONLY : UNICEF/PROSERBI</p> | | | |

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| PROSIM/GTZ, FORSAP/Holland.: | USD \$200,000 (consultation in process, PROSERBI Project with 30 communities as beneficiaries, consultant work on traditional medicine done by PROSERBI December 1998-April 1999; interest of join activities within this project: FORSAP and PROSIM) |
| Local contribution: | USD \$330,000 (based on infrastrucutr and personal of the Nicaraguan Network of Traditional Medicine; emda-caribe, Dominican Republic; Honduran Network on Natural Medicine CIMN-Honduras; CIFLORPAN and Ministry of Health in Panama) |
| Total Project Budget: | USD \$1,600.000 |
| Co-financing: CAD\$400,000 (approx. US\$280,000 at current rate of exchange), International Development Research Centre (IDRC), Ottawa, Canada | |
| TOTAL: US\$1,600,000 | |

GEF Focal Points :

Dominican Rp.: PNUD/ Oficina Nacional de Planificacion, Santo Domingo: Mrs. Zoila Gonzalez
 Nicaragua: Ministerio de Ambiente y Recursos Naturales (MARENA), Km 12,5 Carretera Norte , Frente a Zona Franca, Managua, Nicaragua. Mr. Garcia Cantarero- PROTIERRA
 Honduras: Ministerio de Agricultura y El Ambiente, Calle La Fuente, Tegucigalpa, Honduras
 Panamá: PNUD-Panamá , Apdo. 6314 Zona 5, Panamá/ Mrs. Ligia Elizondo. . Letters of endorsement are enclosed to this PDFA.

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