

UNITED NATIONS DEVELOPMENT PROGRAMME
GLOBAL ENVIRONMENT FACILITY
PROJECT OF THE GOVERNMENT OF GUATEMALA

CODE & TITLE:	GUA/95/G31/A/1G/99 - Integrated Biodiversity Conservation in the Sarstun Motagua Region
DURATION:	Four years
UNDP SECTOR:	0300 Natural Resources
GOVERNMENT SECTOR:	Environment (Direccion Superior de Gobierno)
NATIONAL EXECUTING AGENCY:	National Council for Protected Areas (CONAP)
PROJECT INITIATION DATE:	Jan 1997
UNDP/GEF FINANCING:	US\$4,000,000
CO-FINANCING GOVERNMENT (IN-KIND):	Q 4'453,000 & 293,473 ha. land
BILATERAL CO-FINANCING:	US\$3.7 M (forthcoming)
NGO CO-FINANCING (IN-KIND)	Q. 10,125,000 & 22,500 ha. land

BRIEF DESCRIPTION: The Project will improve the protection of Guatemala's species and ecosystems of global importance through the promotion of sustainable uses and management of natural resources by stakeholders at both local and national levels. Project activities will strengthen globally relevant ecosystems within the National System of Protected Areas, create new ones, and establish the necessary biological corridors needed to effectively connect them. Activities will be implemented by a variety of stakeholders including government agencies, NGOs, and local community groups. These will include ecological/economic zoning, master plans and management strategies for the established and new protected areas, financial incentives for self-sustaining conservation, alternative production practices and the promotion of non-timber forest products, in close collaboration with local stakeholders.

On behalf of UNDP
Lars Franklin, Resident Representative

Date

On behalf Executing Agency/Government
CONAP

Date

A. CONTEXT

1. Description of Subsector

1.1 General description of the country

The Republic of Guatemala is located at the northern end of Central America, stretching between 13° 44' and 18° 30' northern latitude and between 87° 31' and 92° 3' western longitude, and covers 108,889 km². Guatemala is bordered by the countries of Mexico, Belize, Honduras and El Salvador, with the Caribbean Sea to the east and the Pacific Ocean to the southwest of the country. The country is divided politically and administratively into 22 states and 330 municipalities, with an estimated population of 10.3 million people in 1994.

Guatemala is a biologically diverse country, where dry and humid mountain forests abut lowland forests, in geomorphological patterns which stretch from the highlands to the coastal plains, and constitute an extraordinary ecological gradient.

The country possesses over 8,000 of the 18,000-20,000 species of plants found in Central America. This diversity includes 527 species of orchids, of which 57 are endemic (compared to the 600 species in Mexico, a country of greater size). With at least 1,453 species of vertebrates (250 are mammals, 664 birds, 231 reptiles, 88 amphibians, and 220 fresh water fish species), Guatemala is the most vertebrate species rich country in Central America. This number includes 45 endemic species, or second richest in the region, and 133 species of endangered fresh water animals.

Northern Mesoamerica, which includes Guatemala, is the origin of important crops such as corn (*Zea*), chiles (*Capsicum*), green tomatoes (*Physalis*), cotton (*Gosypium*), avocados (*Persea*), papayas (*Carica*), cacao (*Theobroma*), and guisquiles (*Sechium*) as well as important species of pines (*Pinus*).

A range of development indicators classify Guatemala as a developing country. According to UNDP's 1995 Human Development Report, which relies on the latest available information compiled in 1992, the index of development is 0.591 (medium human development), corresponding to 112th in the world rankings. Population growth is 2.9% (doubling every 25 years), the mortality rate 48 deaths/1000 births, the fertility rate equals 5.5 children/woman, and life expectancy is 65 years. Health services reach 34% of the population, 62% have access to clean drinking water, and 60% benefit from sanitation. The adult illiteracy rate is 45.8%, compared to the 1990 rate of 67% for individuals 15-19 years old. The average number of school years attended for individuals 25 years or more of age was 4.1 years.

In 1992, 71% of the population (6.9 million inhabitants) lived in absolute poverty of which 4.3 million live in rural areas (74% of the rural population).

Other indicators note that in 1994 the Gross Domestic Product (GDP) per capita was Q7,217 (US\$1,244.3), and the Gross National Product (GNP) per capita was Q7,215 (US\$1,243.9). Private consumption reached 86.1% of the GDP, and net internal investment equals 16.4% of the GNP. Tax collections (through October 1994) reached 5.3% of GNP. Exports constituted 17.2% and imports 25.8% of GDP.

In 1994, economic activity in Guatemala was distributed among the service sector (55.9%), farming and animal husbandry sector (24.4%), and the industrial sector (14.3%), expressed as percentages of the GDP. At least 58.1% of the work force was employed in the agricultural sector, 23.4% in the industrial sector, and 12% in the service sector. The economically active population reached 29%.

Foreign exchange earnings are derived primarily from agricultural exports (coffee, sugar, bananas, meat, cardamom and cotton). In the last few years, non-traditional exports have grown, and tourism has become the third largest generator of foreign exchange, earning almost US\$185.7 million in 1994 (through September).

1.2 The environmental subsector in Guatemala

Throughout the eighties, conservation in Guatemala consisted of discrete and uncoordinated activities, undertaken by different governmental and non-governmental organizations (GOs and NGOs respectively). The 1985 constitution defined state responsibilities for environmental affairs, and in 1986, Congress declared the Law for the Protection and Improvement of the Environment (Law 68-86). This law ordered the establishment of the National Environmental Commission (CONAMA) as a coordinating body for national environmental efforts. Subsequently, the Law of Protected Areas (Law 4-89) of 1989, helped create the National Council of Protected Areas (CONAP), as the most important coordinating body of the Guatemalan System of Protected Areas (SIGAP) with jurisdiction over the National Parks.

SIGAP is composed of 156 protected areas (PA), of which 50 were established under Law 4-89 of 1989, six designated as managed areas and 44 as special areas of protection. Subsequently, some of the special areas of protection, such as the Sierra de las Minas Biosphere Reserve (SMBR), have obtained legal designation and assignation as managed areas.

Administration of protected areas and the implementation of master plan activities, have been delegated by CONAP to government entities, such as the General Council for Forests and Wildlife (DIGEBOS), the Center for Environmental Studies of the University of San Carlos in Guatemala (CECON), and NGOs such as the Fundación Defensores de la Naturaleza (Defenders of Nature, "Defensores"), and la Fundación para el Ecodesarrollo y la Conservación (Foundation for Eco-Development and Conservation, FUNDAECO).

1.3 RECOSMO

Northeastern Guatemala is a region of fresh water, ocean, low-level and mountainous ecosystems grouped around Lake Izabal and Amatique Bay (see annexed Map 1). This area has been selected for the project named "*Integrated Biodiversity Conservation in the Sarstún and Motagua Region*" or RECOSMO.

RECOSMO covers approximately 12,000 km², and encompasses nine protected areas with different management classifications. Up to 35% of RECOSMO (4,169 km²) falls under different stages of official declaration, with "inter-areas" or potential biological corridors encompassing 7,800 km².

To the north, on the international frontier of Guatemala-Belize, the area is marked by the Sarstún river. Following the course of the river eastward to its tributaries Gracias a Dios, Chiyú and Chiachón, up to the dirt road that unites the villages of Secoro and Selauté, in the state of Alta Verapaz. The curved western limits of RECOSMO are delineated by a series of dirt roads which stretch west and southwest from Selauté to Cobán (state capital of Alta Verapaz) via the municipal capital of Cahabón (Alta Verapaz), the Cahabón river, and the dirt road that unites El Estor with the municipalities de Tukurú y Tamahú. This road then runs southeast to the municipal capital of El Rancho (state of El Progreso), eastward on the Cobán-El Rancho highway, to the Motagua river. RECOSMO's southern limit follows the Motagua downriver from El Rancho to the village of Tenedores (Izabal). The project area's limits continue along this village's unpaved road east to the San Francisco river, the river's mouth, and finally, to the Caribbean Sea, the eastern limit of RECOSMO.

1.3.1 Ecology

RECOSMO includes nine principal natural communities and five natural sub-communities (Table 1) that contain distinct ecological characteristics (see annexed Map 2 "Preliminary Map of Natural Communities").

TABLE 1: NATURAL ENVIRONMENTS FOUND IN THE AREA OF RECOSMO¹

<i>Natural Communities</i>	<i>Area (km²)</i>	<i>% del total</i>
Subtropical rain forest	4,577	38.8
Gallery forest	730	6.2
Polochic marsh	389	3.3
Chocón marsh	38	0.3
Lake Izabal and estuary	729	6.2
External marine zone	943	8.0
Very humid tropical forest	1,427	12.1
Manabique swamp	166	1.4
Low montaine rainforest	597	5.1
Pantín Swamp	5	0.04
Dry, subtropical forest	406	3.4
Spiny subtropical forest	253	2.1
Humid subtropical forest	621	5.3
Cold, subtropical, very humid forest	924	7.8

¹ Source: Project data, based on Guatemala wildlife zone maps

<i>Natural Communities</i>	<i>Area (km²)</i>	<i>% del total</i>
TOTAL	11,810	100,0

Principal ecological characteristics of RECOSMO include:

- a. Several sites of endemism such as the Río Dulce Gorge, Cerro San Gil, Sierra de las Minas and the Quetzal-Finca Santa Rosa Biosphere surrounding the City of Cobán, Rubeltzul Ravine, Semuc-Champey and Senahú;
- b. Great ecological variety according to the Holdridge classification system: very humid tropical forest; very humid, subtropical forest; humid and very humid, subtropical, temperate forests; very humid, low mountain forest; and dry tropical forest;
- c. Several areas which have not yet been explored botanically, such as Punta de Manabique, the north slope of Sierra de las Minas, the Sierra de Santa Cruz, the slope of Sarstún and Chelemhá;
- d. The Sierra de Santa Cruz, a compact area of serpentine, with unique soils and vegetation not yet studied or documented to date;
- e. One of the two most important sources of arboreal germplasm in Guatemala of the genus of pines (*Pinus*), located in the Sierra de las Minas. Yet, its habitats have not been specifically delineated, and species at greatest risk have not been studied;
- f. Amatique Bay, part of the Gulf of Honduras, possesses elements of mesoamerican coral reefs, and is catalogued as a great coastal lagoon, yet remains unexplored.

The RECOSMO project area includes another distinctive characteristics with its coverage of four of the country's twelve physiographic provinces:

- a. High Sedimentary Lands: the most characteristic of its geological formations, located at the north of the Sierra de Chamá, form parallel hills, anticlinal and synclinal -- common topography of karstic areas;
- b. The Izabal Depression, site of Lake Izabal: the western border of the lake is undergoing a constant deposit of alluvial sediments, carried by the Polochic River to the river delta. Further east, the waters of the lake are transported by the Río Dulce to Amatique Bay and into the Caribbean;
- c. Highland Crystalline Formations: located between two faults in constant evolution. The geological material in this zone comprises metamorphic and plutonic rocks that include slate, gneissic, marble, serpentine and granite;
- d. The Motagua Depression: located along the course of the Motagua River and is characterized by well developed river bends. The depression and river have formed a delta

which opens into the Gulf of Honduras and onto a sand bar (Punta de Manabique) which separates the Gulf from Amatique Bay.

1.3.2 Population and production

The project encompasses part or all of 22 municipalities in the states of Alta Verapaz, Baja Verapaz, El Progreso, Zacapa and the entire state of Izabal. RECOSMO counts 17 municipal capitals (including, Puerto Barrios, the state capital of Izabal).

The region's 1993 estimated population reached 524,700 inhabitants, 79% of which live in rural areas. The greater part of the population is located in the states of Izabal (47%) and Alta Verapaz (26%), with 27% of the population residing in the states of Baja Verapaz, El Progreso and Zacapa.

The most current agricultural census (1979) estimated that the region has 37,500 private farms encompassing an area of 439,800 ha (40% of the area of RECOSMO). Approximately 70% of the farm area is distributed between 1,200 farms with more than 45 ha, while the remaining 30% numbers farms greater than 1 and less than 45 ha. According to the same census, 78% of the farms have annual harvests and 25.7% permanent cultivations, 16.3% are covered by forest, and 10.4% pasture land. Land distribution is estimated at 31.7% for forests, 29.8% for pasture land (for grazing of cattle), and 29.7% cultivated (mainly annual), with 7.8% remaining for other uses. Table 2 presents cultivated area and production (1979 census) of main crops types in the RECOSMO area.

TABLE 2: CULTIVATED AREA AND PRODUCTION IN RECOSMO IN 1979

<i>CROP</i>	<i>AREA (ha)</i>	<i>PRODUCTION (qq)</i>
Corn	80,300	2,065,000
Beans	10,500	142,200
Rice	5,900	243,700
Coffee	14,000	503,800
Cardamon	1,000	8,300
Banana	1,700	1,714,100

Alluvial plains in the Polochic and Motagua depressions, in the states of Alta Verapaz and Izabal, provide fertile grounds for the production of 82% and 79% of the nation's corn and bean harvest, respectively. This area also produces 50% of the country's rice crops. About 68% of the nation's coffee is produced in the municipalities of Alta Verapaz, while 98.6% of the country's banana crop is harvested in the state of Izabal.

According to the 1979 agricultural census, roughly 270,000 head of cattle are raised in the RECOSMO region, 66% of which are located in the state of Izabal alone.

With respect to mineral resources, the region has the potential to produce nickel, chromium, iron, lead, silver, marble, limestone, dolomite, asbestos, and other non-renewable resources such as coal and serpentine.

The RECOSMO region is endowed with natural and cultural resources attractive to tourists, resources which have not yet been developed or exploited to their full potential.

Very little of the productive activity in RECOSMO is economically sustainable, as the majority is based on the extraction of resources with little or no added value.

Financial credit for farmers and small to medium sized producers is finite or nonexistent, which limits the development of more economically viable and less destructive options.

1.4 Protected Areas

Nine protected wildlife areas, either declared or in the process of being declared (Table 3), and several other areas potentially requiring protection, are located in the RECOSMO area. Base-line studies have yet to be undertaken.

TABLE 3: EMINENT PROTECTED AREAS IN THE NORTH-EAST OF GUATEMALA

<i>Reserve/Area(ha)</i>	<i>Legal Standing</i>	<i>Population</i>	<i>Land Ownership</i>	<i>Threatened Resources/Species</i>	<i>Potential of Protected Area</i>
SMBR/236,300	Law 49-90	21,000 inhab./140 communities	45 % state. 50 % private. 5 % mpl.	Biodiversity, germplasm, water, non-timber forest products, archeological sites, quetzal, jaguar, tapir	Hydrological production for Motagua and Polochic valleys; sustainable development; in-situ germplasm bank; teaching laboratory for conservation techniques and sustainable development practices
Chocón-Machacas Biotope/ 6,400	Law 4-89	270 inhab.	State	Flooded forests, mangrove canals and small lagoons, estuaries, crocodiles and manatees, bird sanctuary	Recreation, tourism, ecotourism and scientific research
Mario Dary Rivera University Biotope/ 1,153	Law 4-89	-	State	Cloud forests, water production, biological diversity, quetzals.	Ecotourism, scientific research

Continuation Table 3

<i>Reserve/Área(ha)</i>	<i>Legal Standing</i>	<i>Population</i>	<i>Land Ownership</i>	<i>Resources/Threatened Species</i>	<i>Potential Use of Protected Area</i>
Punta de Manabique/ 38,400	Law 4-89 (Special protected area or SPA)	419 inhab./6 villages	65 % state 35 % private	Biodiversity, threatened fauna, foraging area of marine turtles/mangroves, flooded forest, manatee, tapir	Tourism, conservation of ecosystems, in-situ germplasm bank, biological research
Río Sarstún/9,600	Law 4-89 (APE)	270 inhab.	State and private	Flooded forests, mangrove waterways and lagoon estuaries/crocodiles, manatees, bird refuge	Ecotourism and scientific research.
Sierra Santa Cruz/46,000	Law 4-89 (APE)	2,000 inhab./9 communities	State and private	Humid, tropical forest, species of precious woods, range of fauna	Ecotourism, scientific research, hydrological investigation and production

1.4.1 Sierra de las Minas Biosphere Reserve (SMBR)

Formed by a mountain chain which covers part of Alta Verapaz, Baja Verapaz, El Progreso, Izabal and Zacapa, the SMBR extends from east to west on a longitude of 130 km and a width of between 10 km and 30 km, with elevations that start as low as 150m and reach as high as 3,015m above sea level.

The SMBR is the largest PA within the Project RECOSMO, with great biological variety including threatened species such as the quetzal (*Pharomacros moccino*), the jaguar (*Panthera onca*), tapir (*Tapirus bairdii*), and species of economic importance such as *Pinus tecunumanni*, *P. ayacahuite*, *Cupressus lusitanica* y *Liquidambar styraciflua*. The reserve was legally established by Law 49-90, was included in the grouping of biosphere reserves declared by the United Nations Educational, Scientific and Cultural Organization (UNESCO) on 15 February 1993. It is currently in the process of being declared as a World Heritage Site. Defensores is legally responsible for the SMBR and administers the area according to an established management and development master plan.

The SMBR comprises one of the few pristine cloud forests sites in Guatemala, of great hydrological importance to the region's ecosystems and human communities. The SMBR watersheds give rise to 63 rivers, of which 34 drain to the south, supplying water to families, irrigation systems, and hydroelectric plants in the Motagua valley, an important agricultural region. To the northwest, the reserve's watersheds feed the Salamá river, a tributary of the Chixoy river, and site of the country's most important hydroelectric plant.

The SMBR is populated by several different ethnic groups: in the south the population is predominantly Spanish-speaking *mestizo*, while to the west and north the population is of Mayan descent (Kek'chies y Pokomchies). The *mestizo* population primarily cultivates corn, beans, broccoli, sugar cane and coffee; while the Mayan population cultivates cardamom, coffee, corn, and beans. Private businesses have established plantations of forests for industrial uses in the border area.

"Slash and burn" is the agricultural practice generally used. Fertilizers and insecticides are most often applied on the south side of the reserve, with the resulting benefits appearing to vary depending on the altitude and quality of the soils.

Defensores has divided the SMBR into four administrative areas, and attend to 50 communities through programs of natural resources protection, environmental education, community development, and agroforestry. Defensores has begun to acquire land in the central area of the reserve as a focus for environmental conservation and scientific investigation. To date, they have acquired 19,215 ha, and in 1995 US\$300.000 was budgeted for new acquisitions.

1.4.2 Chocón-Machacas Biotope for the Protection of the Manatee

Administered by CECON, this biotope is located on the shores of the Río Dulce, and is one of Central America's few natural refuges for the manatee (*Trichechus manatus* L.). Most of the reserve is covered by marshland, yet ecologically, it ranges from coastal areas to permanently flooded jungle. A master plan for the management and development of the area is currently being implemented.

Despite the fact that Lake Izabal and Río Dulce have been important national transportation routes, large permanent settlements have never been established there due to their remote location. The largest population located in the reserve recently immigrated from Vera Paz, and is categorized as heterogeneous and unstable. Although individual villages are composed of homogenous populations, some of which are formed by populations of kek'chí origin and others by *mestizos*. Farmers make up 65% of the area's population. Of the *mestizos*, 40% and 20% of the population are dedicated to fishing and commerce respectively. In 1991, the reserve had 14,615 visitors, 75% of whom were foreigners. Tourists appear to visit most frequently in August, whereas Guatemalans visit primarily in the months of March and April.

1.4.3 Mario Dary Rivera University Biotope for the Protection of the Quetzal (BUCQ)

The BUCQ is one of the most important areas for the protection of the quetzal, Guatemala's national bird. CECON administers this biotope according to a master management and development plan, and is considered the most professionally managed protected area of SIGAP. Much of the experience gained in the management process of this area may serve as a partial model for other PAs of the region. Vegetation consists of mountainous forest, providing a transition area between neartic and neotropical species.

The BUCQ is uninhabited, except for technical and service personnel, yet is surrounded by immigrants originally from the municipality of Palencia (State of Guatemala). These farmers have placed pressure on the biotope through logging, yet have been responsible for improving the population's overall diet through the transformation of agricultural practices in the micro region, e.g., with the cultivation of vegetables.

Corn, beans, potatoes, vegetables, flowers, coffee, cardamon, wood and ornamental plants are grown for export in areas surrounding the BUCQ. Mining has also taken place both within and outside of the BUCQ boundaries. In Purulhá, the municipality where the biotope is located, several artisans work with textiles and bamboo (*Chusquea*), found naturally in the mountain forests.

The biotope receives more than 40,000 visitors annually, 85% of which are Guatemalan, demonstrating its great educational and economic value.

1.4.4 Punta de Manabique Special Protection Area

Punta de Manabique, the easternmost area of the RECOSMO, and accessible only by water, is one of the most important nesting and foraging areas of Central America for the marine turtle species *Dermochelys coriacea*, *Eretmochelys imbricata*, *Caretta caretta* and *Chelonia mydas*. The area also sustains populations of the Atlantic crocodile (*Crocodylus acutus*), manatee, tapir, and several other endangered species. Mangrove swamps and flooded areas found in Punta de Manabique are the most important representatives of these ecosystems on the Atlantic coast of Guatemala.

Settlements in the Punta of Manabique are found exclusively on the narrow coastal strip that surrounds the peninsula. There are no settlements in the interior, only swamps of *Manicaria*. About 419 inhabitants (primarily *mestizo* of Honduran origin) distributed among six towns reside in the area, and recently immigrated there from Izabal and the east of Guatemala.

The population depends primarily on the use of coastal-marine resources, marshes (interior swamps) and agriculture. Fishing is the principal activity for 65% of the population, where 20% concentrate on farming. Inhabitants commonly undertake two activities based on the season. Several species of sardines make up a large percentage of the catches, with rice providing the main agricultural crop, cultivated for family consumption along with watermelon, banana and yucca.

Guatemala's Institute of Tourism (INGUAT) is starting to promote tourism in the area. CECON and FUNDARY are seeking the status of legal administrator for the area, and are currently supporting the formulation of a technical socio-environmental study.

1.4.5 Río Sarstún Special Protection Area

The Río Sarstún forms part of the international border with Belize and provides refuge for populations of manatee. These have been the object of an ongoing census study. The area is connected with the Belizean National Park "Temash-Sarstoon" by means of the Río Sarstún. A socio-environmental study has been prepared for the area.

The protected area (core and buffer zones) encompasses two small communities named Warre Creek y Laguna Grande, with populations of 455 and 14 inhabitants, respectively. These communities raise crops (planting of corn and rice in an itinerant manner), harvest forest products (hardwoods), and hunt animals such as deer. The population is predominantly Kek'chí who settled there at the beginning of the century.

The core area is inhabited by the following communities, the majority of which are Kek'chí: Modesto Méndez (300 people in 1991); Calajá (40 in 1991); Coroza (96); Blue Creek (228 distributed in 7 small villages); Cerro Blanco (37); Sarstún (300 in 1991). The majority of *mestizos* are originally from Zacapa, Jutiapa, Chiquimuthe and Jalapa.

Landownership is divided between private lands (7 farms) and public lands. Banana cultivation and/or tourism provide the main source of income for private farms. INTA is conducting a registry to award farmers titles to public lands.

Historically, the Río Sarstún has been used as a commercial route for ships of medium draft, a potential medium for the growth of ecotourism.

1.4.6 Sierra Santa Cruz Special Protection Area

The Sierra Santa Cruz is the end-point for the mountainous region of the Sierra de los Cuchumatanes, and physically separates the Petén from Lake Izabal. The area contains the only viable remnant representative of humid tropical forest in Guatemala. This forms a habitat for many threatened species, such as the tapir, small species of felids and marsupials, as well as some important commercial tree species such as mahogany (*Swietenia macrophylla*) and chicozapote (*Achras zapota*). A socio-environmental study has been prepared for the area.

Nine settlements were established in PA valleys about 60 years ago, and included 2,000 inhabitants in 1993. To the northwest, communities are primarily Kek'chies, whereas a mix of Kek'chies and mestizos co-exist in the southeast. Several of these communities' land claims have been legalized by INTA.

Several small plantations of coffee, pineapple, annatto trees, cardamom and sugar cane (2.8 ha of land for each family unit) supplement the basic staples of corn, rice, chile and beans.

Local families depend on the forest for construction materials, firewood, precious woods (cedar and mahogany), food (pacayas and chicozapotes), ornamental plants (linden and xates), medicinal plants and raw materials for artisanal products.

1.4.7 Bocas del Polochic Special Protection Area

Located between the Sierra of Santa Cruz and the Sierra of las Minas, and to the west of Lake Izabal, lies the Bocas del Polochic, an important "biological corridor". This marshland and fresh water estuary is of international and national importance as a refuge for manatees and fresh water sharks. A technical, socio-environmental study has also been prepared for the area.

The protected area is not inhabited and is made up of both publicly and privately owned lands. Private lands belong to the company Explotaciones Mineras of Izabal (EXMIBAL), which holds a nickel extraction concession.

Defensores have requested from CONAP the right to legally administer the Bocas del Polochic, and are preparing a management plan for the area.

1.4.8 Cerro San Gil Special Protected Area

Cerro San Gil is the largest remnant of tropical rain forest of Guatemala and provides an important source of water for the population of Izabal, and several of the most important port complexes in the country. Located on the south shore of the Río Dulce, Cerro San Gil constitutes a massive, mountainous (altitude 1,267m), isolated area, adjacent to the Caribbean.

Cerro San Gil provides a refuge for 80 species of trees, of which 30 species of palms, 56 species of mammals and more than 50 species of reptiles and amphibians. Additionally, 333 species of birds have been identified within the area, representing over 50% of the birdlife of Guatemala. A high degree of endemism exists. The few studies undertaken in the area have identified four species of frogs, two of salamanders, and six of trees including three endemic palm species.

FUNDAECO is managing the area directly and has prepared a technical study and a preliminary management plan. During the last three years, FUNDAECO has completed environmental education, agroforestry and biological investigation projects, and is currently undertaking an ecotourism study.

1.4.9 Río Dulce National Park

As the waterway which connects Lake Izabal and Amatique Bay, the Río Dulce and its bordering shores forms a biological corridor of fundamental importance to the conservation of a range of animal and plant species. The mouth of the Río Dulce is renowned for its scenic vistas and endemic species, yet it suffers from uncontrolled fishing and urbanization. The area is administered by DIGEBOS.

1.4.10 Additional areas of biological value

Other sites of biological value exist near the RECOSMO area, but due to a lack of information regarding their biodiversity value, are not included as PAs in the current project. These areas would include: the Quetzal Project in the Mountain of Yalijux; the Universidad del Valle of Guatemala Biological Station located in the farm "El Volcán-Silleb"; the Semuc-Champey-Cuevas complex of Lanquín; diverse municipal parks such as El Boquerón; private parks such as El Paraíso; Bahía Santo Tomas National Park managed by the Naval Base; and the dry tropical forest that forms part of the drainage area of Río Motagua.

RECOSMO's management will allow future integration of protected areas on the frontier with Belize, e.g., Temash-Sarstoon National Park and Wildlife Sanctuary (17,010 ha), and Honduras, e.g., Cusúco National Park (16,199 ha), and the proposed Barra del Río Motagua National Park (15,238 ha) which surrounds the Gulf of Honduras.

2. Country Environmental Strategy

2.1 International Strategy

As part of its national development strategy, Guatemala will actively participate in international environmental and development initiatives. The country is a signatory to the Montreal Protocol, the Convention on International Trade in Endangered Species (CITES), and the Convention on Biological Diversity. Several of the country's historic-cultural resources and protected areas have been included in the UNESCO lists of World Heritage Sites, Sites of World Interest or Biosphere Reserves.

On the regional level, the country participated in the creation of the Central American Commission on Environment and Development (CCAD) in 1989. The CCAD seeks to assist and orient institutions and national authorities in the formulation and planning of policies, strategies and mechanisms that will promote sustainable development and the conservation of natural resources of the region. The CCAD is composed of representatives of the highest governmental authorities in the environment and natural resources institutions of each country; Guatemala is represented by CONAMA.

In 1992, the CCAD and its national counterpart institutions in the region, formulated and distributed the Central American Agenda for Environment and Development (ACAD), a document reflecting the contents of "Our Common Future" and "Our Own Agenda" of the World and Latin American Commissions on Environment and Development. Furthermore, the ACAD highlights the themes necessary to initiate and strengthen sustainable development and the conservation of natural resources in the region.

In 1994, the CCAD defined the Central American Strategy and Action Plan for Environment and Development (ECAD). This recommended the establishment of environmental conservation and sustainable development areas (RECODES), where physically necessary and possible, and which adopt an integrated administrative focus of conservation and development. Within this framework, the CCAD prepared the project profile "Strengthening the Central American System of Protected Areas as a Producer of Goods and Services". Guatemala's Government decided to initiate the formulation of a project based on this concept.

In October 1994, the Presidents of the countries of Central America, together with the Prime Minister of Belize, signed the **Alliance for Sustainable Development (ALIDES)**. A principal objective of ALIDES in terms of biodiversity conservation is to protect, study and use the region's biodiversity by, among other things, promoting the development of biological corridors and protected areas, biodiversity centres and biological gardens.

A significant addendum to the Alliance document, entitled *Commitments of the Alliance for Sustainable Development* establishes a period of eighteen months for the national authorities to

design the Mesoamerican Biological Corridor [i.e. regional system of protected areas, buffer zones and biological corridors] and to strengthen the national systems of protected areas, under a framework of decentralization and policy harmonization. The RECOSMO area constitutes a vital link in the development of the Mesoamerican Biological Corridor, uniting protected areas in Honduras with those of Belize and other areas of Guatemala.

The Government of Guatemala, in compliance with Alliance commitments, formed the National Council for Sustainable Development, incorporating its functions into those of the National Council of Development.

On February 21, 1995, Guatemala's Congress approved Law 5-95, thereby ratifying the Convention on Biological Diversity, which the country had signed at the United Nations conference on the Environment and Development (UNCED) or "Earth Summit" held in Río de Janeiro in 1992.

2.2 National Strategy

The Government of Guatemala has emphasized the importance of environment issues in its plans, and suggests strengthening and institutionalizing environmental and developmental administrations to better integrate environmental issues in institutional and sectoral policies. Nevertheless, the country's economic environment has not permitted the investment required to consolidate or augment coverage of the SIGAP. These same conditions have limited the country's ability to expand environmental conservation and development activities, from core zones to multiple use and buffer areas in PAs administered directly by GOs. Lack of funds has also limited support for similar efforts in areas managed by other entities.

Following UNCED, CONAMA defined the country's environment and development policies and governmental strategy in accordance with the national and international contexts of economic growth, the state of the environment, and population growth and distribution.

CONAMA identified four policies focusing on specific strategies and their corresponding activities: i) institutional strengthening; ii) inter-institutional coordination; iii) environmental awareness; and, iv) coordination of national and international assistance. With international inter-institutional coordination, CONAMA is seeking to integrate government environmental initiatives with those of NGOs and the private sector.

CONAP seeks to consolidate the SIGAP by several means:

- a. Integrate and coordinate public and private initiatives for the conservation of wildlife and PAs;
- b. Harmonize environmental and development activities, mainly in rural areas;

- c. Create environmental conservation incentives for the private sector;
- d. Link biodiversity conservation to the conservation of water sources and forests;
- e. Delegate and award administration of PAs to individuals or legal entities, especially NGOs;
- f. Promote the protection and sustainable use of species;
- g. Support the integrated management of protected wildlife areas of the same region;
- h. Support the legal designation of large PAs;
- i. Integrate national and international biodiversity assistance;
- j. Designate special PAs for later integration into SIGAP;
- k. Promote the integration of various administrative institutions of the SIGAP.

The Public Council of Urban and Rural Development Law (Law 52-87 of 1987) established the National, Regional, State and Municipal Development Councils. These bodies promote the participation of the civil population in the identification and formulation of environmental and development activities according to different hierarchic and territorial configurations.

The Government of Guatemala is currently decentralizing its public administration. The Preliminary Regionalization Law promotes local decision making, especially with regards to social investment funds. This law also supports the strengthening of local governments such as municipalities. The latter are autonomous institutions which have been constitutionally assigned 10% of the national budget. CONAMA and CONAP have also decentralized their activities, and established regional offices. Nevertheless a lack of funds endangers the future of this process, and indicates a strong need for external financing.

3. Prior Assistance

Guatemala has received international cooperation for the protection of important ecosystems and protected areas. Although the country has not received specific help for the consolidation of its PA system. Table 4 illustrates information available on cooperation received by NGOs currently undertaking activities in the project area.

The international community has also shown great interest in supporting the country's efforts to conserve and manage natural resources. The Agency for International Development of the United States (USAID) has provided financial and technical assistance for the management and

conservation of the Maya Biosphere Reserve, in the state of Petén. Through the Central American Regional Environmental and Natural Resources Management Project (RENARM), USAID has also promoted the creation of a regional biological corridor named "Paseo Pantera", which includes part of RECOSMO. These and other national experiences in conservation have strengthened GO and NGO decisionmaking capacities.

**TABLE 4: PRIOR COOPERATION AND ACTIONS BEING UNDERTAKEN BY
IMPLEMENTING ORGANIZATIONS**

Institution	Years	Programmes/Project	Source	Amount	
				\$	Q.
FUNDAEFCO	1990/2	Agroforestry and sustainable rural development Management/conservation of Cerro San Gil	MAGA/Italian coop.		700,000
	1992/5	Agroforestry extension in Cerro San Gil	CARE-PACA		175,000
	1991/5	Conservation program areas	FIDEICOMIS		30,000
		Acquisition of wildlife areas	O Maryland Ornithological Soc. Private donors		57,000 663,000
	1993/5	Cayos del Diablo path	PACA/C. Diablo Hotel		32,000
		Monitoring, research and training center in Cerro San Gil	Natl. Fish and Wildlife Fdn.		327,225
	1991	Bird Sanctuary	Private donors		15,000
		Research program	IUCN-ORMA		30,000
	1992/5	Strategy for the sustainable development of the Atlantic Coast		In-kind technical cooperation = 5x2MH/year	
		Tagging of migratory and non-	US Fish and Wildlife Service		

Institution	Years	Program/Project	Source	Amount	
				\$	Q.
FUNDAECO (cont.)		Environmental education program			
	1992/5	Literacy and environmental education in Cerro San Gil and Sierra Caral	CONALFA (National Council for Literacy)	135,000	
	1992/5	Environmental education in Cerro San Gil	CARE-PACA	175,000	
	1993/4	Environmental education in the coastal marine zone		68,400	
	1994/5	Audiovisual resources for environmental education	UNEP-CARIBE	78,000	
	1994/5	Environmental education with a gender focus	Canadian Embassy	226,000	
	1995	Educational videos and ecotourism promotional materials	UNIFEM	101,500	
	1995	Dialogue on environmental policies with local decision-makers			
	1995	Administration and operation programme	INGUAT	30,000	
	FUNDARY/CECON	1990/5	Phase II studies, IZABAL/CONAP PUNTA of MANABIQUE Conservation Information Center (CDC)	CARE-PACA	
	1991 1993/4		CARE-		1,200,000

<i>Institution</i>	<i>Years</i>	<i>Project</i>	<i>Source</i>	<i>Amount</i>	
				\$	Q.
Defensores	1989	Acquisition of wildlife areas	Private sector		130,000
		Conservation of wildlife areas	World Parks Endowment		121,800
	1990	Sustainable development and environmental education	TNC		
		Acquisition of wildlife areas	World Parks Endowment		
	1991	Conservation of wildlife areas	Private sector	15,000	
		Sustainable development and environmental education	TNC/USAID		47,000
		Acquisition of wildlife areas	WWF		
			Friends of the Earth	67,000	
		Conservation of wildlife areas	Wildwings Fdn. Barnens	900	
			Regnskog World Parks Endowment	3,000	
Acquisition of wildlife areas	TNC/USAID	100,000			
	World Parks Endowment	5,000			
Sustainable development and environmental education	Private sector				
	WWF				
Sustainable development and environmental education	Tinker Fdn.				
	CARE	67,000			

<i>Institution</i>	<i>Years</i>	<i>Project</i>	<i>Source</i>	<i>Amount</i>		
				\$	Q.	
Defensores (cont.)	1992	Acquisition of wildlife areas	TNC	117,000	240,000	
		Conservation of wildlife areas	TNC/USAI D	7,600		
		Sustainable development and environmental education	USFWS WWF CARE/USA ID	95,200 20,500 5,000		
		Acquisition of wildlife areas	Smithsonian Inst. Private sector		215,000	
					2,027,100	
					70,000	
					60,000	
					113,300	
				Barnes Regnskog	123,000 50,000	
				TNC/USAI D	138,600 30,000	
				MacArthur Fdn.		200,000
				WWF CARE/AID	172,400 50,000	
	1994	Conservation of wildlife areas	TNC	85,000	220,000	
		Sustainable development and environmental education		34,000		

<i>Institution</i>	<i>Years</i>	<i>Project</i>	<i>Source</i>	<i>Amount</i>	
Defensores (cont.)	1995	Acquisition of wildlife areas	TNC	300,000	Q.
		Conservation of wildlife areas	MacArthur Fdn.	45,000	
			TNC/USAID Private Sector	120,000	
		Sustainable development and environmental education	WWF	120,000	
FIDEICOMISO	8,000				
			CARE/USAID	36,000	
			Pronatura	100,000	
				250,000	

Acronyms: IUCN - International Union for the Conservation of Nature; CI - Conservation International; EDF - Environmental Defense Fund; TNC - The Nature Conservancy; UNEP - UN Environment Programme; UNIFEM - UN Development Fund for Women; USFWS - US Fish and Wildlife Service; WWF - World Wide Fund for Nature.

Source: Prepared by the project, with information from GOs and NGOs

4. Subdivision Institutional Setting

4.1 National Environmental Commission (CONAMA)

In Guatemala, responsibility for the environment is administratively assigned to the President of the Republic. Yet, CONAMA advises and coordinates environmental activities, including the formulation and application of the national policy for environmental protection and improvement. CONAMA is further recognized as a member of "Senior Government Management" by the General Secretariat for Economic Planning (SEGEPLAN).

CONAMA comprises a Technical Advisory Council and a coordinator of executive operations. The Council includes representatives of: SEGEPLAN; the Coordinating Committee of Agricultural, Industrial and Financial Associations (CACIF); the Association of Guatemalan Journalists; the University of San Carlos of Guatemala (USAC); and other universities. The Council further includes the following Ministries: Agriculture, Livestock and Nutrition (MAGA); Education; Public Health; and National Defense.

CONAMA possesses a technical and administrative team formed by delegations from the following units: Administrative; Judicial; Environmental Evaluation; Social Administration; Planning; Projects; International Management and Regional Delegations. In recent years, CONAMA has achieved:

- a. Approval of the Law of Protected Areas and implementation of CONAP;
- b. Institutionalization of environmental impact assessments (EIA) in private and public activities;
- c. Widespread participation and organization of human resources in environmental administration;
- d. Involvement of municipalities in environmental management activities;
- e. Incorporation of the environment in the country's economic and social development processes through intersectoral coordination;
- f. Formulation of national environmental education strategies;
- g. Integration of the Central American Committee for Environment and Development;
- h. International arrangements and negotiation with the Inter-American Development Bank, USAID, UNDP, the International Bank for Reconstruction and Development, and the International Monetary Fund.

Recently, CONAMA promoted the decentralization of its administration, and has established six regional offices to date. CONAMA's central office negotiates with ministerial offices, autonomous institutions, international institutions, and metropolitan environmental committees. Regional offices work with local ministerial offices, autonomous institutions, municipalities, local committees, development councils, and, in the case of specific projects, international institutions.

4.2 The National Council of Protected Areas (CONAP)

CONAP, the highest management and coordination organ of SIGAP, is chaired by the Coordinator of CONAMA, and is comprised of representatives from 14 GOs and NGOs. Decisions are made by the absolute majority of its members. CONAP's GO members are: CONAMA, CECON, INGUAT, Institute of Anthropology and History (IDAEH), National Institute of Agrarian Transformation (INTA), Office of Control of National Reserves (OCREN), National Association of Municipalities (ANAM), DIGEBOS, the Technical Education Council and the National Council of Urban and Rural Development. NGO members include: the Association "Amigos del Bosque", Defensores, and CACIF. Participation of an additional conservation NGO will be possible.

The Law of Protected Areas assigned CONAP and other institutions, the following responsibilities, which are directly or indirectly related to this project:

- a. Work out the country's environmental conservation policies and strategies;
- b. Work out the by-laws and approve SIGAP regulations;
- c. Approve legal decisions based on treaties and agreements with international organizations or businesses;
- d. Approve contractual endorsements established with individuals and legal representatives;
- e. Approve master and operational plans for SIGAP's PAs;
- f. Approve signing of concessions for the use and management of the SIGAP PAs;
- g. Maintain coordination and communication between SIGAP entities, especially CONAMA;
- h. Serve as the presidential and state advisory agency for the country's PAs and natural resources.

CONAP is legally represented by an Executive Secretary, and is Selected by CONAMA's coordinator to assume CONAP's executive and administrative functions. The Executive Secretary also administers the Convention on International Trade in Endangered Species (CITES).

Besides the responsibilities assigned by the Law of Protected Areas designated by the Council, the Executive Secretary has to, as administrator and executor, undertake the following functions:

- a. Evaluate the different branch offices and units of SIGAI to achieve the most efficient use of resources;
- b. Award wildlife licenses and permits;
- c. Evaluate and supervise CONAP's programs, plans, projects and activities;

4.3 Other Institutions

4.3.1 Governmental

Besides CONAMA and CONAP, several other branches of the Guatemalan government exercise functions related to environmental management and conservation:

- a. DIGEBOS: technical institution created for the protection of natural, renewable and non-renewable resources, including the national parks.
- b. INTA: dedicated to the legalization of rural landholdings on national lands and, through the National Fund of Land, the purchase of private landholdings to award them to groups of farmers.
- c. INGUAT: dedicated to the promotion of tourism. INGUAT has formulated strategies for low-impact ecotourism in protected areas such as Río Dulce, Amatique Bay and Lake Izabal.
- d. Ministry of Public Health and Social Assistance: executes the National Plans for Environment and Health and oversees disposal of trash and contaminants, water quality and drainage systems.
- e. Guatemala's municipalities: each has environmental responsibilities assigned by Municipal Code (Law 58-88), including the establishment of the Municipal Environmental Commissions and the appointment of a trustee or councillor responsible for environmental issues.
- f. Urban and Rural Development Councils: formed at the national, regional, state and municipal levels, these Councils have environmental responsibilities and are authorized to undertake activities accordingly.

- g. Human Rights Ombudsman: integrating an office for the environment, the ombudsman is charged with investigating reports related with the violation of fundamental human rights as a result of the misuse of natural resources.
- h. Special Tribunals for Drug Trafficking and Crimes against the Environment: created by the Legal Penal Code, the tribunals investigate and pass judgement on environmental crimes, following current legislation.
- I. Congress created the Commission for Environment and Natural Resources that has jurisdiction over institutional policies and related proposed legislation.
- j. National Institute of Electrification (INDE): includes a department responsible for the conservation and integrated management of watersheds which generate water for the production of electricity.
- k. Legislative Law 01-93: requires the deposition of an environmental impact statement with the Ministry of Economy before undertaking any economic activity.

Additionally, the Ministry of Education has incorporated environmental issues in the primary education curriculum guides. This applied strategy of environmental education also promotes bilingual education, as programmes are formulated in the native languages of each region. Higher education institutions are also developing environmental programmes, such as USAC's degree in Planning and Environmental Management, Rafael Landivar University's degree in Administration of Natural Resources, and the degree in Environmental Chemistry and Environmental Sciences organized by the Universidad del Valle de Guatemala.

CECON, an academic unit of USAC, is responsible for the Mario Dary Rivera University Biotope for the Protection of the Quetzal and the biotopes of Monterrico, Cerro Cahuí, el Tzots, Laguna del Tigre, San Miguel the Palotada and Chocón-Machacas. Additionally, USAC offers the services of USAC's CDC, which specializes in ecological evaluations, support to conservation programs and development and management of data and information.

Aside from the institutions mentioned, other related coordination efforts within the public sector include Guatemala's Forestry Action Plan and the Environmental Action Plan.

4.3.2 Non-Governmental Organizations (NGOs)

Several Guatemalan NGOs have oriented their activities toward the development and conservation of renewable natural resources, and the promotion of sustainable development with resource users. Defensores, FUNDAECO and FUNDARY are the most active in this sector, and in relation to this project.

Defensores is a private, non-profit foundation, founded in 1983 and legally incorporated in 1987. Its mission is to protect and conserve the diversity and biological riches of Guatemala, working in four project areas: wildlife, sustainable development, environmental education and legislation, and environmental policy. Defensores has administered the SIBR since 1990, following legislation of Law 49-90. Currently, Defensores is the largest conservation and sustainable development NGO in the country. Defensores received the Clifford F. Messinger award in 1991 from The Nature Conservancy for its extraordinary accomplishments and achievements in conservation. In 1993, the Government of Guatemala awarded them the Presidential Environmental Medal.

FUNDAECO is a non-profit, private organization, legally recognized by the Law 590-90. Dedicated to the conservation of the environment, it seeks to promote the creation of parks and PAs areas by means of studies, training, direct purchase of lands, and the promotion of related laws. FUNDAECO promotes ecological awareness by means of environmental education, promotion of biological investigation and support to rural communities with agricultural technical assistance and services to the community. FUNDAECO is currently undertaking environmental education and community development initiatives in the communities of Izabal, and has presented a formal request to administer Cerro San Gil and other protected areas.

FUNDARY is a civil organization whose activities aim to: i) contribute to the development and conservation of the environment and the sustainable use of natural resources; ii) promote scientific research to improve the environment and quality of life of local communities; iii) support the improvement of educational institutions and foster acquisition of appropriate technology and equipment to raise academic and scientific standards; iv) to channel funds designed to implement the proposed actions; and, v) provide technical assistance to environmental and conservation projects.

B. PROJECT JUSTIFICATION

1. The Problem to be Addressed: the Present Situation

Fragmentation of ecosystems in Central America and Guatemala has led to a loss of habitats and the creation of biological islands, some of which coincide with PA boundaries. Illegal extraction and exploitation of natural resources and the concomitant loss of genetic diversity have further affected populations of flora and fauna.

Physical loss of habitat negatively affects rare species, and increases the probability of extinction in species with small populations. Geographic isolation may reduce or totally eliminate the movement of species between habitats and ecosystems and eliminate resources which species or ecosystems require to maintain their viability.

Guatemala suffers from an increase in environmental problems. In 1992, 43,760 km² or 40% of the country was forested. Currently, deforestation is taking place at an annual rate of 2%, representing a loss of 900 km² of forest cover this year alone.

RECOSMO is threatened locally by the same pressures which impact biological diversity at the national level. Colonization erodes its borders by contributing to selective extraction and over-exploitation of species, pollution, soil erosion, and declining water quality. The actual use of natural resources (timber extraction, fishing, sport and subsistence hunting, cattle raising, migratory and marginal agriculture) is currently unsustainable. Each of these uses show decreasing returns, and result from the expansion of the agricultural frontier. Current changes in land use suggest that forest cover will continue to decrease, whereas lands earmarked for farming activities will continue to increase.

RECOSMO is part of an area traditionally used by the Kek'chí, who have expanded toward the east of the RECOSMO, and practice unsustainable, migratory, short cycle agriculture. Unfortunately, the existing pattern of land ownership forces communities to use marginal and more fragile lands such as steep hillsides.

During the fifties and sixties, migration into the RECOSMO area was motivated by the development of ports, the creation of a highway to the Atlantic, directed colonization, banana production, and mineral exploration. Current production activities are in full development and are integrated with non-traditional activities, such as forestry plantations and tropical/temperate horticulture.

Road construction and the concurrent boom of productive activities which it generates have led to a significant increase in immigration to the RECOSMO area. These transport routes include the corridor highway; the railroad from Guatemala City-Puerto Barrios which forms the focus of industry and services (ports, transport, banks, commerce, markets, sawmills); the stretch of road

Ruidosa-Modesto Méndez (that gives access to the state of Petén); el Rancho-Tactic (to the west of the region); and the roads of Tactic-Panzós and Modesto Méndez-Chahal which have greatly improved access to the area.

The EXMIBAL company owns exploration and exploitation concessions of nickel in areas over 400 km² (resources were extracted between 1977-1980, and the company is currently not operating). Other companies have conducted oil explorations in Amatique Bay and in the Lake Izabal area.

In the Atlantic coastal region of Río Dulce and Lake Izabal, a strong expansion in tourism has increased land and natural resource values, consequently requiring an increase in the provision of services.

Puerto Barrios and Santo Tomás de Castilla (the principal port of the country), and other population centers such as Zacapa, Salamá and Guastatoya which surround the RECOSMO, generate increasing pressures on natural resources in the area.

Numerous pressures and threats to the ecosystems and PAs in RECOSMO exist which require political action and management with local community participation. PAs are the best means by which to conserve and study biodiversity, but their management and administration becomes less efficient over time. Little progress has been made in publicizing the importance of protected areas in the long-term provision of benefits and services such as the: retention, production and protection of water resources; production of germplasm and conservation of genetic diversity; production of primary materials for pharmaceutical products; and eco-tourism. *Little political and popular support has been forthcoming, due to an emphasis on treating each PA as a separate entity, and to the excessive emphasis placed on the protection and strict conservation of the core zone.*

State administration has contributed little to the improvement of the management of the PAs due to its centralized position and lack of ties to local governments, communities or civil society organizations (CSOs).

The stress on "protection" has cut resources for studies of biodiversity uses, which ultimately translates to a loss of national development opportunities. Studies on the potential uses of biodiversity have often been promoted by organizations from developed countries without the participation or knowledge of national authorities or the country's scientific community. This results in a lack of local and national compensation for bioprospecting and intellectual property rights, with profits captured solely by outside investors.

The focus on core zones, with few and valuable exceptions, has led to neglect of buffer zones and areas surrounding each protected area. These areas are mostly privately owned, and subject to non-sustainable agricultural practices. However, individual PAs are potentially insufficient to

conserve and maintain viable biodiversity levels, existing as islands in an "ocean" of uses, without "biological corridors" to connect them.

The Global Biodiversity Strategy, the Fourth World Congress of National Parks (Caracas, 1992), the Central American Biodiversity Treaty, and CCAD's Environment and Development Strategy and Action Plan, amongst others, recommend and promote the creation and management of national PA systems. They suggest that these systems and, consequently, new conservation and development projects, should be oriented toward the conservation of biological diversity in sub-national regions. They should integrate various PAs of different management categories, along with the buffer zones, multiple use and inter-area spaces (including biological corridors that interconnect the protected areas). Sustainable development and multiple use activities should be combined with natural resource management in buffer zones and biological corridors.

The extent and quality of a system's management are defined by the categories of management determined for each area. Administrative responsibility should be taken by the state and NGOs/CSOs, with ample participation of indigenous and recently established communities.

2. **Situation Foreseen upon Project Completion**
(first phase of RECOSMO)

Upon completion of the present project, the following results will have been achieved:

- a. Master plans for the four designated areas updated and approved, and implementation of associated management plans;
- b. PA master plans prepared, planned and legally declared, without the assignment of management classifications;
- c. Six biological corridors defined, demarcated, approved and legally declared;
- d. Ecological-economic zoning of the RECOSMO area implemented;
- e. Environmental monitoring system established and operational;
- f. Land ownership studies completed, and land titles granted in critical biodiversity conservation areas;
- g. Socio-economic study of RECOSMO's population implemented, emphasizing the role of women and indigenous communities in the implementation of sustainable development;
- h. Several initiatives on the sustainable use of natural and cultural resources established and evaluated;
- I. Study and implementation of a tourism investment programme, which includes scientific, cultural and adventure aspects, and ensures the participation of local communities and local, national and international businessmen. The World Bank will support a pre-feasibility study of the tourism sector;
- j. Established revolving fund to finance pilot projects including: three small businesses, two agricultural or forestry projects, two wildlife management projects, and five small industrial or artisanal projects for the commercialization of non timber forest products;
- k. Protected areas integrated and consolidated, including border and multiple use areas, and inter-area spaces per implementation of the master plan;
- l. RECOSMO's Advisory Council, (CONRECOSMO¹) established and operational;
- m. Social organization and administrative capacity of local communities strengthened through the organization of 10 seminars, 140 workshops and 443 days of fieldwork and fora on environmental policies and sustainable development. This initiative will also aim to

convince large and small private businesses and producers, of the advantages on producing while conserving, and conserving while producing;

- n. Reinforced administrative and technical capacity of CONAP in Region III;
- o. Training of Environment and Natural Resource Commissions in at least 10 of the municipalities with the strongest ties to RECOSMO;
- p. Monitoring and evaluation of project participation for all sectors and stakeholders based on a range of indicators designed during the first year of the project;
- q. Environmental curriculum guides developed for the region and local areas, stressing sustainability, and written in the native languages of each sector of RECOSMO;
- r. Implementation of 22 training workshops for young men and women native to the region. to promote their participation in the area's biodiversity studies and sustainable development businesses or projects;
- s. Established national fund with seed capital to facilitate support from other donors and guarantee continuation of project activities. With contributions from GOs and NGOs the original budget amount should be met and exceeded during the project's second phase.

If the project is not implemented, degradation of biodiversity and natural systems present in the RECOSMO area will continue, with grave consequences for national and global biodiversity. Continued degradation is expected to lead to increased poverty in local communities, and negative impacts to national and regional economies through:

- a. Disappearance of forest cover and the extinction of species of flora and fauna (terrestrial and aquatic) currently threatened by the disappearance of the habitats which sustain them;
- b. Reduction of watershed areas, disturbances in the hydrological cycle and water supply critical to the regions' human populations and surrounding environment, and to agriculture in the Motagua Valley;
- c. Increased extractive activities with consequential negative environmental impacts and a reduction of development options;
- d. Increased conflicts for the use of resources and ownership of the land.

3. Beneficiaries

3.1 Direct Beneficiaries

Rural populations located in RECOSMO will benefit most directly from the project through their involvement in project activities, the increased respect for their ancestral lands, and defined ownership rights. Benefits also include capacity building and establishment of practices for the sustainable use of biodiversity and cultural resources. The project aims to establish a revolving fund to finance pilot demonstration activities, promote small and medium size rural businesses adopting sustainable production practices, undertake the required training for the implementation of new production methods, as well as for the management of ecotourism aimed at self-sustaining conservation and the promotion of local benefit sharing.

3.2 Indirect Beneficiaries

- a. Urban inhabitants of RECOSMO, as users of natural resources of the PAs, buffer zones and inter-area spaces;
- b. Agricultural and industrial producers using subterranean and surface water from the RECOSMO area;
- c. Users of hydroelectricity from the Chixoy complex and the Río Hondo, captured by the watersheds in RECOSMO;
- d. GOs who will benefit from institutional strengthening. Technical and administrative personnel of CONAP, DIGEBOS, CECON, INGUAT, INTA and other related institutions will receive training and benefit from technical assistance offered by the project. Municipal governments and the Councils of Urban and Rural Development and the process of administrative decentralization will also be strengthened;
- e. Local and national environment and development NGOs associated with the project will receive support to improve their management capacity, and promote their participation in the political dialogue;
- f. The project will add to worldwide knowledge on planning, management and consolidation of national systems of protected areas and buffer areas in relatively large geographic areas. RECOSMO will serve as a practical example of sustainable development in protected areas;
- g. Eco-tourists who will visit the RECOSMO area for its scenic, cultural and natural riches, and will provide additional income for local and national economies;

- h. National and international scientific communities studying biodiversity and related subjects;
- i. Biodiversity conservation at the regional level should benefit from the integration of RECOSMO with conservation projects in México, Belize, Honduras as part of the Mesoamerican Biological Corridor;
- j. At the global level, the project will benefit the global community by contributing to the conservation of genetic, species and habitat biodiversity.

4. Project Strategy

4.1 Biodiversity-sustainable development and communities

As in many tropical regions, Guatemala's local and regional social, economic and institutional structures affect biodiversity and natural resources. Poverty, the advancing agricultural frontier, the lack of respect for and ignorance of the environment, the popularity of short-term development models, the relative scarcity of base communities and unified communities and the institutional weakness of the government due to its centralization, are some of the factors that directly affect biodiversity.

The future of RECOSMO's biodiversity and its conservation is tied to the capacities of communities and individuals to make rational and sustainable use of natural resources. This will guarantee resource survival in the quality and quantity needed for future generations.

4.2 Operational Strategy

The project has been divided in three components: 1) biodiversity conservation, 2) sustainable development and, 3) conservation and development management.

4.2.1 Biodiversity Conservation

The program has been designed to extend and consolidate a system of protected areas and limit the advance of the agricultural frontier. Each of the nine PAs has a different category of management and protection.

- a. Decentralization and coordination of activities

CONAP will form CONRECOSMO to manage activities in the RECOSMO area. The council will include project management, the National Coordinator (CONAP's Executive

Secretary), with support from a Principal Technical Advisor and National Director, located in CONAP's northeast region HQ.

b. Protected Areas

Master plans will be designed for the five PAs which do not currently have them. Master and operational plans for the four remaining areas will be updated and implemented. Legal declaration of the PAs will be negotiated with their respective management classifications. Implementation of activities in five of the PAs will be assigned to organizations or agencies interested and capable of managing the areas.

c. Biological Corridors

Six biological corridors that connect the nine AP will be established using government or uncultivated lands. CONAP will take overall responsibility for the land, whereas NGOs and municipalities in whose jurisdiction the land is located will oversee related management and conservation issues.

d. Biodiversity: survey and monitoring

A rapid ecological evaluation will be performed to determine conservation priorities based on information gathered on the abundance, distribution and richness of the area's biodiversity. An environmental monitoring system will also be established with an emphasis on biodiversity. A complementary ecological-economical survey of RECOSMO will be undertaken with the participation of the local communities.

4.2.2 Sustainable development

The project stresses initiatives which seek to substitute non-sustainable practices for economically sustainable alternatives by involving at least 30% of the population using the natural resources of RECOSMO in economically productive and sustainable activities.

a. Curtailing the advance of the agricultural frontier

A study will be undertaken on the status of land ownership and titling in critical areas. Results will support the updating of land ownership in these same areas. Demonstration plots for sustainable practices (soil conservation, low-impact cultivations, agroforestry) will be established. The project will promote the prevention and control of forest fires and ecological restoration in the priority areas.

b. Use of forest resources restricted to areas of forest products use.

Productive forest areas will be demarcated, and policies on forest use and concessions will be established with the help of DIGEBOS. Communities and small to medium sized producers will receive technical assistance from NGO and GO implementing agencies to elaborate and execute management plans, and develop low impact practices and uses of forest resources.

c. Communities and productive activities: identification and characterization

A socio-economic survey characterizing productive activities will be undertaken to define the profile of different communities found within RECOSMO. This will help to better integrate women and plan sustainable development activities.

d. Sustainable development activities

Agro-ecological units will be classified based on their potential use. An integrated information and environmental monitoring system will be established, as well as an "expert system" supporting analysis and decision-making regarding lucrative crops for these agroecological units. A national and international marketing study will help identify potentially lucrative commercial RECOSMO products. Five studies will be undertaken to identify five sustainable, non-traditional production options.

A revolving fund to support small business and productive activities will be established to fund: three small-medium size industries; two projects of productive agriculture or forestry; two pilot projects on wildlife harvesting; the development of a pilot information center; an eco-tourism program comprising five routes, with the participation of the communities.

d. Environmental management of projects and environmental impact evaluations

Through the extension programme, CONAMA will promote environmental management of development projects and EIAs as a prerequisite to undertaking production activities. CONRECOSMO will support the initiative, and results will be integrated into the environmental monitoring system.

4.2.3 Administration of conservation and sustainable development

Local organizational weakness and lack of participation in decision making has led to unsustainable uses of resources, uncoordinated activities and loss of biodiversity. The project integrates initiatives to establish the technical and administrative infrastructure necessary to coordinate and support conservation and sustainable development activities in RECOSMO during and beyond the life of the project.

a. Administration of the territory

The project will initiate discussions of environmental policies and sustainable development involving communities, municipal governments, and Departmental Development Councils. It will promote the participation of these same organizations in the generation and analysis of information for ecological-economic zoning, the resolution of conflicts, and decision-making regarding local resource-use.

b. Study of support to conservation and sustainable development activities

A research program on conservation biology, sustainable development, and cultural heritage will be designed and implemented in a participatory manner. Research centers, interested scientists (national or international) will be involved in the process. A biodiversity catalogue on species utilized or potentially useful by local communities will be compiled and will include components on ethnobotany, identification of fauna appropriate for raising commercially, and species with nutritional or medicinal value.

c. Training for conservation and development

A training program will be designed for the management, conservation and utilization of biodiversity resources and oriented to leaders, technicians, municipalities, communities, individual producers, resource users, and community youth. It will be implemented through a series of seminars, workshops, field work, and formal training. Technical assistance will be awarded to municipalities by selected NGOs. Implementing NGOs and GOs will lend assistance in the elaboration of master plans and management plans for biological corridors and other areas of local interest. These organizations will also support the execution of these management activities.

d. Dissemination of project progress, status, and results

A program to disseminate project results will be designed and implemented, and oriented to local communities, municipal, state and national governments, the technical community, national and international scientists. Activities will include the preparation and production of scientific and technical publications, preparation of a study on the continuance of RECOSMO activities upon termination of the project, presentation of study results to potential donors and follow-up to ensure its concretion.

e. Primary education for conservation

Existing educational materials used in pre-primary and primary grades 1-3 will be evaluated, updated and reproduced for use in schools located in the RECOSMO area. The project will foster the incorporation of environmental issues in educational materials produced by CONALFA.

f. "Green" seals

A certification program will be organized at the regional level for products produced under environmental norms in RECOSMO. This will add value to regional production.

g. Trust fund

Supported by the project and administered by an elected trustee, a trust fund will be established with seed capital to promote biodiversity conservation in RECOSMO.

4.2.4 Stages of execution

The RECOSMO concept is innovative as it promotes a national effort to conserve PAs and inter-areas over a large geographic area. A minimum of five years and an estimated US\$ 7.8 million is necessary to consolidate this conservation effort.

The GEF is awarding initial financing in the form of a US\$ 4 million grant to implement RECOSMO's first phase. Nevertheless, execution of the second phase needs to be considered at this stage, as it forms an integral part of the RECOSMO concept, and is indispensable for the achievement of planned results and objectives.

Base-line studies will be undertaken during the first phase of the project to provide a basis for assessing the projects' sustainability. Meanwhile, decentralization of coordination and execution of management activities in the protected areas will be undertaken with the help of CONAP's Northeast Regional Office (Region III) and CONRECOSMO.

In the second phase, consolidation of phase I activities will be undertaken through the geographic expansion and replication of sustainable production practices as well as the results of demonstration activities dealing with the commercialization of non-timber forest products. Studies on potential uses of biodiversity will continue, as well as environmental monitoring. Market studies will be undertaken for a wider range of non-traditional products harvested under a regime of natural resources management. Full operation of the revolving fund in at least 10 communities is expected, with significant returns to the trust fund created in the first phase.

For all of this to occur, GO, NGO and international cooperation and support is crucial for the completion of the second phase. A strategy has been designed between UNDP and the Government of Guatemala to involve potential donors at the start of the project as noted in Objective 3 and Result 3.4 mentioned below. It is important to note that the project's design and related discussions alone have elicited the attention of donor countries such as Switzerland, Holland and the United States.

5. Implementing and Institutional Arrangements

5.1 Planned Implementation

The present project document is composed of the following parts:

1. Project Document (Principal Document)
2. Appendix I Financial and Accounting Arrangements
3. Appendix II Project document model to be used in countries that have not signed the Basic Model Agreement for UNDP Assistance
4. Appendix III Organizational chart for CONAP and the project
5. Appendix IV Preliminary time line of activities
6. Appendix V Participation of NGOs: statement of interest
7. Appendix VI Capital equipment
8. Appendix VII Terms of reference
9. Appendix VIII Detailed budget

In case of conflict between agreements in the project document and other documents, project document agreements will prevail.

The project will be implemented under the "National Execution" or NEX modality. CONAP will be the implementing agency responsible for results. CONAP will establish the project board (PB) and its Executive Secretary, will assume the role of national project coordinator, responsible for presenting administrative actions, payments and progress reports to UNDP. The PB will also include the national director and principal technical advisor, both of whom will be contracted with project resources, and UNDP Guatemala's environmental officer.

The PB will:

- a. Review substantive aspects of the project, and supervise activities to ensure compliance with project goals, results and activities, in accordance with the approved programme of implementation;
- b. Coordinate and supervise activities undertaken by the project's implementing agencies, sub-contractors, and experts;
- c. Prepare the implementation strategy for each project component, in conjunction with experts, implementing agencies representatives, communities and municipal governments;
- d. Coordinate and supervise project planning and studies;
- e. Organize and monitor training activities for technical and professional project personnel and implementing agents. Aspects covered include the administration of the protected

areas, sustainable development, conservation of biodiversity, conservation ecology, sustainable use practices, planning, project monitoring and evaluation, and other topics deemed necessary for project development;

- f. Complete annual work plans and budget revisions;
- g. Complete technical and semestral financial reports and a final report;
- h. Establish a system of project monitoring and evaluation;
- I. Coordinate project extension activities;
- j. Coordinate and support the proposal for the continuation of RECOSMO activities following the end of the project;
- k. Apply UNDP norms to NEX projects.

The PB will ordinarily meet monthly to discuss project progress and resolve problems which arise. The national coordinator will preside over the meetings, and the national director will be responsible for the minutes.

If needed, the PB will convene an extraordinary session, with advance notice of not less than 24 hours. Two board members will constitute a quorum. For extraordinary sessions, the National Coordinator may delegate his/her participation to the Regional Delegate of CONAP, if the legal dispositions of the country and UNDP norms so permit.

5.2 Applicable Norms

To execute the project, the Government of Guatemala and the National Implementing Organization will adhere to applicable norms, regulations and procedures required by UNDP or NEX projects.

All agreements, contracts and treaties will be signed by the national implementing organization and its parts, providing UNDP does not object. UNDP may also sign contracts at the request of the implementing organization.

Agreements and contracts will be signed with GOs tied to project activities, such as INGUAT, DIGEBOS and CECON, and with GOs linked to state-owned land, eg, INTA Y OCREN.

Contracts will also be signed with NGOs selected as implementing agents, and with other organizations which may join the project in the future, on the basis of project TORs.

Terms and conditions of agreements or contracts will be determined by the national implementing organization, providing UNDP does not object. These will specify the nature of participation, institutional contribution, results hoped for, and commitments of the parties.

Audits, accounting statements and financial requirements are outlined in Appendix I "Financial and Accounting Arrangements".

5.3 Implementing Agents

Contracts for implementation will be signed with the GOs and NGOs, per area or corridor, conforming to the norms described above and on the basis of action plans, reports, monitoring, supervision, audits and detailed payments.

5.3.1 Areas with GO and NGO presence and resources

For these areas, the parties agree to act as "*focal point*" project implementation agencies, based on the following considerations:

- a. Sierra de las Minas. Defensores is legally responsible for the administration of this PA;
- b. Cerro San Gil. The NGO FUNDAECO is currently managing activities in the area. FUNDAECO bought 15% of the area's land with its own funds and is seeking PA designation;
- c. Mario Dary Rivera University Biotope for the Protection of the Quetzal. CECON will implement activities in the biotope based on the previous delegation of management authority by local municipalities;
- d. Chocón-Machacas Biotope. CECON will manage this area for the same reasons as above;
- e. Río Dulce. DIGEBOS is legally responsible for this protected area;

5.3.2 Protected areas without significant institutional presence

Management of these PAs will be awarded by competitive bid based on the best proposal, and overseen by a mixed CONAP/UNDP committee. The short-list will reflect preferences for organizations with a local presence and participation of indigenous groups.

Bids will be accepted for the management of the following areas:

- a. Bocas del Polochic

- b. Sierra de Santa Cruz
- c. Río Sarstún
- d. Punta de Manabique

The PB will coordinate and implement activities during the project's life. At the end of the project, full responsibility will pass to CONRECOSMO, and NGOs will continue to implement activities and represent local development councils.

The proposed trust fund will be administered by a trustee whose TORs will be defined in the first year of the project.

5.4 Project Personnel

The PB will designate the technical team to supervise and evaluate activities (see TORs in Annex 7). Personnel selection will be overseen by a committee composed of the national coordinator, representing CONAP, and two representatives of UNDP Guatemala. It is understood that CONAP accepts the responsibility of hiring national professional personnel necessary for project execution, in conformity with UNDP policies and procedures. Professionals will be hired in addition to the normal personnel resources that CONAP and UNDP will provide. Remuneration of professionals contracted with project resources will be fixed on a per case basis, in conformity with UNDP policies and procedures. Rates should not exceed the prevailing remuneration for comparable national or UN posts.

6. Reasons for Assistance from UNDP/GEF

The Government of Guatemala has proposed to strengthen and consolidate the SIGAP by tying the protection and management of its divisions to the execution of activities promoting sustainable development. These links are expected to improve the quality of life of communities tied to the protected areas.

Current legislation backs protected areas and national environmental policy directives proposed by the Executive Branch through the CONAMA and CONAP. However, the current national economic climate does not allow for adequate financing of conservation efforts at the level required for long-term protection of globally important biodiversity.

Without external economic support, the Government of Guatemala does not possess the budgetary capacity necessary to protect, manage and develop the RECOSMO area sustainably. Agenda 21's chapter 38 entitled "International Institutional Arrangements", defines UNDP as the organization

responsible for improving national capacities to mobilize resources and strengthen implementation mechanisms of signed agreements.

GEF financing will provide a substantial part of the support required to initiate, execute and strengthen efforts directed at the protection and development of protected areas located in the region. These funds will also enable the planning and extension of alternatives for the sustainable development of RECOSMO's buffer zones and inter-area spaces and provide a basis for other cofinancing initiatives.

6.1 Incremental Cost Analysis

The Convention on Biological Diversity (CBD) expresses national commitments to help preserve the world's biodiversity. This commitment requires an effort that is additional (or "incremental") to that which would normally be exerted in the absence of the Convention. Incremental cost refers to the difference in cost between what a developing country would incur to generate 'global biodiversity benefits' as required under the CBD and what the country would otherwise incur under national/domestic considerations. More precisely, incremental costs are a function of a shift in management from the baseline (one which meets national development goals) to an alternative strategy, which in addition to meeting the national goals also brings about defined, global biodiversity conservation in the most cost-effective manner.

The RECOSMO proposal presented here employs a two-pronged approach to maximize biodiversity conservation: first, that of improved and enhanced management of the PAs within RECOSMO and second, the creation and management of biological corridors (and inter-areas) between these PAs. This integrated management of the RECOSMO project merits an investigation into the incremental costs incurred by Guatemala in meeting this global objective.

6.2 Key Elements of the Incremental Cost Concept

The information contained in this section complements the foregoing project proposal² and takes account of comments made by review groups at various stages of the design of RECOSMO³. Although the reporting format for IC is well-defined, rules on calculations are still case-specific. Broad guidance on calculation problems and case-specific allowances may be found in recent GEF documentation⁴. The key elements of the incremental cost methodology (broad development goals,

² GEF/01/011/Annex

³ EAO and ERO Internal reviews.

⁴ GEF/01/011/Annex

baseline, alternative, increments et. .), as proposed by the GEF (GEF 1995), are addressed for RECOSMO region in Guatemala.

6.2.1 Broad Development Goals

The Government of Guatemala has proposed to strengthen and consolidate the SIGAP by combining the protection and management of its units and integrating the principles of sustainable development, in an effort to improve the quality of life of communities tied to these PAs. This is widely backed by current legislation of PAs and the national environmental policy directives proceeding from the Executive Branch by means of CONAMA and CONAP (Section A, 1.2). Guatemala's conservation and environment situation has improved considerably since 1989, when the legal and institutional instruments for PA constitution and management came into effect. The PAs now have a legal status, and a list of some 40 additional areas have been identified for potential legal status. In recent years, administration and implementation of conservation areas in Guatemala have improved tremendously. Since 1989, a further 12 areas have received PA status, bringing the total number to over 30. More importantly, the total area under protection has increased by 80%, indicating that recently established PAs are larger than those re-endorsed from the earlier period.

In addition to these national initiatives, a regional commitment by the Presidents of Central America, has also been agreed to.

As mentioned in Section 2.1, above, the Presidents of the countries of Central America, together with the Prime Minister of Belize, signed the **Alliance for Sustainable Development (ALIDES)** in October 1994. A principal conservation objective of ALIDES is to protect, study and use the region's biodiversity by, among other things, promoting the development of biological corridors and protected areas, biodiversity centres and biological gardens.

A significant addendum to the Alliance document, entitled *Commitments of the Alliance for Sustainable Development* establishes a period of eighteen months for the national authorities to design the Mesoamerican Biological Corridor [i.e. regional system of protected areas, buffer zones and biological corridors] and to strengthen the national systems of protected areas, under a framework of decentralization and policy harmonization. The RECOSMO area constitutes a vital link in the development of the Mesoamerican Biological Corridor, uniting protected areas in Honduras with those of Belize and other areas of Guatemala.

These improvements, however, must be interpreted with the caveat that unless those areas still under the 'proposed' status are gazetted at the national level, and are accorded adequate

4 See for example GEF/C.1/Inf Financing for GEF Projects, and GEF/C.1/Inf.9, Incremental Costs, from GEF Council Meeting Report for C.1, April 1992, and GEF/C.1/Inf.10, Incremental Costs of Managing Wetland Biodiversity, GEF Secretariat.

conservation management, the various threats to biodiversity and natural resources operating within the country would continue to denude the 'natural state' of these areas and undermine the potential for achieving sustainable development and utilization over the long-term.

However, despite these firm commitments and recent initiatives, the current national economic environment in Guatemala does not allow for adequate financing for the continued conservation efforts needed at the national level. The current position of the Government is that PAs status will be accorded to those on the 'proposed list' only if the agency submitting the proposal is able to satisfy some key requirements, among which is the existence of a (provisional) management plan, and evidence of sound financial and human resources to manage the area. In essence, the Government of Guatemala although committed to the course of conservation recognizes that without external economic support, it does not possess the budgetary capacity necessary to assign further financial resources required to undertake the necessary activities for the integrated management cum sustainable development of PAs. The Government is, however, supportive and would provide assistance in kind. Under the current proposal Government inputs (in kind) amount to Q4.4 million and 293,473 ha (see summary sheet).

6.2.2 Baseline

The appropriate baseline for the RECOSMO project is considered to be the current situation in which an acceptable protected status exists for four of the nine areas included in the project and is pending in for the remaining five areas. The groups currently (or potentially) involved in conserving these areas are mainly preoccupied by the degree of fragmentation and vulnerability to the damaging effects of creeping degradation caused by shifting agriculture and immigration. Within several of these areas, measures to address the agricultural threat are being undertaken on a limited basis as part of the pre-existing baseline. Inventory work may exist for other areas where no threat attenuation is being undertaken. A description of some of these activities is provided below. In essence, the establishment of RECOSMO requires the formation of a greater protected area linking all nine areas, plus the expansion of management and threat attenuation measures to areas not covered in the baseline.

Since existing activities are already serving limited global objectives, the proposed activities are designed to augment rather than replace or modify the same. As such, the situation can essentially be considered as zero baseline for all areas to which these new efforts are to be extended. There are no cost savings on activities replaced and a full costing of the baseline is therefore unnecessary to demonstrate IC.

In considering the status of RECOSMO, a baseline scenario must be a technically feasible and *financible development path*, which is also economically, environmentally and socially acceptable, as is the case in RECOSMO. In contrast, the project alternative using the GEF contribution should be considered as a complete conservation unit consisting of a sustainable park network of guaranteed status linked by a series of corridors. Within this greater area, the extension of related

project activity will address the root causes of biodiversity loss. The proposed corridors cannot be guaranteed to serve their purpose in the long run without the necessary parks being in place. Conversely the problem of fragmentation requires the complete system of corridors to be established. The nine areas in RECOSMO vary in their protected status. While there have been a number of regional initiatives and a good deal of national willingness to advance the gazetting process, it is unreasonable to predicate the baseline on what the country says it intends to do when and if funds are available. The alternative baseline predicated on the ideal of nine fully protected areas is over-ambitious and ruled out by a basic reality check, namely the availability of financial resources. The financially affordable and currently socially acceptable development path⁵ is constituted by the extent of current activities in the limited network. These activities are split between protection, which includes work based on stabilizing the agricultural frontier, and scientific research including species inventory.

It is tempting (although unreasonable) to imply that the current failure to meet an optimistic state of a fully designated set of areas, implies some national development status behind a notional sustainable baseline. Typically the reasoning leading to this assertion is that there is a national economic gain to be achieved from moving onto this notional sustainable baseline. In other words, the implication is that a sub-baseline status is economically sub-optimal for the country.

There are some circumstances when there may be a clear domestic economic case for supposing that Guatemala might be better off undertaking RECOSMO with domestic funding. One such case might exist if there were a productive activity (e.g. forestry) currently operating on an unsustainable basis, and it made sense from a domestic perspective for logging activities to be made sustainable at domestic cost⁶. However, current economic activities in the RECOSMO area are predominantly small-scale and disparate and no similar opportunities exist for domestic gains from moving onto a sustainable baseline. It is possible to conclude therefore, that current trends are economically optimal from the point of view of Guatemala given existing resource constraints and the current opportunity costs of development funds.

To demonstrate the avoidance of potential duplication in moving to the alternative, it is necessary to consider the nature of baseline activities in the area. Tables 1 and 2 summarize the ownership and control of the areas targeted by RECOSMO and show a diversity of ownership structures. Also shown are some of the current activities to address the documented threats. These vary according to the capacity of the specific controlling organization. The important thing to note is that several areas are without managing agencies, management plans, and, in some cases, definitive protected status.

⁵ That assumed by definition to be meeting Guatemala's development objectives and the country's best effort to meet global environment considerations given these economic priorities.

⁶ And by extension for the global community to benefit from the move to a sustainable baseline at the (domestic) expense of Guatemala.

As is clear from the description of the areas in the RECOSMO a range of activities are being undertaken by several government and non government organizations. All organizations are currently constrained financially, and those consulted express concern regarding the integrity of the RECOSMO and the associated global benefits, if certain attenuating activities are not extended beyond their current range. Concern was also expressed about the need to join forces to produce a concerted effort across the whole RECOSMO area. Thus much of the incrementality beyond the focal areas is perceived to lie in the expansion of currently successful activities to areas where they are not in practice, and the establishment of new activities in several areas including those where something is on-going in the baseline.

The concentration of activities varies from area to area. In Sierra de las Minas, Defensores de la Naturaleza are undertaking a comprehensive programme focused on several areas around the protected area. Defensores propose a number of activities⁷ based around stabilization of the agricultural frontier (agroforestry, social forestry, sustainable agriculture), community education (workshops and training), the role of women (market gardens and family health and nutrition programmes). The organization also runs an extensive programme of community workshops focused on project awareness and design. Concurrently the group conducts and sponsors surveys on the ecological status of the area. Defensores recognize the importance of income generation and land ownership in the campaign to stabilize the agricultural frontier. The first of these is partially addressed by a range of productive activities including traditional crafts. The problem of land titling is also central to their activities, and is addressed in a number of ways including limited land purchase⁸ and consultation with the main titling agency. Due to their reputation, Defensores are well supported by donors and the range of their activities is somewhat exceptional. Similarly, FUNDAECO is working in the Cerro San Gil with around 35 communities on agroforestry and sustainable agriculture. Equally competent are CECON in receipt of funds from a number of sources although their activities are currently somewhat limited to managing visitor centres and basic inventory and protection. The Biotopo Quetzal is nevertheless regarded as possibly the most professionally managed protected area of all the RECOSMO sites.

Table 4⁹ showed that there is a history of related activity in the area including a number of bilateral and multilateral assistance initiatives. No previous project has had the objective of consolidating several areas along the same lines as the RECOSMO. In fact the nearest similar experience appears to be in the Peten area of the country and it is likely that the RECOSMO will be the last region in Guatemala to offer the potential for a consolidated network (due to the prevailing patterns of private public land ownership).

In conclusion, the appropriate baseline is taken as a business as usual scenario which is also a pragmatic situation respecting current development priorities. The alternative proposed by

⁷ See Defensores de la Naturaleza, Plan Operativo 1990, Guatemala, February 1990.

⁸ This programme is typically with a view to enable an intermediary period of repayment.

⁹ This table is in previous report section "Issues in sampling schedules."

RECOSMO will address the shortcomings of conservation in the region by focusing on the park network and the extension of activities within that network.

6.3 System Boundary

Consistent with the terminology of the GEF Draft Reporting Format, RECOSMO fits within in a well-defined system boundary. Geographically this is constituted by the extent of the nine inclusive protected areas, their buffer zones and the proposed inter-linking corridors, all of which sit within the natural boundary of the two rivers from which the project derives its name. The appropriate system boundary must accommodate the relevant threats to the focal investment (comprising the parks and corridors). These are identified as agricultural encroachment, over-harvesting and poor restoration of previously deforested areas leading to the problem of fragmentation. These problems occur in the vicinity of the areas in question and are the consequence of a historically lax policy on forest clearance and transitory or nomadic pattern of resource use. The current or 'business as usual' pattern (tolerating uncontrolled resource use) is therefore best characterized as creeping degradation rather than an easily targeted threat which is amenable to one or few obvious incremental solutions. Instead it is possible to envisage numerous solutions many of which amount to the increased use of currently successful extension methods. This pattern of activities complicates the IC calculation.

In addressing threats to the RECOSMO project, it is necessary to be pragmatic in attempting to find solutions to those considered most proximate to the success of the investment. In other words, it is possible to identify a system boundary which encompasses national decision making (e.g. in national agricultural pricing) as well as the immediate threat of small-scale encroachment into the protected areas. It seems reasonable for an individual project to deal with the most proximate threats while signalling the national policy issues which nevertheless may impinge on the project. If this signal role is effective, then the project can be seen to be providing programmatic leverage which is still globally beneficial. In this particular case, rather than attempting to address the policy problem directly at national level the feeling is that the RECOSMO unit can most effectively be presented as a feasible development 'controlled' alternative contrasting with Guatemala's traditional development path in respect of resource use in and around protected areas. To the extent that proposed activities are successful and replaceable, RECOSMO attempts to present an alternative regionally-based paradigm demonstrating a potential alternative to unsustainable resource use. As such, beyond the benefits to the immediate RECOSMO area, the project is also considered as an attempt to promote programmatic leverage for conservation benefits elsewhere.

This demonstrative role does not obviate the need for effective local project solutions. Logging and other forms of deforestation are particularly damaging. Rooted in immigrant settlement, these threats are more sporadic than systematic. Current project proposals attempt to remove pressure on forest resources by offering alternatives to shifting resource use patterns. Moreover, recognizing the importance of land titling, NGOs in the area are already taking remedial steps

to address the issue of shifting cultivation at source. Defensores de la Naturaleza has a programme of research on stabilized land uses. On private lands, where possible, the objective is to harness good will and stewardship among private land-owners which are unavoidably included in the area.

6.4 Alternative

The objective is the protection of a nationally and internationally important site of biological diversity. Figures on endemism and the proportion of Guatemala's species contained in the areas confirm the global and national significance of RECOSMO. The imperative of bringing the RECOSMO corridor system on-line derives from the minimum habitat predictions of population biology for many of the endangered species targeted by this project. For the same reason, RECOSMO also has a vital role as part of a regional jigsaw of areas which constitute the Central American Corridor. In summary, the elements of the project are the combined RECOSMO unit of nine confirmed protected areas, each with a management plan, plus the design of inter-areas. This central park and corridor unit then provides the basis for the extension of the best of the experiences currently covering a limited area. The argument is that these pre-existing operations are insufficient to guarantee the global benefits that will accrue from the augmented plan.

This combined effort proposed by RECOSMO will knit together a number of projects currently operated by several successful NGOs. In incremental terms this plan amounts to the establishment of five further areas plus the corridor system all with appropriate management plans.

The totality of these activities is incremental to a limited baseline which is basically inadequate to secure global benefits. Requested GEF financing is required to meet the least cost way of augmenting and securing global benefit associated with the full RECOSMO area. Within this full incremental alternative are numerous new activities which are always fully incremental. Some are in fact zero baseline (e.g. baseline surveys and inventories, capacity and training). This additionality means that the level of IC financing also conforms with the requirement to equalize benefits between the baseline and the alternative. The main objective is to offer these sustainable options to more groups in the area rather than any redistribution of currently allocated funds.

In this counterfactual, threats are addressed by a series of measures, and it is important to note that the project can offer no single solution to an obvious productive activity to enable IC to look like a transparent technical fix. To the extent that any solutions are available, they are small and ad hoc. The majority of the proposed activities are, however, modest and least cost.

The best guidance on proposed alternative activities is again based on the most active NGOs in the area. Most activities amount to the extension of tried and tested methods to fortify currently underfunded management efforts. Table 3 summarizes some of the ways the GEF money will be allocated. A more detailed account may be found in the Plan Operativo of Defensores which breaks down how the organization plans to disburse the Q888,891 earmarked to increase the number of interventions and communities covered by the existing baseline activities. It is interesting to note that Defensores are considerably ahead of the field and as such are a useful point of reference for the incrementality of other organizations which are mainly engaged in introducing new (ie fully incremental) measures. These range from additions to the limited sustainable development activities of FUNDAECO in Cerro San Gil, to full incrementality in areas where there is categorically no activity taking place (eg Sierra Santa Cruz and the Rio Sarstun).

Other enterprises such as the establishment of revolving funds of unconventional credit are also fully incremental.

Cost effectiveness is guaranteed by the single disbursement which will be channelled directly to the NGOs involved. The grant modality is also most appropriate because of the non-recoverability of the costs of some of the activities involved such as land set aside and the benefits of small-scale income generating activities. This means that there is no obvious method to recoup any domestic benefits as the basis of a pay-back modality.

6.5 Domestic benefits

As mentioned above the exact IC calculation relates to a mixture of activities which augment and extend rather than duplicate current interventions. In terms of domestic benefit generation, the development of use zones are an obvious source of revenues. Furthermore there are potential avoided costs associated with water use and electricity generation in some areas as a result of reduced clearance and erosion. However in all cases, cost recovery is likely to be administratively difficult. Furthermore it is difficult to speculate about the likely magnitude of these savings and no case is made for their recovery.

6.6 Costs and co-financing

Costs not estimated in present value terms while co-financing arrangements from NGOs and government have been indicated.

6.7 IC Matrix.

See table 3 for an indicative structure of IC elements.

6.8 Further justification

Further justification lies in the potential for RECOSMO to play a catalytic role for leverage of domestic and other funds. RECOSMO provides leverage to existing activities through both additionality and substitution¹⁰. The additionality occurs through the extent of project co-financing of the incremental part of the project (egland ??? and funds). Substitution leverage occurs when some of the non-incremental cost of activities are met by NGOs redirecting baseline activities toward the new objective. More importantly leverage will also occur through the likely replication of programmatic benefits both in Guatemala and in other Central American states which have

¹⁰ The requirements are detailed in GEF (1997) Financing For GEF Projects - GEF Council Meeting April 24, GEF/0.7/inf.111.

already expressed an interest in replicating the unique participatory design process that gave rise to RECOSMO. There is therefore an opportunity to enhance the role of a number of small NGOs which stand to learn from an established NGO such as Defensores. In a sense the most important incremental element lies in the potential for RECOSMO to serve as a paradigm case for the construction of a strong conservation entity which weaves together a set of individually successful NGOs and demonstrates (on a regional basis) an alternative to a traditionally damaging development path. This is important since as previously mentioned, in contrast to the paradigm GEF cases, the issue here is of creeping erosion from several sources rather than a visible source to which a substitution technology is appropriate. The GEF contribution is a way of showing how an equally effective incremental fix can be made through the medium of a group of NGOs using a diverse set of case specific activities. It is also consistent with the process of decentralization of environmental management currently taking place in Guatemala.

Table 1 SUMMARY AND OVERVIEW OF THE RECOSMO SYSTEM AND BASELINE SITUATION

	Sierra de las Minas	Chocon de Machacas	Biotopo Quetzal	Rio Dulce
Size	230,000 ha (100,000 core, 130,000 multi-use and buffer)	6,400 ha	1,153 ha	8,110 ha
Population Name	21,000 10 communities (4 in the core area)	270	-	?
Community type	Pocomchi, Kek-chi, Mestizos	Kek-chi, Mestizo	-	?
Land ownership	45% state, 50% private and 5% mpl	State	State and University	State, private
Current status	Biosphere Reserve	Biotopo	Biotopo	National park
Protected since	1990	before 1989	before 1989	1955
Legislation (current)	Law 4-89 (law of protected areas)and law 49-90 (specific)	law 4-8	law 4-8	Law 4-89; previously under Government Accord, 1955
Management Agency	Defensores de la naturaleza	CECON, University of San Carlos	CECON	DIGEBOS
Existing Management Plan	yes, produced in 1992 for '92-'97	yes (restricted to protection and visitor management)	yes (but limited to protection and visitor management)	yes (protection only)
Endangered/ endemic species, unique features	Quetzal, jaguar, tapir pine species	manatee, crocodile, wetland species	cloud forest, quetzal	endemic species
Threats	agricultural encroachment, bad agricultural practice, slash and burn.	in-migration, illegal fisheries	in-migration, possibly a problem with mining activity and heavy visitation	uncontrolled urbanization and fishing
Baseline activities	miscellaneous sustainable development activities based on agriculture and community development	limited inventory of species (mainly student theses), protection and visitor management formerly in collaboration with INGUAT	protection (guards, and fire control), visitor activities	limited protection

Notes: Baseline activities are only indicative of the nature of current activities.

Table 2 SUMMARY AND OVERVIEW OF THE RECOSMO SYSTEM AND BASELINE SITUATION

Name	Punta Manabique	Rio Sarstun	Sierra Sta. Cruz	Rocas del Polochic	Cerro San Gil
Size	38,400 ha	9,600 ha	46,000 ha	23,500 ha	47,434 ha
Population	419 (6 villages)	270	2,000 (9 communities)	-	-
Community type	Mestizos	kek-chi	Kek-chi and Mestizo	-	-
Land ownership	65% state, 35% private	State and private	state and private	state and private	State
Current status	Law 4-89 (APE)	Law 4-89 (APE)	Law 4-89 (APE)	Law 4-89 (APE)	
Management Agency identified?	CECON and FUNDARY (civil government)	FUNDAECO (will bid for management responsibility)	No (FUNDAECO intend to bid for the responsibility)	Defensores de la Naturaleza from 1995	FUNDAECO (commitment)
Existing Management plan	No	No	No	Draft	Preliminary only
Endangered/ endemic species, unique features	Marine turtles, Atlantic crocodile, manatee, tapir, endangered birds, mangrove swamps	manatee	Tapir, felines, marsupials and representative humid tropical forest containing Mahogany and Chicozapote	marsh of national and international importance, manatee	to date: 4 endemic frogs, 2 salamanders, three tree species and three endemic palms
Threats	in-migration, over-harvesting of marine resources	agricultural expansion including ranching	agricultural encroachment	potential mineral exploitation	agricultural encroachment and sporadic logging
Baseline activities	some area protection, fishery extension (only 2 extension workers)	?	?	similar activities as Sierra de las Minas although as yet on a more limited scale	limited sustainable development programmes based on <i>inter alia</i> agroforestry and yield improvement

Table 3 INCREMENTAL COST MATRIX FOR RECOSMO

Benefit category	Beneficiary or stakeholder group	Baseline Activities B	Alternative A	Incremental activity (+)/ cost (-) A - B
Global Benefits	Global	1. protection of endangered species but limited monitoring and inventory;	1. protection and <u>enhanced</u> monitoring and inventory of endangered species;	+d1
		2. protection of endemic species;	2. protection of endemic species;	+d2
		3. limited overall biodiversity protection in a fragmented system of variable status;	3. <u>ensured</u> biodiversity protection in an <u>integrated system of confirmed status</u> areas and inter-areas;	+d3
		4. limited threat attenuation through activities currently carried out by some NGOs in specific areas	4. <u>threat attenuation</u> through increased outreach and extension of baseline activities currently carried out on a limited basis.	+d4
Domestic benefits	National private and social	5. limited utilization and harvest of forest products;	<u>extension of activities</u> under 5,6,7,8 to more communities in the RECOSMO area;	+d5
		6. agroforestry;	9. increased attention given to the impact of unsustainable activities on water courses, water quality, availability for irrigation and use in power generation;	+d6
		7. sustainable agriculture,		+d7
		8. some small scale industrial and artisanal production.		+d8
		9. vulnerable water supplies for hydroelectric installation, irrigation and urban areas,	10. feasibility studies and extension of tourism to more remote areas covered	+d9
		10. limited tourism.		+d10
Domestic cost to secure global benefits	Private and social	11. NGO and state body management costs following master plans for at least 4 of 9 of the protected areas to be included in RECOSMO including training of capacity and species inventory;	11. <u>management costs for additional protected areas and inter-areas, plus new capacity and inventory</u> and any new schemes to motivate land use in private lands in the inter-areas;	\$3,225,000
		12. establishment, harvesting, processing costs for activities 5,6,7,8; 13. costs of actual or potential water shortages in agriculture, potential hydroelectric maintenance or replacement costs.	12. <u>costs of extending activities under 5,6,7,8,9,10</u> above;	\$ 631,000
			13. limited expenditure on education and awareness of the use of water and erosion prevention	\$ 144,000
Incremental cost				\$4 million

Notes: 1. + d = delta signifying an incremental change in the provision of an activity as part of the project.

7. Special Considerations

The planning and execution of the RECOSMO project involves these additional considerations:

- a. The creation of regional biodiversity and sustainable human development measures will be supported by a network of protected areas located in RECOSMO, and which will help introduce sustainable management practices in the inter-area spaces. Urban populations in RECOSMO are expected to support environmental management in exchange for concrete benefits derived from the project;
- b. Institutional participation of the independent sectors of Guatemalan society, represented by NGOs involved in the administration of the protected areas, is considered an essential component of the project. Government and independent sector linkages will help to guarantee project success;
- c. Community participation of indigenous groups, farmers, local producers unions involved in the protected areas, and residents and producers of the inter-area spaces, constitutes another valuable project aspect. Besides contributing to biodiversity conservation and sustainable development practices, community participation will strengthen the country's democratization process;
- d. Decentralization and management of biodiversity and SHD at the level of the 22 municipal governments, the Municipal Development Councils, and the five State Development Councils. is a very important project component which strengthens the Governmental Agenda.
- e. The private sector, with several exceptions, has traditionally exerted a strong destructive impact on biodiversity and environmental quality in the region. Guilds will help foster private sector participation in sustainable productive activities, thus becoming RECOSMO's most powerful allies;
- f. Women's participation in the project and community development will be strengthened through biodiversity conservation activities targeted at women's groups and through environmental education of youth of both sexes;
- g. Indigenous lands do not exist in Guatemala as they do in other countries. The Census Law, issued in 1876, led to the virtual elimination of "indigenous" property. Yet, communal lands continue to exist based on areas which the Spanish Crown assigned to the "Indian people" in the past.

The most important ethnic groups in the project area in terms of population are the Kek'chí, the Pocomchí, and the Garífuna respectively.

Prior to the Spanish conquest, Kek'chis and Poconchís were nomads, which suits the fragile environment in which they live. The lack of fixed settlements and the itinerant cultivation cycles of 10 to 20 years did not permit the demarcation of lands, with the majority of territory they covered during their movements now in private hands. The Garífunas are coastal dwellers who also lacked a defined territory.

NGOs participating in the project have been trying to resolve indigenous land tenancy issues by introducing new agricultural practices and promoting the granting of land titles. The project is expected to help evaluate and resolve these issues;

- h. National and international project implementation will be supported by collaboration with biodiversity conservation initiatives in Belize and Honduras, and integration into the Mesoamerican Biological Corridor.

Replicability of RECOSMO's focus will be accomplished by CONAP at the national level and promoted by CCAD at the regional level.

8. Coordination Arrangements

Activities related to the "Sustainable Development Plan for the Frontier of Guatemala-Honduras" have begun around the Gulf of Honduras and benefit from the support of the Vice Presidents of the Republics of Guatemala and Honduras. The Organization of American States (OAS) has promoted and planned this initiative through the Interamerican Institute for Agricultural Cooperation (IICA), an institute which coordinates activities with RECOSMO, especially in the areas of Punta of Manabique, Cerro San Gil and the biological corridor SMBR-Cerro San Gil.

RECOSMO will establish ties and coordination structures with the SEGEPLAN which is implementing the Verapaces development programme in cooperation with GTZ.

RECOSMO will also coordinate activities with INGUAT, whose ties to CONAP and areas of geographic focus coincide with project objectives. INGUAT is currently executing a tourism development project in Amatique Bay.

National universities will be invited to cooperate with the project, through signed agreements, and undertake studies of production and marketing options.

Support will also be solicited from existing programs under the MAGA, such as PROFRUTA, PAFT-G and others.

RECOSMO management will be alert to whatever other type of activities may develop in the future within the area, with the aim of establishing the necessary coordination.

9. **Counterpart Support Capacity**

Due to the current financial situation and lack of human resources, CONAP will benefit from project implementation through the institutional development of the council's executive secretary.

CONAP's political contribution is important to the project through its multi-sectoral representation. It can help promote decentralization of PA management, and greater involvement of municipalities and urban and rural development councils in sustainable development and biodiversity conservation.

The World Bank and INGUAT will help to identify funding for a study of potentially lucrative ecotourism routes, and formulate an eco-tourism programme. Universidad del Valle de Guatemala has taken the academic lead in this field by establishing a bachelors degree in ecotourism.

C. Development Objective

This project aims to preserve the integrity of ecosystems vital to the survival of RECOSMO's biodiversity, in the context of sustainable human development.

D. Immediate Objectives, Outputs and Activities

Immediate Objective 1

Develop and implement the strategic plan (to the year 2005) of the nine protected areas interconnected by six biological corridors. This plan will include an evaluation of biodiversity richness and abundance, and conservation of a minimum of 95% of current vegetation cover.

Output 1.1

Upon completion of the project's second year, nine PA master plans and their respective operating plans formulated or under implementation by GOs or NGOs, with the participation of local communities living in park buffer zones.

Activity 1.1.1

Establish RECOSMO's project board (PB) linked to CONAP's executive secretary in its northeast regional office (Region III).

Activity 1.1.2

Establish and legally recognize CONRECOSMO, to ratify the proposal for RECOSMO's PB, and for CONAP to approve its statute and administrative structure. Year 1.

Activity 1.1.3

CONAP will establish a bid to assign management responsibilities for the five special protection areas (SPA²) without management classification to interested organizations during the first year of the project.

Activity 1.1.4

Review of the five SPA technical studies by CONAP's executive secretary and for congressional legislation.

Activity 1.1.5

Obtain legal declarations for the five SPAs in the first year.

Activity 1.1.6

Formulate the implementing agency's master plans for SPAs, and have them approved by CONAP. Year 1.

Activity 1.1.7

Implementing agencies will mobilize resources to implement master plans of the four PAs³ approved by CONAP, as a prerequisite to participation in the project. Year 2.

Activity 1.1.8

Implementing agencies formulate operating plans and initiate management activities in the PAs with the participation of civil society. Year 2.

Activity 1.1.9

Formulate TORs, and call for bids to award construction contracts of two multiple use centers in two PAs, as defined in the master plans. The centers will to serve as administration, research, education, monitoring and visitor's center. Year 2.

Output 1.2

A survey of RECOSMO's biodiversity, at the species and ecosystem levels, formulated on the basis of available information and a rapid ecological evaluation. Finalized in Year 2.

Activity 1.2.1

Hold a selection process to award and undertake a rapid ecological evaluation in nine RECOSMO areas, and to identify critical and potentially critical⁴ biodiversity areas during the second year.

Activity 1.2.2

Define TORs for and select a system of environmental monitoring in the first year. Establish and implement the same system within the second year.

Activity 1.2.3

PB identifies and adopts an appropriate methodology and initiates a competitive bid for the formulation of an ecological zoning study in RECOSMO.

Activity 1.2.4

Contractor formulates the preliminary ecological zoning⁵ of RECOSMO with popular participation. Integrate results with those of the rapid ecological evaluation and other available information during the first year.

Output 1.3

Design and execute six strategic development plans, integrated with the PA management plans, for the biological corridors⁶ connecting the nine protected areas at the end of the second year.

Activity 1.3.1

PB shapes biological corridors based on current land-ownership patterns, and assigns state lands to CONAP during the first year.

Activity 1.3.2

PB defines corridor areas⁷, drafts TORs and selects organizations to formulate corridor management plans in the first year.

Activity 1.3.3

CONAP revises and approves the biological corridors master plan in the second year through the PB and CONRECOSMO.

Activity 1.3.4

During the second year, draft TORs to assign management responsibilities for the biological corridors to NGOs and respective municipalities, and implement related management activities.

Immediate Objective 2

Reduce habitat loss and erosion of biodiversity by integrating at least 30% of the local population using and benefiting from RECOSMO's natural resources into economically-productive activities and sustainable use practices in the second year.

Output 2.1

Identification and description of RECOSMO's communities and their productive activities as the basis for planning and implementation of project activities.

Activity 2.1.1

During the first year, define TORs for the implementation of a socioeconomic survey and study of community types in the RECOSMO region. Select the implementer and assign the initiative through competitive bidding. Link results to the ecological zoning study and incorporate results into activity planning.

Activity 2.1.2

Identify opportunities for gender participation and target communities, and initiate the activities programme promoting women in these selected communities, in year one.

Output 2.2

Develop sustainable projects for services and production based on optimum use of RECOSMO's natural resources, financed by non-traditional means, in year two.

Activity 2.2.1

PB identifies an appropriate computerized system for the integration of RECOSMO's environmental information.

Activity 2.2.2

SIGAP adopts computerized "expert system" and integrates environmental information and monitoring systems to help identify the most suitable agro-ecological areas in RECOSMO, and their corresponding crop species.

Activity 2.2.3

SIGAP personnel in charge of using the computerized system, and compiling and analyzing the data/information collection are trained to use the system and train others.

Activity 2.2.4

Through a competitive bid, undertake a national and international market study of products from RECOSMO. These should include means of commercialization, and feasibility studies on the establishment of four supply centers. Activities should be undertaken and results integrated into the "expert system" in year two.

Activity 2.2.5

Contract out through competitive bid, a prefeasibility study of at least five non-traditional sustainable production options areas of RECOSMO selected by CONRECOSMO during the first two years.

Activity 2.2.6

Define TORs for the creation and operation of a revolving fund for cooperatives and local communities in year one. Implement the fund in year two with project resources (up to US\$ 128,107) and promote cofinancing through the Fund for the Promotion of Small and Medium Sized Enterprises, the Social Investment Fund, national and international donors.

Activity 2.2.7

Establish three non-traditional micro-enterprise pilot projects to test and adjust the operation and effectiveness of the revolving fund. Following test phase establish a minimum of two agricultural projects (which can include forestry), and two

wildlife farming projects in selected communities, potentially using the four established supply centers as a distribution base, in year two.

Activity 2.2.8

Finance five small to medium sized enterprises with revolving funds in the second year. These will be administered by local communities and may include artisanal workshops, harvesting and commercialization of non-timber forest products (NTFPs). Use established supply centers for distribution.

Activity 2.2.9

Promote and establish during the second year a pilot information center on commercialization of products from RECOSMO. This center will be financed by the revolving fund and administered by a cooperative or local development association.

Activity 2.2.10

SIGAP annually updates the computerized information system with production and marketing information. Transfer this system to the information center in the third year to guarantee access to producers and continuity beyond the life of the project.

Activity 2.2.11

SIGAP trains information center personnel and interested producers in the use of the computerized information system.

Activity 2.2.12

With training from Sustainable Development Network Programme (SDNP) staff and installation of a modem, the information center is linked to the internet through the SDNP for access to worldwide environmental and NTFP data and information.

Output 2.3

Reduce the current advance of the agricultural frontier in RECOSMO's critical areas by 50% towards the end of the project. Create conditions for its stabilization in the project's second phase.

Activity 2.3.1

Through competitive bid, implement a study of land-ownership and land-titling in RECOSMO's critical areas. Link this study to the ecological zoning and socioeconomic studies, during the second year

Activity 2.3.2

Support INTA in the titling of farmers' lands in RECOSMO's critical areas during year one and two.

Activity 2.3.3

Implementing agencies establish nine demonstration plots for sustainable land-use⁸ with communities located in the critical areas. Year 2 and 3.

Activity 2.3.4

NGOs and GOs extend technical assistance to 1,350 families to establish and manage sustainable food production through the use of agroforestry systems using multiple-use tree species provided by DIGEBOS, and, in coastal areas, through the better use of coastal marine resources.

Activity 2.3.5

Establish in the second year, an NGO/GO-developed support programme for the prevention and control of forest fires. Communities will be provided with basic fire-fighting equipment by implementing agencies.

Activity 2.3.6

Contracts for the identification of ecosystems, aquifers or areas in need of restoration or reforestation undertaken through competitive bid.

Activity 2.3.7

Implementing agencies promote reestablishment of vegetation cover in 20% of areas currently uncovered, by formulating and executing a plan for ecosystem restoration with the participation of local communities, beginning in year 2.

Output 2.4

Use of forest resources restricted to productive forest areas, in accordance with the management plan's ecological-economic zoning results, to begin in year two.

Activity 2.4.1

CONRECOSMO establishes with DIGEBOS, policies and strategies for the sustainable management and use of forest resources (eg. monitorable concessions), productive forests identified in the ecological-economic zoning study. Year 1.

Activity 2.4.2

Delimit productive forest areas, beginning in year two, using ecological, socio-economic and land-use studies as a basis for decision-making.

Activity 2.4.3

NGOs and GOs extend technical assistance to communities and small-medium sized producers in the formulation and implementation of management plans for low impact harvesting of NTFPs in productive forests. Year 2.

Output 2.5

Creation of an ecotourism programme with the direct participation of local communities, to include cultural, scientific and adventure components. Year 3.

Activity 2.5.1

In cooperation with INGUAT, CAMTUR, universities and RECOSMO communities, identify the best ecotourism routes and develop the five most promising options following the results of an environmental impact assessment (EIA), in year 2.

Activity 2.5.2

Establish five ecotourism routes with the participation of local communities in the third year.

Output 2.6

Establish and strengthen environmental management and EIA practices through CONAMA and CONRECOSMO in the second year. EIAs will be applied to infrastructure projects, forestry use, reforestation, agricultural development, drainage, irrigation, mineral and quarry exploitation, hydrocarbons, tourism, land and farm allotments, urban and port development, aqueducts and urban sewers.

Activity 2.6.1

From the first year onwards, establish the common practice of using EIAs for productive activities in the RECOSMO area, and monitor impacts on resources through periodic evaluations of these activities.

Activity 2.6.2

SIGAP integrates environmental management practices and EIA results into RECOSMO's environmental monitoring system during the second year.

Activity 2.6.3

Develop materials for and implement 22 workshops which promote environmental management of projects and EIAs, from the first year onwards.

Immediate Objective 3

Establish the technical and administrative infrastructure necessary to coordinate and support conservation and sustainable development activities in RECOSMO, and ensure their continuity beyond the life of the project.

Output 3.1

A sustainable development management system for RECOSMO, established and operational by the end of year three.

Activity 3.1.1

Establish the practice of holding locally-based "environmental policy and sustainable development discussions" which include the impact and implications of current environmental legislation. Involve communities, municipal governments, and state development councils. These discussions are expected to promote popular participation in the generation and analysis of ecological zoning and socio-economic information. Discussions will also help to identify community leaders or focal points who can help provide project continuity in the second phase. Year 1 onwards.

Activity 3.1.2

CONRECOSMO will promote and make possible the participation of communities, committees, associations, guilds, municipal and state development councils, in conflict resolution and decision-making regarding resource use, as of the second year.

Activity 3.1.3

Evaluate project progress and the status of biodiversity conservation and sustainable development activities in RECOSMO, by means of a global external evaluation. The environmental monitoring system will support the process and help recommend necessary adjustments in the third year.

Output 3.2

A program supporting research for biodiversity conservation and sustainable development in RECOSMO, designed and operational as of the first year.

Activity 3.2.1

Develop research programmes on conservation biology, sustainable development, natural and cultural heritage, for RECOSMO in the first year, based on contracts awarded to academic or research institutions through competitive bidding. Coordinated by CONRECOSMO, the programme will be undertaken with the

participation and support of research centers, national scientists, and other organizations involved in the conservation and development of RECOSMO.

Activity 3.2.2

Implement RECOSMO's research programme with the support and participation of universities, national research centers, and local leaders, in year 2.

Activity 3.2.3

Establish a biodiversity checklist for RECOSMO based on the completed rapid ecological evaluation, with the support of local leaders during the first and second years. The species list should include: timber-yielding species, high genetic quality seed nurseries, ornamental species, insects, reptiles, birds, wild mammal species appropriate for farming. Comestible and medicinal forest products currently used or of potential use by local communities should also be added to the checklist.

Activity 3.2.4

Develop and test with communities selected by the PB appropriate plant or wildlife harvesting techniques, for the species checklisted. Two pilot projects financed by revolving funds will focus on these themes, as of the second year.

Activity 3.2.5

Formulate and execute an ethnobotany and ethnozoology programme to identify species which can be used or harvested sustainably, with the participation of national research centers, in year two. Link to activities 2.2.5 and 2.2.6.

Output 3.3

A capacity-building programme for the sustainable use of biodiversity aimed at RECOSMO's communities, designed and implemented in the first year.

Activity 3.3.1

Elaborate a capacity-building programme to span the life of the project, targeting decision makers, technicians, communities, users and beneficiaries of RECOSMO's biodiversity resources. The programme will include:

- a. Seminars (10) to target municipal environmental commissions, decision makers, technicians and beneficiaries, and focus on: local and national importance of RECOSMO's biodiversity; benefits and opportunities of environmental management; and the importance and advantages of EIAs.
- b. Workshops (140) directed at local decision makers, communities, users, and beneficiaries of RECOSMO's natural resources. Themes covered include: environmental management; EIAs; gender/women's activities; PA conservation; land-use classification; identification of capacities for

resource use; soil conservation; erosion control; agro-forestry and agro-pastoral systems; biodiversity utilization; community management of tourism; practices to stimulate natural vegetative regeneration; forest fire prevention and control; social organization; project identification and proposal formulation; and green certification methods and marketing.

- c. Fieldwork (440 days) to demonstrate practices for the appropriate use of land, plant and animal species, for forest-based seed harvesting, agro-forestry systems, control of forest fires, and forest management. Communities, farmers, users and beneficiaries of natural resources will participate in these field sessions.

Activity 3.3.2

Design and execute a training programme (22 workshops) for youth of both sexes, in the management, conservation and uses of biodiversity at the community level. Year 2.

Activity 3.3.3

Implementing agencies provide technical assistance to municipalities to elaborate master and action plans for the management and conservation of biological corridors and a minimum of six areas of special interest in RECOSMO. Sites may include ceremonial centers, archeological sites, special biotic communities, municipal or private parks.

Output 3.4

National and international dissemination of RECOSMO project results to help solicit national and international technical and financial assistance necessary for the continuity of activities following conclusion of the project.

Activity 3.4.1

PB elaborates and executes a three year information programme. Year 1.

Activity 3.4.2

Contract awarded through competitive bid to prepare and produce extension and information materials during the life of the project.

Activity 3.4.3

Implementing agencies publish scientific, technical and productive project results in appropriate publications, at the national and international level, with the approval of the PB. Year 2.

Activity 3.4.4

PB prepares a detailed plan and proposal for the continuation of RECOSMO activities. Year 2 and 3.

Activity 3.4.5

PB presents the proposal for the continuation of RECOSMO activities to potential donors. Year 3.

Activity 3.4.6

PB pursues and negotiates a second phase of the project with interested donors until accepted and confirmed.

Output 3.5

Primary education improved with the introduction of environmental and sustainable development themes in the RECOSMO area's school system.

Activity 3.5.1

Evaluate materials produced by the national systems of curriculum improvement and adjustment (SIMAC), and by the bilingual education programme (PRONEBI), for implementation with NGOs, local organizations and indigenous communities. Year 1.

Activity 3.5.2

Produce curriculum guidelines and educational materials on the environment for students at the pre-primary and first three grades of primary levels. Year 2.

Activity 3.5.3

Promote implementation of the "unitary school" through the Ministry of Education and its regional offices, in 100% of schools which have not been completed in RECOSMO.

Activity 3.5.4

In collaboration with CONALFA and RECOSMO communities, promote the introduction of environmental themes in literacy materials through four annual campaigns. Topics covered include: biodiversity conservation; sustainable development; means of improving the quality of life at the family and community levels.

Output 3.6

A regional "green" certification programme for RECOSMO biodiversity resource use and management.

Activity 3.6.1

PB identifies an appropriate "green" certification programme and implements certification study.

Activity 3.6.2

Promote the production and commercialization of certified products with training (Activity 3.3.1) and timely credit (2.2.4).

Output 3.7

An established and operational conservation and development trust fund, administered by an elected trustee.

Activity 3.7.1

Undertake a financial and legal study as a basis for the creation of a trust fund and the election and administration of its trustee. Year 1.

Activity 3.7.2

PB defines policies and strategies for funding distribution. Year 2.

Activity 3.7.3

PB defines the policies, strategies, actions and mechanisms required to obtain additional resources for the trust fund.

Activity 3.7.4

PB selects and contracts a financial entity to administer the fund.

Activity 3.7.5

Establish and implement the RECOSMO trust fund.

E. INPUTS

1. National Inputs

National inputs will be provided by CONAP, the implementing agency, NGOs and other GOs that contribute to biodiversity protection in the RECOSMO area. **All national inputs are noted in Quetzales¹¹.**

1.1 In kind contribution of the Guatemalan Government Q. 4,453,000

a) CONAP	843,000
Central office personnel	318,000
Regional office personnel	275,000
Regional office rent	100,000
Non-personnel services	75,000
Materials and supplies	75,000
State Lands ¹¹	187,270 ha
b) DIGEBOS	225,000
Personnel assigned to Rio Dulce	115,000
Non personnel services	60,000
Materials and supplies	50,000
Area of Rio Dulce National Park	8,100 ha
c) CECON	1,400,000
Central office personnel	150,000
Personnel assigned to biotope	1,000,000
Materials and supplies	250,000
Area of the biotopes	7,553 ha
d) CDC (University of San Carlos)	185,000

¹¹ The governmental institutions, as well as other governmental institutions, are contributing lands to RECOSMO. The area contributed is indicated but the value of the lands is not given.

	Technical personnel	135,000
	Equipment and materials	50,000
e)	INTA	1,800,000
	Survey personnel	1,250,000
	Fuel, oil and maintenance	270,000
	Equipment and materials	280,000
	State land for corridors	90,500 ha
1.2	In kind contribution of NGOs	Q 10,125,000
a)	FUNDAECO	1,500,000
	Area of property	2,500 ha
b)	Defenders of Nature	8,625,000
	Area of property	20,000 ha
2.	<u>Contributions of UNDP-GEF</u>	
2.1	Project administration	
	Principal technical advisor 25 months	US\$ 300,000
	National coordinator x 36 months	US\$ 108,000
	Ecologist x 6 months	US\$ 18,000
	Economist x 6 months	US\$ 18,000
	(incremental cost specialist)	
	Prof. aux. computer science x 36 Months	US\$ 54,000
	Executive secretary x 36 months	US\$ 18,000
	Administrative assistant x 36 months	US\$ 54,000
	Driver x 36 months	US\$ 9,000
	Travel expenses/in-country	US\$ 18,000
	Travel expenses/international	US\$ 4,000
	Mission costs	US\$ 32,000
	Equipment (capital and non-capital)	US\$ 150,000
	Miscellaneous	US\$ 70,000
	TOTAL MANAGEMENT OF THE PROJECT	US\$ 863,000

2.2 Evaluations and audits:

International consultants 3px1mx10,000	US\$	30,000
Audit	US\$	20,000
TOTAL EVALUATION	US\$	50,000

2.3 Management of Protected Wildlife Areas and Biological Corridors

a) Sierra de Santa Cruz: 46,000 ha	US\$	176,780
b) Bocas del Polochic: 23,500 ha	US\$	146,770
c) Punta de Manabique: 38,400 ha	US\$	150,160
d) Cerro San Gil: 47,434 ha	US\$	259,790
e) Río Sarstún: 9,600 ha	US\$	128,400
f) Sierra of las Minas Biosphere Reserve 236,300 ha	US\$	458,860
g) Río Dulce National Park: 8,110 ha	US\$	130,990
h) University Biotope for the Protection of the Quetzal: 1,153 ha	US\$	98,090
I) Chocón-Machacas Biotope: 6,400 ha	US\$	67,130
j) BUCQ-SMBR Corridor	US\$	48,000
k) SMBR-Cerro San Gil Corridor	US\$	74,500
l) SMBR-Bocas del Polochic Corridor	US\$	46,000
m) Bocas del Polochic-Sierra Santa Cruz Corridor	US\$	59,500
n) Sierra Santa Cruz-Río Sarstún-Chocón- Machacas Corridor	US\$	98,000
TOTAL MANAGEMENT	US\$	1,942,970

2.4 Studies

a)	Rapid ecological evaluation (initial)	US\$ 120,000
b)	Monitoring system of RECOSMO's biodiversity	US\$ 75,000
c)	Ecological-economic zoning	US\$ 60,000
d)	Socio-economic studies	US\$ 30,000
e)	Evaluation, design and printing of the Environmental curriculum guides	US\$ 25,000
f)	Green certification	US\$ 15,000
g)	Ethnobotany and ethnozoology study	US\$ 15,000
h)	Studies and determination of landownership	US\$ 280,000
i)	Study for meeting centers	US\$ 6,000
j)	Financial and legal study for the trust fund	US\$ 5,000
	TOTAL STUDIES	US\$ 631,000

2.5 Research in priority items

a)	Global environmental benefits of RECOSMO	
b)	Conservation biology	
c)	Sustainable development	
d)	Natural and cultural heritage	
e)	Traditional uses of the biodiversity	
f)	Productive options	
	TOTAL RESEARCH	US\$ 75,000

2.6 Training and Disclosure

a)	Workshops (22) on administration of environmental projects and impact evaluation	US\$ 54,000
b)	Information Programme	US\$ 15,000
	TOTAL TRAINING	US\$ 69,000

2.7

Funds

Trust Fund	US\$ 125,000
Revolving Fund	US\$ 128,108

TOTAL FUNDS	US\$ 253,108
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TOTAL PROJECT	US\$ 3,884,078
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Support Costs	US\$ 115,922
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TOTAL UNDP/GEF CONTRIBUTION	US\$ 4,000,000
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In collaboration with and per the request of CONAP, UNDP will sign contracts falling within budget lines 11.00, 13.00, 15.00, 17.00, 20.00 and 30.00.

F. RISKS

1. Political Changes

Guatemala held elections at the end of 1995 and the elected government assumed power in January 1996. As of yet, the government remains untested in environmental issues and particularly with respect to biodiversity conservation. This situation further emphasizes the need to reach a rapid and firm government commitment to implement the project, to reduce risk of erosion of support and to better ensure financial commitment.

2. Macroeconomic Factors

The effects of macroeconomic decisions on biodiversity are not known with certainty and comprise a definite risk. For example, freeing the exchange rate may increase exports and place pressure on natural resource exploitation (more goods and services may be acquired with foreign exchange). This may also increase the cost of imported products, e.g., pesticides of lower toxicity, and of foreign technologies (less foreign goods and services may be bought with local currency).

Credit management may provide incentives and disincentives for the use of environmentally benign technologies. Credit applied to non-sustainable initiatives should be discouraged, e.g., certain agriculture or cattle raising projects. Meanwhile, efforts should be made to encourage and extend credit to activities which promote sustainable conservation.

The priority given to repayment of external debt limits or diverts national funds, used for social programmes, and the conservation and management of natural and cultural resources. The lack of social spending further pushes society's poorest to over-exploit resources in order to survive. The project is expected to help raise the standard of living of families at or below subsistence levels.

The fiscal deficit limits the execution of responsibilities by the state and its institutions, including the conservation and sustainable management of natural resources. RECOSMO will promote compliance of producer taxation and of municipal fiscal commitments.

Incentives to export traditional and non-traditional products has resulted in the loss of forest cover and concomitant biodiversity, and has led to the deterioration of soils. The sustainable development administration system in the RECOSMO area should take into consideration the impact of these incentives on natural resources.

3. **Pressure Groups**

Key sectors of the population such as the indigenous communities or landowners in RECOSMO, may choose to not participate in the project or may even reject it outright. To prevent this situation from occurring, all groups should be included in the discussion and formulation of environmental policies.

4. **Inter-institutional Coordination**

Disagreements may occur between different public, private and NGOs and their respective programmes and projects. The inter-sectorial agency SEGEPLAN will participate in RECOSMO to promote linkages between the sectors. UNDP may also help to resolve eventual coordination problems with its own arbitration mechanisms.

5. **Creation of Irrational Expectations**

Execution of projects financed by international organizations create irrational expectations in local communities, including the hope of subsidies or pay for community work. The project should keep in mind expectations created, and not offer benefits, subsidies, incentives, or execute unplanned or incompatible project activities.

6. **Lack of Incentives to Mobilize Resources**

NGOs and GOs project partners, upon receipt of financing, may not attempt to seek new resources or other sources of funding. To avoid this situation, an annual fundraising effort equal or greater to income averaged over the previous three years should be established as a prerequisite for participation in the project. Moreover, assignation of project resources to activities currently being financed by NGOs or GOs should be avoided.

G. PRIOR OBLIGATIONS AND PREREQUISITES

The present project document establishes required actions to be undertaken by the Government and the implementing organizations, prior to the initiation of the project (1) and during the life of the project (2).

1. **Prior Obligations**

The Law which guarantees the creation and existence of the SIGAP must be in force. The organization responsible for applying the law should be the highest steering and coordinating body of the SIGAP.

CONAP, the organization responsible for SIGAP, is to have a regional RECOSMO office, operating with technical and administrative personnel. These personnel are to be permanently assigned to the regional office.

The project document will be signed by UNDP, and UNDP assistance to the project will be provided only if the obligations stipulated above have been met to UNDP's satisfaction.

2. **Prerequisites**

Given the importance of CONAP's northeast regional office, the operating budget will need to be increased in 1996 in accordance with the needs of the region.

By means of its institutions, the Guatemalan Government will ensure that sufficient in-kind resources are committed to the project, and applied in a timely manner.

The administrative structure delegating responsibility and authority should be defined during the first months of project implementation. CONAP will send information on this structure to UNDP Guatemala for approval and information.

CONAP will submit the proposals for "Legal Declaration of Protected Areas" in a timely manner to the Congress of the Republic for its consideration and approval. These proposals also include the assignation of management categories for all PAs mentioned in the present document which do not yet possess them at the date of their declaration.

UNDP will sign the project document, and extend assistance to the project providing prerequisites listed above are fulfilled or are expected to be fulfilled to UNDP's satisfaction. When one or more prerequisites fails to be discharged, UNDP may, at its discretion, either suspend or terminate its assistance.

H. PROJECT REVIEWS, REPORTING AND EVALUATION

1. Technical Evaluations

- a) The project will be subject to a tripartite review (joint review by representatives of the Government, the Implementing Agencies and UNDP) at least once every 12 months, the first such meeting to be held within the first 12 months of the start of full implementation. The national coordinator assisted by the technical advisor will prepare and submit to each tripartite review meeting a Project Performance Evaluation Report (PPER). Additional PPERs may be requested during the project if necessary.
- b) During project execution, other technical and progress reports may be requested as considered necessary.
- c) Project management will prepare a final report on project execution to be presented by the national coordinator, for its consideration in the final evaluation meeting of the tripartite group. The draft report will be prepared at least three months before the final tripartite review to enable members time for revision of technical aspects.
- d) The project will be subject to periodic monitoring by UNDP-GEF, whose missions will be coordinated by UNDP HQ and UNDP Guatemala.
- e) The project will be subject to an independent external evaluation at the end of the third year of implementation and before project termination, using resources from budget line 11.51.

2. Financial Reports

The national implementation organization noted on the title page of this project document was deliberately appointed by the government coordinating authority to execute this project and will consequently follow established procedures for financial accounting, reporting, and audits established in the following documents, and which may periodically be revised by the UN:

- I) *The financial and accounting report*, in: Programme and Project Manual of the UN (PPM), section 30503.5;
- ii) *Audit requirements of the UN*, PPM section 30503.6

These documents form an integral part of this project document and will be delivered to the national implementing body by UNDP.

3. **Audits**

- a) At the year's end, the project will be subject to an audit in conformity with UNDP norms and in agreement with SEGEPLAN, with funds established for this purpose by UNDP. The national coordinator is to ensure detailed accounting, according to UNDP guidelines for financial execution. He/she will be expected to present a report which integrated the implementing agencies financial reports and any other information deemed relevant and necessary.
- b) Upon termination, the project will be subject to a general external audit, in accordance with UNDP norms, and charged to budget line item 26-01.

I. LEGAL CONTEXT

This project document shall be the instrument envisaged in the supplementary Provision to the Project Document, attached hereto as Appendix II. The host country implementing agency shall, for the purpose of the Supplemental Provisions to the Project Document, refer to the Government cooperating agency described in the Supplemental Provisions.

The following types of revisions to the present project document may be made only with the signature of UNDP's Resident Representative, and that the said Representative possesses the assurance that the other signatories do not have any objection to the proposed changes:

- a. Revisions to any project appendices or additions;
- b. Revisions that do not imply significant changes in the immediate goals, results or project activities, but are results of a redistribution of inputs already agreed to, or cost increases due to inflation or other causes;
- c. Annual, obligatory revisions in addition to rescheduling of inputs and delivery rate as agreed to by the project, due to increased costs of experts, inflation or other causes.

J. BUDGET

Please refer to the following pages.

COUNTRY : **GUATEMALA** | DATE PRINTED: 19/09/96 | PAGE 1

PROJECT NUMBER : GUA/95/G31/A/15/99 | SHADOW BUDGET | LAST REV: 19/09/96
 PROJECT TITLE : Integrated Biodiversity protection in the Sarstun
 Motagua Region (RECOSMO)

PROJECT BUDGET COVERING UNDP CONTRIBUTION (in U.S. dollars)

PROJECT COMPONENTS	TOTAL AMT M/M	1997 AMT M/M	1998 AMT M/M	1999 AMT M/M	20 AMT M/M
*010 PROJECT PERSONNEL					
*11 Experts:					
011-001 Chief Technical Advisor	300,000	120,000	144,000	36,000	
	25.0	10.0	12.0	3.0	
011-051 Short term Consultancies	30,000				30,000
	3.0				3.0
11-99 Subtotal (*)	330,000	120,000	144,000	36,000	30,000
	28.0	10.0	12.0	3.0	3.0
*13 Admin support personnel:					
013-001 Administrative Assistant	54,000	16,500	18,000	18,000	1,500
013-002 Executive secretary	18,000	5,500	6,000	6,000	500
013-004 Pilot	9,000	1,500	3,000	3,000	1,500
13-99 Subtotal (*)	81,000	23,500	27,000	27,000	3,500
5 Official travel:					
015-001 Local Travel	18,000	4,000	6,000	6,000	2,000
015-002 Foreign travel	4,000		2,000	2,000	
15-99 Subtotal (*)	22,000	4,000	8,000	8,000	2,000
*16 Mission costs:					
016-002 Missions	12,000	2,000	4,000	4,000	2,000
16-99 Subtotal (*)	12,000	2,000	4,000	4,000	2,000
*17 National Professionals:					
017-001 National Project Director	108,000	33,000	36,000	36,000	3,000
	36.0	11.0	12.0	12.0	1.0
017-051 Monitoring System Manager	54,000	16,500	18,000	18,000	1,500
	36.0	11.0	12.0	12.0	1.0

COUNTRY : | DATE PRINTED: 19/09/96 | PAGE 2 |

PROJECT NUMBER : GUA/95/G31/A/15/99 | SHADOW BUDGET | LAST REV: 19/09/96 |
 PROJECT TITLE : Integrated Biodiversity protection in the Sarstun
 Motagua Region (RECOSMO)

PROJECT BUDGET COVERING UNDP CONTRIBUTION (in U.S. dollars)

PROJECT COMPONENTS	TOTAL AMT M/M	1997 AMT M/M	1998 AMT M/M	1999 AMT M/M	20 AMT M/M
017-052 Economist	18,000	9,000	9,000		
	6.0	3.0	3.0		
017-053 Ecologist	18,000	9,000	9,000		
	6.0	3.0	3.0		
17-99 Subtotal (*)	198,000	67,500	72,000	54,000	4,500
	84.0	28.0	30.0	24.0	2.0
019 COMPONENT TOTAL (**)	643,000	217,000	255,000	129,000	42,000
	112.0	38.0	42.0	27.0	5.0
*020 SUBCONTRACTS					
021 001 Sierras de Santa Cruz	176,780	37,880	60,010	56,760	22,130
021 002 Bocas del Rio Polochic	146,770	30,170	46,340	50,840	19,420
021 003 Punta de Manabique	150,160	30,110	51,470	47,720	20,860
021 004 Cerro San Gil	259,790	44,173	122,597	67,097	25,923
021 005 Rio Sarstun	128,400	27,650	42,350	41,850	16,550
021 006 Biosfera Sierra de las Minas	458,860	85,727	185,453	129,453	58,227
021 007 Rio Dulce	130,990	31,915	41,530	41,030	16,515
021 008 Proteccion del Quetzal	98,090	19,082	34,463	34,463	10,082
021 009 Biotopo Chocon Machacas	67,130	19,430	19,660	19,660	8,380
022 001 Estu. Biodiversidad/Poblacion	631,000	240,000	251,000	140,000	
023 001 Invest Temas Prioritarios	75,000	15,000	25,000	25,000	10,000
024 001 Manejo Corredores Biologicos	326,000	96,250	97,250	94,250	38,250
025 001 Estab. Revolving Funds	128,107		128,107		
025 002 Estab. Patrimonial Funds.	125,000		125,000		
026 001 Final Audit	20,000				20,000
029 COMPONENT TOTAL (**)	2,922,077	677,387	1,230,230	748,123	266,337
*030 TRAINING					
032 001 Workshops	44,000	8,000	16,000	16,000	4,000

COUNTRY : | DATE PRINTED: 19/09/96 | PAGE 3 |

PROJECT NUMBER : GUA/95/G31/A/15/99 | SHADOW BUDGET | LAST REV: 19/09/96 |

PROJECT TITLE : Integrated Biodiversity protection in the Sarstun
Motagua Region (RECOSMO)

PROJECT BUDGET COVERING UNDP CONTRIBUTION (in U.S. dollars)

PROJECT COMPONENTS	TOTAL AMT	1997 AMT	1998 AMT	1999 AMT	20	AMT
	M/M	M/M	M/M	M/M	M/M	M/M
032 002 Workshop Materials	10,000		5,000	5,000		
032 003 Dissemination Program	15,000		7,500	7,500		
039 COMPONENT TOTAL (**)	69,000	8,000	28,500	28,500		4,000
*040 EQUIPMENT						
041 000 Expendable equipment	30,000	10,000	10,000	5,000		5,000
042 000 Non-expendable	120,000	110,000	8,000	1,000		1,000
049 COMPONENT TOTAL (**)	150,000	120,000	18,000	6,000		6,000
*050 MISCELLANEOUS						
051 000 Operations and Maintenance	55,000	10,000	17,500	17,500		10,000
052 000 Reports and Publications	15,000		5,000	5,000		5,000
053 000 Miscellaneous	30,000	5,000	10,000	10,000		5,000
054 000 Administrative Costs	115,923	30,951	46,682	28,169		10,121
059 COMPONENT TOTAL (**)	215,923	45,951	79,182	60,669		30,121
099 BUDGET TYPE TOTAL (***)	4,000,000	1,068,338	1,610,912	972,292		348,458
	112.0	38.0	42.0	27.0		5.0
999 UNDP TOTAL (***)	4,000,000	1,068,338	1,610,912	972,292		348,458
	112.0	38.0	42.0	27.0		5.0

Annex : Acronyms for Project RECOSMO

ACAD	Central American Agenda for Environment and Development
ANAM	National Association of Municipalities
BUCQ	Mario Dary Rivera University biotope for the Protection of the Quetzal
CACIF	Coordinating Committee of Agricultural, Industrial and Financial Associations
CCAD	Central American Commission for Environment and Development
CDC	USAC's Conservation Information Center
CECON	Center for Environmental Studies at University San Carlos
CITES	Convention on International Trade in Endangered Species
CONALFA	National Literacy Council
CONAMA	National Environmental Commission
CONAP	National Commission for Protected Areas
CONRECOSMO	RECOSMO's Advisory Council
CSOs	Civil Society Organizations
DIGEBOS	General Council of Forests and Wildlife
ECAD	Strategy and Action Plan for Environment and Development in Central America
EIA	Environmental Impact Assessment
FUNDAECO	Foundation for Eco-Development and Conservation
FUNDARY	Mario Dary Rivera Foundation
GEF	Global Environmental Facility
GOs	Governmental Organizations
IDAEH	Institute of Anthropology and History
IICA	Inter-American Institute of Cooperation for Agriculture
INDE	National Institute of Electrification
INGUAT	National Tourist Institute
INTA	National Institute of Agrarian Transformation
MAGA	Ministry for Agriculture and Cattle
NEX	National Execution
NGOs	Non-Governmental Organizations
OAS	Organization of American States
OCREN	Office of Control of National Reserves

PA	Protected Areas
PB	RECOSMO Project Board
PPM	UN Programme and Project Manual
RECODES	Environmental Conservation and Sustainable Development Areas
RECOSMO	Environmental Conservation and Sustainable Development in the Sarstún and Motagua Rivers Region
RENARM	Central American Regional Environmental and Natural Resources Management Project
SEGEPLAN	General Secretariat of Economic Planning
SIGAP	Guatemala's Protected Areas System
SMBR	Sierra de las Minas Biosphere Reserve
SPA	Special Protection Area
TORs	Terms of Reference
UNCED	United Nations Conference on the Environment and Development
UNDP	United National Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAC	San Carlos University
USAID	US Agency for International Development

ENDNOTES

1. CONRECOSMO: Advisory Council for the Conservation and Development of the Sartsún-Motagua Area conformed by the project director of RECOSMO (CONAP's executive secretary), SEGEPLAN, implementing agencies and representatives of the State Development Councils, to effectuate RECOSMO's activities.
2. SPAs have no management classification and include: Punta de Manabique, Río Sartsún, Sierra de Santa Cruz, Bocas del Polochic, Cerro San Gil.
3. PAs with assigned or declared management classification include: Sierra de las Minas Biosphere Reserve, Chocón Machacas Biotope for the Protection of the Manatee, Mario Dary Rivera University Biotope for the Protection of the Quetzal, Río Dulce National Park.
4. Critical and potentially critical areas: where species are threatened or are in danger of extinction.

5. Ecological-economic zoning constitutes the foundation of territorial organization.
6. Biological corridors are strips of land which connect protected areas and where resource use is guided and monitored by master and operating plans.
7. 1. Quetzal Biotope-Sierra de las Minas Biosphere Reserve (SMBR); 2. SMBR-Cerro San Gil; 3. SMBR-Bocas del Polochic; 4. Bocas del Polochic-Sierra de Santa Cruz; 5. Sierra de Santa Cruz-Rio Sartsún; 6. Rio Sartsún-Chocón Machacas Biotope/Punta de Manabique.
8. Demonstration plots aim to show better practices and production in soil conservation, low-impact cultivations, agroforestry, cattle raising and forestry.
9. Exchange rate: Q5.90 = \$1.00

**ANEXO PARTICIPACION DE ONG'S:
MANIFESTACIONES DE INTERES**



CONSEJO NACIONAL DE AREAS PROTEGIDAS

PRESIDENCIA DE LA REPUBLICA

GUATEMALA

REFERENCIA 93/95

DIRECCION LOCAL:

2A. AVENIDA 0-69, ZONA 3.—COL. LO DE BRAN

TELEFONO Y FAX: 51-89-51

Guatemala, marzo 2 de 1995

Señor
Bruno Guandalini
Representante Residente PNUD
Guatemala

Distinguido señor Guandalini:

Después de presentarle un respetuoso saludo, me dirijo a usted con el objeto de reiterarle la solicitud de esta Secretaría, de que por su medio se trámite la solicitud de financiamiento al "Global Environment Facility" para la ejecución del Proyecto GUA/95/001 "Región de Conservación y Desarrollo-Sarstún-Motagua", RECOSMO.

La última versión del documento de proyecto atiende las recomendaciones y sugerencias recibidas de los expertos del GEF, y ha sido preparada mediante consultas efectuadas entre el personal técnico de esta Secretaría Ejecutiva, el personal del PNUD y de las instituciones de gobierno y de las organizaciones no gubernamentales vinculadas al proyecto.

Mucho le agradeceré se sirva enviar dicho documento de proyecto a donde corresponda, con el fin de obtener los comentarios correspondientes que nos permitan producir a la brevedad posible la versión final del mismo y efectuar el trámite de aprobación.

Sin otro particular, me suscribo con las muestras de mi consideración y estima.


Lidia Enma Díaz de Gordillo
SECRETARIO EJECUTIVO



PRESIDENCIA DE LA
REPUBLICA

COOPERACION DE LOS PAISES BAJOS
Guatemala

OFICINA DE COOPERACION
DE LOS PAISES BAJOS
11 Calle 2-29 Zona 14
Ciudad de Guatemala 01014
Tels. (502 2) 683026, 374884
Fax. (502 2) 372605

(EMBAJADA DE LOS PAISES BAJOS
San José, Costa Rica)

OCPB-389.95

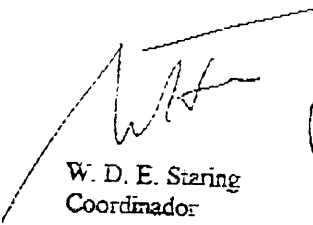
Guatemala, 7 de noviembre de 1995

Estimado señor Franklin:

Tengo el agrado de dirigirme a usted para acusar recibo del documento "Región de Conservación y Desarrollo Sarstun-Motagua (RECOSMO)", el cual nos parece un concepto novedoso en el área del medio ambiente y desarrollo sostenible.

Como es de su conocimiento, la Cooperación Holandesa tiene interés de apoyar las acciones de Desarrollo Sostenible en la región de la Sierra de los Cucumatanos y la región Oriental, principalmente los departamentos de Zacapa y Chiquimula. Dado que el proyecto tiene acciones en esta región, y que el concepto del proyecto va en la línea de nuestras acciones, que ya estamos financiando en Chiquimula, tiene para nosotros mucho interés y creemos posible apoyar su ejecución en el futuro.

Sin otro particular, le saludo muy atentamente,


W. D. E. Staring
Coordinador



Señor
Lars Franklin
Representante Residente
PNUD
Ciudad]



U.S. AGENCY FOR
INTERNATIONAL
DEVELOPMENT

3 de mayo de 1995

PLAZA UNO
LA CALLE 7-66,
01009 ZONA 9,
GUATEMALA

USAID
UNIT 3323
APO AA 34024
U.S.A.

Señor
Bruno Guandalini
Representante Residente
Programa de Naciones Unidas
para el Desarrollo - PNUD
6a. Avenida 20-25, Zona 10
Guatemala, Ciudad

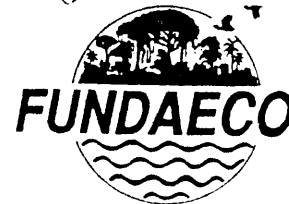
Estimado señor Representante,

Tengo el agrado de dirigirme a usted, para hacer mención de la reunión sostenida entre el Ingeniero Edgar Pineda, Coordinador de Asuntos Ambientales de esa representación y nuestro equipo técnico de la Oficina de Recursos Naturales y Medio Ambiente, cuyo principal tema fue el proyecto RECOSMO, que actualmente está en fase de negociación con el Fondo Mundial para el Medio Ambiente (GEF).

El Proyecto mencionado es de mucho interés para nuestra Misión y desde ya cuenta con nuestro total apoyo, de tal suerte que a la fecha hemos iniciado operaciones con el proyecto Manejo Comunitario de los Recursos Naturales, con lo cual consideramos que podemos aunar esfuerzos para posibilitar un desarrollo sostenible y sostenido del área.

Sin otro particular, aprovecho la ocasión para suscribirme, atentamente,

Thomas H. Pierce
Jefe, Oficina de Recursos
Naturales y Medio Ambiente



Guatemala.
3 de Febrero de 1.995

Sr.
Bruno Guandalini
Representante Nacional
Programa de Naciones Unidas para el Desarrollo
PNUD
Su Despacho

Respetable Señor Guandalini:

Reciba primero que todo un atento saludo y el deseo de éxitos en sus diarias labores.

De acuerdo a lo conversado, le envío por este medio el original del DOCUMENTO DE APOYO DE LAS ONG'S CONSERVACIONISTAS DE GUATEMALA AL PROYECTO RECOSMO. Dicho documento fué firmado por más de cincuenta representantes de organizaciones de todo el país reunidas durante el PRIMER ENCUENTRO DE EDUCACION AMBIENTAL de Guatemala, realizado en Izabal durante Noviembre de 1994.

Considero que esta manifestación de apoyo de la comunidad conservacionista de Guatemala al proyecto es algo único y sumamente importante, y demuestra la importancia que tiene la propuesta para la Conservación de la Biodiversidad en nuestro país. Estamos seguros de que la carta será de suma utilidad para todos aquellos esfuerzos y gestiones que realice PNUD-GUATEMALA en pro de la aprobación del Proyecto RECOSMO por el GEF.

En espera de sus observaciones a la presente, me suscribo de usted.

Atentamente.

Lic. Marco Vinicio Cerezo B.
Director General
FUNDAECO

FUNDACION PARA EL ECODESARROLLO Y LA CONSERVACION

OFICINAS CENTRALES: 7a. Calle "A" 20-53, Zona 11 Colonia Mirador Apartado Postal 88-A Guatemala: Ciudad - Teléfono y Fax: 724268
OFICINA REGIONAL: Edificio "Plan de Prestaciones" 3er. Nivel. Of. No. 7, Santo Tomás de Castilla, Izabal, Teléfono: 0483354

Guatemala.

18 de Noviembre de 1994

Sr.
Bruno Guandalini
Representante Residente
Programa de las Naciones Unidas
para el Desarrollo

Respetable Señor Guandalini:

Como representantes de la Comunidad Conservacionista Guatemalteca, los abajo firmantes deseamos manifestarles nuestro apoyo a los procesos de desarrollo sustentable y conservación de la naturaleza.

Consideramos que las áreas protegidas son el instrumento idóneo para conciliar la conservación de la naturaleza con el uso sostenible de los recursos naturales. De particular importancia es el apoyo que se dé al manejo de las áreas protegidas y su zona de influencia, incluyendo corredores biológicos y regiones biológicas de importancia.

Es por ello que los representantes de 52 Organizaciones No Gubernamentales y Organizaciones Gubernamentales dedicadas a la conservación y desarrollo sostenible, reunidos en el I **ENCUENTRO NACIONAL DE EDUCACION AMBIENTAL**, realizado en Izabal del 6 al 11 de noviembre de 1994, conscientes de las necesidades prioritarias de conservación en Guatemala, apoyamos la propuesta de proyecto "Región de Conservación Sarstún - Motagua" (**RECOSMO**), presentada por Guatemala al "Global Environmental Facility" (GEF).

Consideramos que dicha propuesta responde a las necesidades de conservación en nuestro país y que su aprobación es de vital importancia para encaminar a Guatemala hacia el desarrollo sostenible.

Por ello los abajo firmantes le solicitamos apoyar dicha iniciativa tomando en consideración los beneficios que tendrá para la población del área y para la conservación de nuestro patrimonio natural.

Atentamente.

NOOMBRE

INSTITUCION EN LA QUE TRABAJA

FIRMA

Freddy Montoya

Amigos de Atitlan

Pedro Mendoza Tacaxoy

Amigos de Atitlan/DIGEBOS

Ligia De Leon

Amigos del Bosque

Sylvia Azurdia Herrera

ARCAS

Miguel Angel Arriaza

Asoc. Ambient. y Ecologica de Morazan

Victor Lopez Acevedo

Asociación Ecologica de Oriente

Gloria Judith Fuentes Quintana

Asociación para El Desarrollo y La E. A.

Benedicto Velasquez

Asoc. p.La Promoc, Protec. y Desar. de La Nat.

Horacio Samayoa

Asociación SHARE Guatemala

Polly Castaneda

Asociación Suiza para el Desar. y la Conserv.

Elizabeth Stoeppler

Audubon de Guatemala

Eddy Diaz

Bosques para la Paz

Marta Patricia Ayala B.

Calmecac

Mark Dripchak

CARE- MICUENCA

Eugenia de Celada

CARE/Guatemala

Telma Pérez

CARE/Guatemala

Hilda Rivera

CARE/Guatemala

Hugo Villafuerte

Centro Universitario de Nororiente USAC

Carlos Arturo Hernandez

Centro Universitario de Occidente USAC

NOT-

Otto Cifuentes

Comision Nacional del Medio Ambiente

Joel Isaias Orozco

Comité Ambiental Municipal

Oscar Herrera Torres

Consejo de Bienestar Social de Guatemala

Anabela Barrios

Direccion General de Bosques

Edgar Alvarado

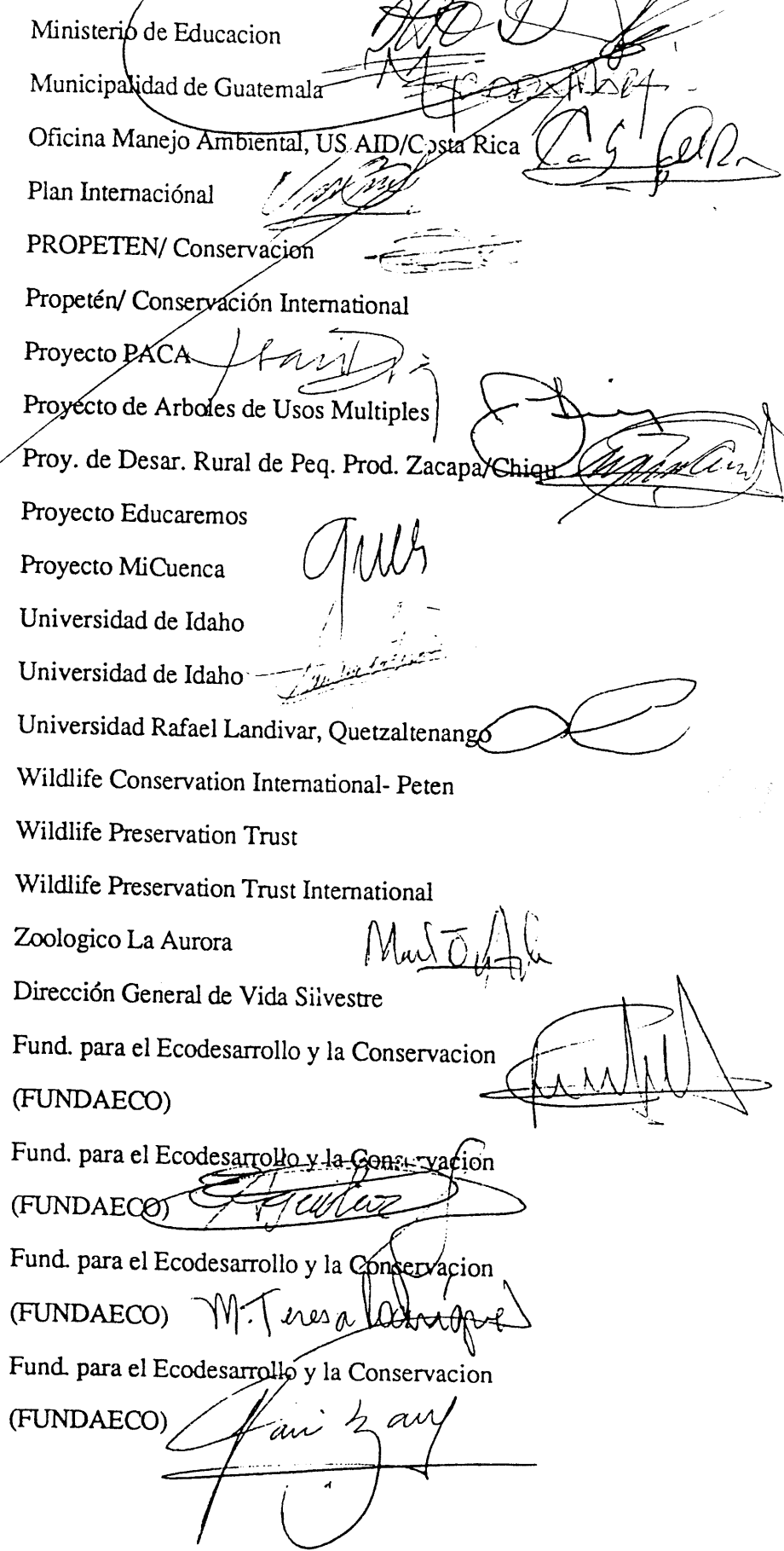
Direc. General de Bosques y Vida Silvestre

Mario Aldana

Direccion General de Caminos

Ovidio De Leon
Marta Estrada
Carlos de la Rosa
Victor Cardona
Edgar Calderon
Amilcar Noe Calderón Becerra
Jeanes Diaz
Jorge Luis Estrada
Mauricio Corado
Teresita Chinchilla
Lily Gutierrez
Magda Lopez
Clauida Santizo
Alfonso Laoarca
Jorge Cardona
Maritza Jimenez
Lorena Calvo
Manuel Agreda
Carlos Galindo
Oscar Rosales
Estuardo Aguilar
Mayte Rodriguez
Giovanni Zamora

Ministerio de Educacion
Municipalidad de Guatemala
Oficina Manejo Ambiental, US AID/Costa Rica
Plan Internacional
PROPETEN/ Conservacion
Propetén/ Conservación Internacional
Proyecto PACA
Proyecto de Arboles de Usos Múltiples
Proy. de Desar. Rural de Peq. Prod. Zacapa/Chiqu
Proyecto Educaremos
Proyecto MiCuenca
Universidad de Idaho
Universidad de Idaho
Universidad Rafael Landivar, Quetzaltenango
Wildlife Conservation International- Peten
Wildlife Preservation Trust
Wildlife Preservation Trust International
Zoologico La Aurora
Dirección General de Vida Silvestre
Fund. para el Ecodesarrollo y la Conservacion
(FUNDAECO)
Fund. para el Ecodesarrollo y la Conservacion
(FUNDAECO)
Fund. para el Ecodesarrollo y la Conservacion
(FUNDAECO)
Fund. para el Ecodesarrollo y la Conservacion
(FUNDAECO)

The right side of the document features a list of organizations and projects, each accompanied by a handwritten signature or stamp. The signatures are written in black ink and vary in style, some being very large and stylized. There are also some faint, illegible stamps or markings, possibly from a photocopy or a specific office. The overall appearance is that of a personal or official record of affiliations.

Sonia Argueta
Melington Cabrera
Norma Paz
José Vasquez
Ricardo Casasola
Edgar Alfredo Paniagua
Luis Fernando Hernandez
Maria Teresa Rodriguez
María Teresa Rodríguez Blandón
Marco Vinicio Cerezo
Otto Escobar
Francisco Guzman
Eliseo Galvez
Irma Yolanda Caal
Wilfredo Duran
Luis Barrera
José Robledo
Juan Pablo Sagastume
Gloria Chirouze
Raquel Sigüenza
Karina Arriaza
Gustavo Adolfo Ramírez Ortíz
Ramon Antonio Zetina
RON F. Savage

Dirección General de Caminos
Dirección General de Caminos
Dirección General de Caminos
Dirección Genertal de Caminos
Eco Izabal
Ecorporacion Itzamna Kahuil S.A.
Expedición
Fund. Ambiental para el Ecodesarrollo y
la Conservacion (FUNDAECO)
Fund. Ambiental para el Ecodesarrollo y
la Conservacion (FUNDAECO)
Fund. para el Ecodesarrollo y Conservacion
(FUNDAECO)
Fundación de Defensa del M.A. de B. Verapaz
Fundación de Defensa del M.A. de B. Verapaz
Fundacion Defensores de la Naturaleza
Fundación Defensores de la Naturaleza
Fundación Defensores de la Naturaleza
Fundación del Centavo
Fund. para el Ecodesarrollo y la Conservación
(FUNDAECO)
Fund. para la Conserv. de Aves en Peligro de Ext.
Fundación Tecnología
Fund. Interamericana de Investigación Tropical
Guardianes Ecologicos: Prensa Libre
Instituto Nacional de Transf. Agraria
Mayafor
CARE

Handwritten signatures and scribbles are present over the text, including a large signature at the top right, a signature 'M. Teresa Rodriguez Blandón' on the right side, and a large signature 'Ron F. Savage' at the bottom right. There are also several illegible scribbles and smaller signatures scattered throughout the right column.



RECIBIDO 22 FEB. 1995
UNDP - GUATEMALA, C. A.
Asociación Guatemalteca Pro-Defensa del Medio Ambiente
APRODEMA

Post-It* Fax Note	7671	Date	22/2/95	# of pages	3
To	PNUMD	From	APRODEMA		
Co./Dept.		Co.			
Phone #		Phone #	681327		
Fax #	370304	Fax #	372084		

Guatemala,

22 de Febrero de 1995

Estimados compañeros ambientalistas:

Nuevamente debemos unir esfuerzos para detener la depredación en las áreas protegidas de Sierra de las Minas y Biósfera Maya. Por favor, únase a esta lucha y envíe el mensaje adjunto (o el que usted redacte), a las autoridades responsables de Guatemala cuyo nombre y fax damos abajo. Igualmente, pida el apoyo de las ONGs internacionales que usted conozca. Solo una fuerte presión interna y externa hará que se respeten estos bosques patrimonio de la humanidad. Gracias.



X  Marta Pilon de Pacheco

20 Calle 19-44, Zona 10 - Tels.: 681327 - Fax: 00502-2-372084
Apartado Postal 1352 - Cod. 01010. Guatemala, C. A.



Asociación Guatemalteca Pro-Defensa del Medio Ambiente
APRODEMA

S O S - CONSERVACIONISTAS DEL MUNDO

¡AYUDENNOS A SALVAR LA SIERRA DE LAS MINAS EN GUATEMALA!

Los guatemaltecos necesitamos su urgente apoyo para proteger la Reserva de Biosfera Sierra de las Minas. Ya estalló el escándalo público en la prensa nacional acerca de la depredación en esta reserva. Por favor pidan a todas las entidades, en Guatemala y el mundo, de que envíen lo más rápido posible faxes a los funcionarios que mencionamos en el listado adjunto, demandando que inmediatamente se detenga la depredación de los bosques antiguos de la zona núcleo de la Reserva de la Biosfera Sierra de las Minas. Necesitamos su ayuda para proteger esta joya insustituible del patrimonio natural de Guatemala y Centro América.

Antecedentes:

La Sierra de las Minas es una Reserva de Biosfera establecida por decreto del Congreso de la República de Guatemala y desde 1993 es parte de la red internacional de Reservas de la Biosfera reconocidas por UNESCO.

Esta área protegida, de 236,000 hectáreas de extensión y alturas que sobrepasan los 3,000 metros, está ubicada en el nor-orienté de Guatemala. Contiene la mayor diversidad biológica del país: 70% de todas las especies de mamíferos, aves y reptiles registrados en Guatemala y Belice. Además contiene la mayor extensión de bosque nuboso antiguo de Centro América habitat del resplandeciente quetzal. Es considerado la fuente de agua dulce más importante de Guatemala y el banco de germoplasma de pino tropical más importante del mundo.

A pesar de que lo prohíbe la Ley, en la zona núcleo de esta Reserva un grupo de madereros - respaldados por la Dirección General de Bosques del Ministerio de Agricultura (DIGEBOS) - continúan explotando estos antiquísimos e insustituibles bosques, amedrentando a quienes se oponen a esta destrucción. Realizan esta explotación en franca violación de muchos artículos de la Ley de Áreas Protegidas, con el agravante de que DIGEBOS no tiene jurisdicción en éstas áreas.

Si no hacemos algo ahora, como resultado tendremos la degradación de los últimos vestigios de bosques nubosos primarios de Guatemala y la reducción de las fuentes de agua esenciales para las poblaciones que viven en el árido valle del Motagua.

¡Por favor ayúdenos a que esto no suceda!

20 Calle 19-44, Zona 10 - Tels.: 681327 - Fax: 00502-2-372084

Apartado Postal 1352 - Cod. 01010. Guatemala, C. A.

estado de personas a las cuales enviar los FAX demandando la inmediata suspensión de la explotación del bosque nuboso en la Tierra de las Minas:

Licenciado Ramiro de León Carpio
Presidente de la República de Guatemala
Fax: 502 (2) 29-968

Licenciado Acisclo Valladares Molina
Procurador General de la Nación
República de Guatemala
Su Despacho
Fax: 502 (2) 53-0482

Licenciado Luis Arturo del Valle
Ministro de Agricultura
República de Guatemala
Su Despacho
Fax: 502 (2) 53-6807

General Mario Enriquez
Ministro de la Defensa
República de Guatemala
Fax:
Fax: 502 (2) 21-906

General Efraín Ríos Montt
Presidente
Congreso de la República de Guatemala
Fax: 502 (2) 51-0353

Licenciada Enma Díaz
Secretaria Ejecutiva
Consejo Nacional de Areas Protegidas
Fax: 502 (2) 53-7612

Doctor Otoniel Aquino
Director General
DIGEBOS
Fax: 502 (2) 73-5211

*Dr. Jorge Mario García-Saguardía
Procurador de los Derechos Humanos
Fax: 502 (2) 81734*

ANEXO VI: NOTICIAS SOBRE LA RECOSMO

Ave Símbolo:

El Quetzal en grave peligro



Destrucción de su hábitat lo obliga a buscar regiones más elevadas en las extensas selvas tropicales



En un círculo, se aprecia uno de los quetzales, fotografiados en el área de Senahú. Cada vez es más difícil para esta especie, su sobrevivencia.



Entre los bosques más bajos, el Quetzal está buscando su alimento, en vista de que en las partes altas, ya no hay suficiente, pues las gigantescas arboledas han sido taladas. (Fotos de Ricardo Gatica Trejo).

DEFENSORES:

"Destrucción es causada por creciente población"

MARIE-CLAIRE:

"Las verapaces, Zacapa, el Progreso e Izabal zona crítica"

DETALLES:

"Cazadores actúan en el oriente"

Ricardo Gatica Trejo
GRAFICO

La sobrevivencia del Quetzal, el ave símbolo del país, se encuentra en fase "crítica", como consecuencia de la destrucción de su medio ambiente, según revelan los estudios realizados por la organización no gubernamental "Defensores de la

Naturaleza".

En los pasados 24 meses, esta institución ha realizado un trabajo de campo y le ha permitido concluir, que de no adoptarse medidas reales de prevención, el Quetzal quedará virtualmente aislado en bosques de gran altura, reduciéndose el número de los mismos.

Marie Claire Paiz, a car-

go del "Proyecto Quetzal", de "Defensores de la Naturaleza", explica que el área "crítica", se localiza en los departamentos de Alta y Baja Verapaz; Zacapa, El Progreso e Izabal. Añade que se ha comprobado que bosques a 1,800 metros de altura, están desapareciendo rápidamente en esta región del nororiente del país, y con ello, el Quetzal pierde

parte de su hábitat natural y con ello, busca llegar a bosques de mayor altura.

Ello representa que gradualmente, el Quetzal tendrá que emigrar a regiones más altas y con ello, su presencia será menor. Por ejemplo a finales y principios de año, el Quetzal busca los bosques más bajos, pero al no encontrarlos, irá muriendo gradual-

mente. Se ha detectado que el Quetzal mantiene constantes migraciones y en los finales y principios del año, busca los bosques más altos, explica nuestra entrevistada.

Luego se eleva a alturas superiores a los 1,800 metros, en donde permanece.

El problema está en que cuando busca los bosques más bajos, ya no los encuentra y ahí se queda sin alimentación, con la posibilidad, casi segura, de morir.

CAZADORES FURTIVOS

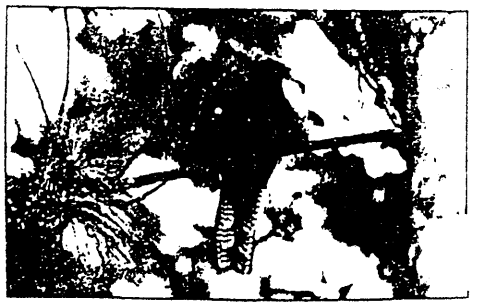
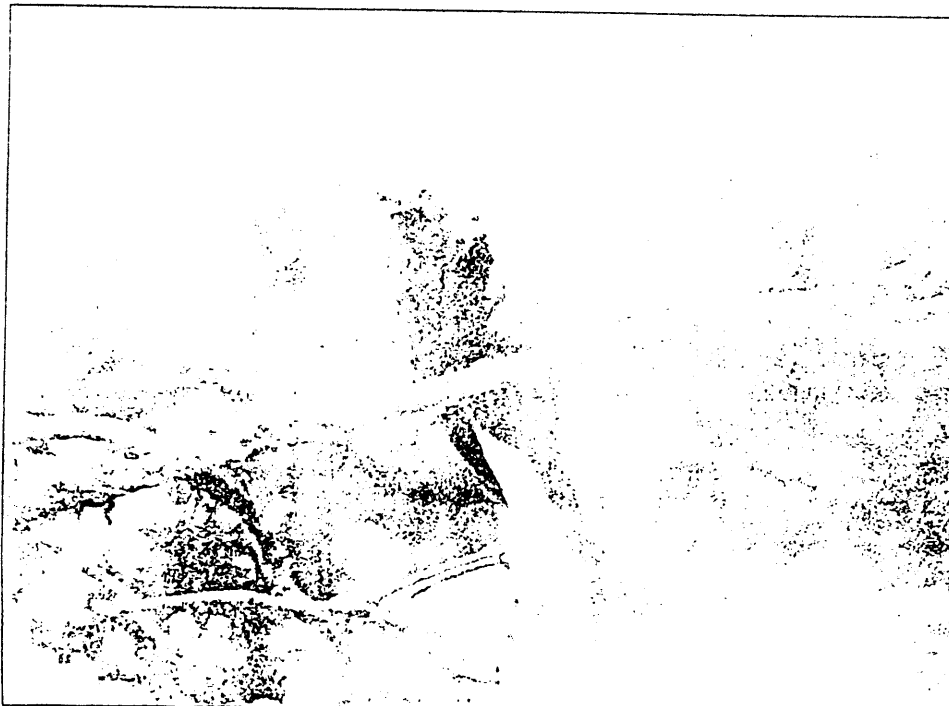
Marie Claire Paiz, explica que se ha detectado la presencia de cazadores furtivos, especialmente en el departamento de El Progreso, que buscan a el Quetzal para darle caza.

Hasta ahora, señala, no hay evidencias, sin embargo, que los estén sacando del país. Pero, agrega, es evidente que los cazan y por lo tanto, los venden en alguna par-

HISTORIA

te. Los ornitólogos dicen que el Quetzal, entre las especies más bellas del Nuevo Continente; el más alto rango, es sin embargo, para el Quetzal, no sólo por su extraordinaria belleza, sino por su dignidad y antigüedad de su leyenda.

La primera mención del Quetzal, en Europa, se registra el 8 de marzo de 1574, en los escritos del licenciado Palacios, a la Corona: "El jefe indigena del reino de Guatemala, traía a la cabeza una tiaradema, y a veces mitra, labrada de diferentes colores, en la cola de ella, un manajo de plumas muy buenas, de unos pájaros que hay en la tierra, que llaman quetzales...". Fray Francisco Ximénez, un naturalista, anota, en 1722, que "esta es una de las más hermosas aves que tiene America, y que si se pudiera conservar en una jaula, fuera como para la casa de un rey...".



Una hembra, fotografiada a casi sesenta metros de distancia, en un árbol, esperando al macho.

La deforestación en el país está destruyendo el hábitat del Quetzal, sin que las autoridades puedan evitarlo.

Q1.00
En todo
el país

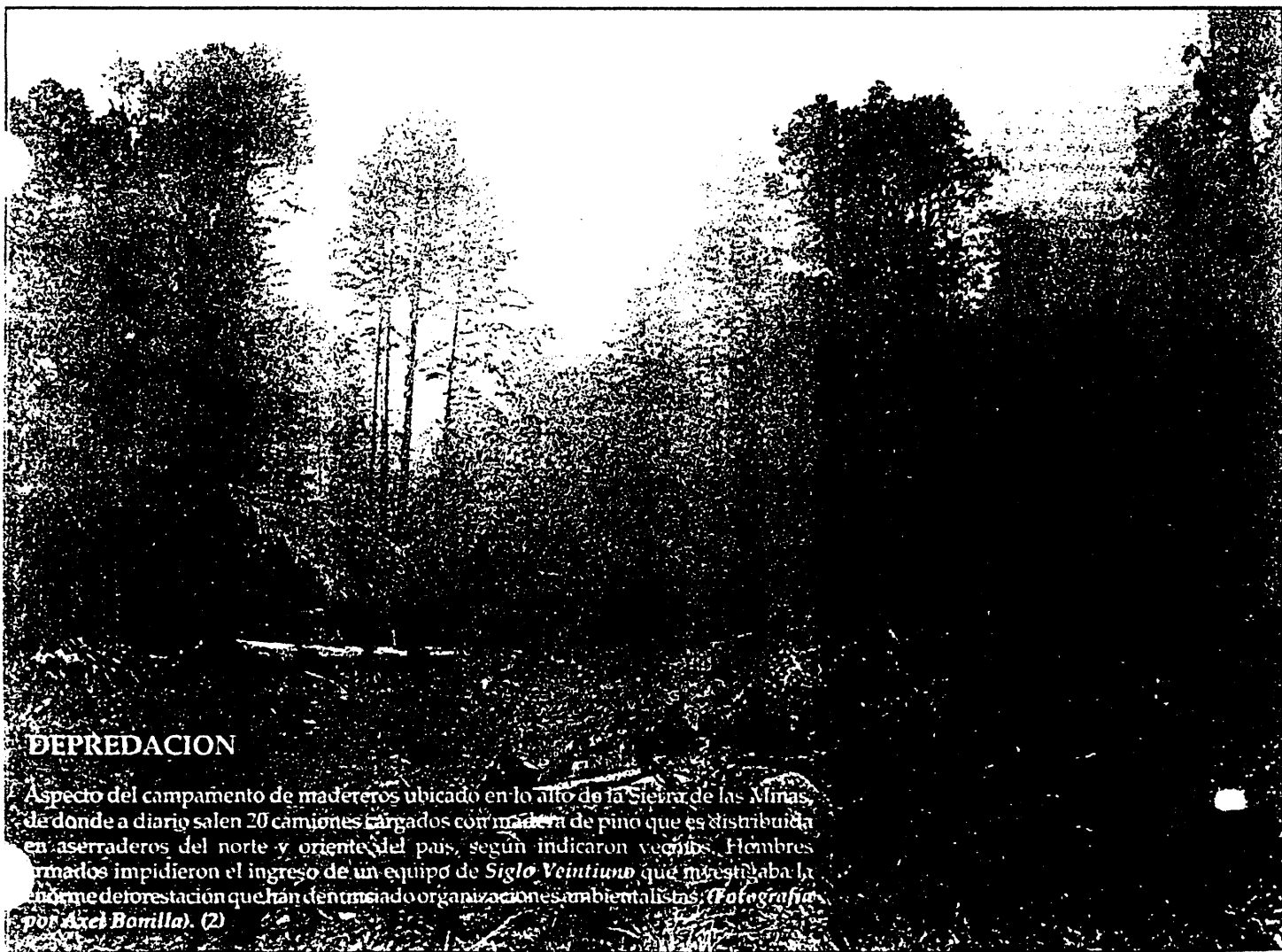
SIGLO VEINTIUNO

Por una Nación justa, digna y solidaria

Número 1777. Año 5. Guatemala, domingo 19 de febrero, 1995.

Naciones Unidas agilizará acuerdos URNG-COPAZ

3



DEPREDACION

Aspecto del campamento de madereros ubicado en lo alto de la Sierra de las Minas, de donde a diario salen 20 camiones cargados con madera de pino que es distribuida en aserraderos del norte y oriente del país, según indicaron vecinos. Hombres armados impidieron el ingreso de un equipo de *Siglo Veintiuno* que investigaba la enorme deforestación que han denunciado organizaciones ambientalistas. (Fotografía por Axel Bonilla). (2)

En San Miguel Totonicapán:

23,225 manzanas de bosques sufren ya las consecuencias de los depredadores

Un mes y medio más de la larga historia de la depredación fue denunciado a la redacción de este periódico por los lugareños organizados en San Miguel Totonicapán, donde 23,225 manzanas (16 mil, 400 hectáreas) de bosque comunal sufren ya las consecuencias de los depredadores, que con la impunidad que les caracteriza están extrayendo la riqueza natural.

Apenas el jueves pasado, 20 organizaciones ambientalistas denunciaron la gigantesca depredación en La Sierra de las Minas, donde hombres con armas de grueso calibre están intimidando a los lugareños, inclusive se dijo que la madera está siendo extraída por camiones pertenecientes a las fuerzas de seguridad.

Aunque en el caso primeramente señalado no se vincula a las fuerzas de seguridad, pero sí a personas poderosas que han amasado grandes fortunas, ninguno de los vecinos se atreve a denunciar por temor a represalias y porque a quienes

De mantenerse los niveles de depredación observados en los últimos años se quedarán sin agua sus 50 mil habitantes y muchas regiones circunvecinas.

Sololá depende también en un gran porcentaje de los mantos acuíferos del bosque comunal de San Miguel Totonicapán, cuyos pobladores padecerán primero de escasez y luego severas sequías del vital líquido: Chipachec, Chamaján, Chimente, Meda Cuesta, Maxul, San Ixman, Barriiche, Esperanza, Rancho de Teja, Caxtun y Panquix no escaparían.

• ENTRE EL TEMOR Y LA CORRUPCIÓN

A pesar de que entre la población se conoce los nombres de personas que han estado comprometidas con la depredación, el temor y la plena conciencia de que a ellos la ley "no los toca", impide que tomen acciones en reivindicación del patrimonio comunal amenazado con la extinción, ya que los depredadores no temen a las leyes habidas y por haber.

Se rumora entre los lugareños, de personas que han logrado acumular millones de quetzales, sin que ninguna de las instituciones encargadas de velar por la protección de los recursos forestales y del cumplimiento de las leyes mueva un dedo para detener las acciones de los depredadores, que siempre cuentan con abogados, que los defiendan.

Quienes con un poco más conciencia o con más coraje han intentado detener el abuso mediante la denuncia, pero solamente han conseguido una paliza, si no que lo diga uno de los empleados de CONAMA, que también funge como guar-

dabosque ad honorem, ya que éste fue golpeado en el mismo lugar donde los depredadores estaban cortando la madera.

• CINCO PARCIALIDADES AL RESCATE

Pero no todo es temor y desesperanza. La Asociación de las Cinco Parcialidades, organizadas y fundada entre comuneros con el objetivo de velar por la protección de los bienes, bosques y tierras que les son comunes, decidió asumir la responsabilidad plena de defenderlas, ante los oídos sordos de las autoridades.

Decididos de afrontar con valentía a los depredadores y tratar de encontrar soluciones a este viejo problema, se abocaron a Greenpeace y a la Asociación Nacional de Productores Orgánicos (ANPRO), instituciones que trasladaron la denuncia ante a la Procuraduría de los Derechos



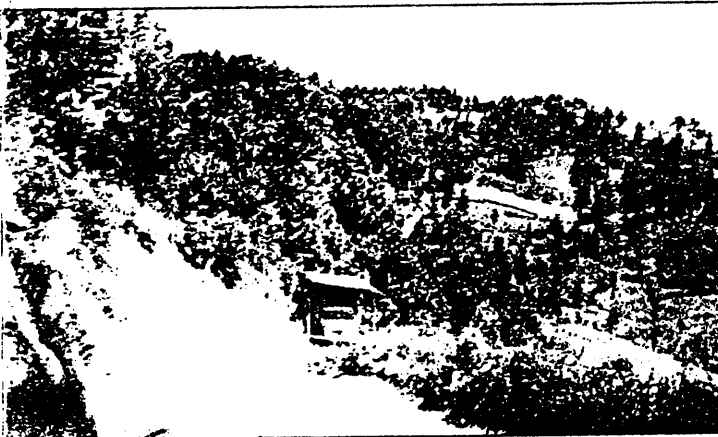
Esta lugareña, muestra las semillas de pino que han utilizado para reforestar lo que los depredadores se han llevado, sin embargo, la depredación no cesa y lejos de ello es acelerada, ante los oídos sordos de las autoridades, que parece no preocuparles el futuro del ecosistema.

Humanos y esperar una pronta resolución.

Los comuneros no se avocaron directamente a la Fiscalía General o bien a la Procuraduría General de la Nación, toda vez que al nivel de estas instancias requería como parte del procedimiento de investigación que se escuchara algunos de los testimonios de los lugareños, sobre lo cual evidentemente existe temor.

• EN BUSCA DE UN EJEMPLO

Si las comunidades logran a través de la organización que han logrado y la decisión de denunciar la depredación y eventualmente, a las personas que encabezan ese sucio pero jugoso negocio, no solamente las organizaciones ambientalistas, sino las comunidades y Guatemala en general habrán logrado dar el primero paso para terminar con el saqueo.



Así se veía antes esta parte del bosque comunal de San Miguel Totonicapán, cuando aún la carrera de deforestación no había sido acelerada. En la portada de esta edición, se aprecia cómo esta región se encuentra actualmente.

las autoridades han logrado apresar, más tardan en capturarlos que recuperar su libertad.

La propiedad comunal de San Miguel Totonicapán, data según el primitivo título fechado desde el 24 de febrero de 1635, en cuyo documento se establece que el bosque es de su propiedad, lo que ha despertado conciencia por su masa boscosa, reforestando parte de lo que hasta el momento se han llevado los depredadores.

La comunidad de Chiumequena, que aún siendo uno de los departamentos con mayor densidad de población (más de 200 personas por km cuadrado) han conservado aún gran parte de su bosque, que hoy corre peligro de desaparecer a causa de los depredadores, quienes sin duda alguna están siendo protegidos por personas importantes.

La madera es extraída en la noche, cuyos camiones durante el día están resguardados dentro del bosque comunal, dentro de improvisadas galerías; anteriormente, la madera era llevada a México, pese a los puestos de control que las autoridades responsables se supone deben destacar en esas áreas estratégicas.

• MAS DE 50 MIL PERSONAS QUEDAN SIN AGUA

Sólo en el departamento de Totonicapán, existen más de 48 comités que proveen de agua a sus comunidades: agua que proviene de las fuentes y nacimientos del bosque comunal.



Los depredadores sin temor de que las autoridades puedan aplicarles la ley, ya que más tardan en ser capturados que recuperar la libertad, porque cuentan siempre con abogados, extraen la madera durante la noche, mientras que en la mañana guardan sus camiones en improvisadas galerías.

ANEXO VII: TERMINOS DE REFERENCIA

TERMINOS DE REFERENCIA PARA CONTRATACION DEL ASESOR TECNICO
PRINCIPAL DEL PROYECTO

Requisitos:

Profesional en Ecología, Ciencias Forestales o Biología con estudios de posgrado en Planificación Ambiental o Planificación Regional, conocimientos y experiencia demostrable en Administración de Sistemas de Areas Protegidas o Parques Nacionales en Guatemala, los países centroamericanos o latinoamericanos, en el área tropical. Experiencia comprobable en ejecución de proyectos similares, proyectos de desarrollo sostenible o proyectos de desarrollo de recursos naturales; el conocimiento profundo de Guatemala o el área del proyecto se considera una ventaja. Deberá dominar el idioma español y tener conocimientos de inglés.

Funciones:

Bajo la supervisión de la Oficina del Representante Residente del PNUD, el Asesor Técnico Principal deberá realizar las siguientes actividades:

- Asesorar al Director del Proyecto en sus funciones de planificación, coordinación y ejecución del Proyecto.
- Elaborar, conjuntamente con el Director, los planes de trabajo operativos y presupuestos del proyecto.
- Elaborar, conjuntamente con el Director los informes técnicos y financieros semestrales.
- Asesorar al Director en la gestión administrativa, técnica y financiera del Proyecto.
- Asesorar al Director en el establecimiento de un sistema de seguimiento y evaluación del Proyecto.
- Apoyar al Director, las organizaciones implementadoras y demás personal técnico, en la supervisión y ejecución de las diferentes actividades del Proyecto, manteniendo informada a la oficina del Representante Residente del PNUD sobre el desarrollo y avance de estas actividades.
- Participar en la formación y capacitación del personal técnico y profesional del proyecto y de las organizaciones implementadoras en aspectos de administración de áreas protegidas, desarrollo sostenible, conservación de la biodiversidad, ecología de la conservación, prácticas de uso sostenible, planificación, seguimiento y evaluación de proyectos, otros.
- Coordinar, con la participación del Director del Proyecto, los programas de capacitación y difusión del Proyecto.

- Coordinar, junto con el Director del Proyecto, la elaboración de la propuesta para la continuación de las actividades en la RECOSMO después de la vida del Proyecto y apoyar la presentación de la misma a organismos y cooperantes internacionales para obtener el financiamiento respectivo.

7. Elaborar una lista de amenazas locales, regionales y extraregionales a la biodiversidad de la RECOSMO. Diseñara un sistema para calificar las amenazas a la biodiversidad, incluyendo los zoneamientos económico-sociales y delimitará las áreas críticas y potencialmente críticas según el grado de amenaza a la biodiversidad.
8. Identificar y evaluará otras áreas críticas o potencialmente críticas de interés especial para la conservación de la biodiversidad entre ellas: nacimientos de agua, centros ceremoniales, sitios arqueológicos, comunidades bióticas especiales, especies amenazadas, parques municipales, áreas protegidas privadas, sitios ecoturísticos, y, otros en el área de la RECOSMO que puedan utilizarse como sitios de protección de la biodiversidad.
9. Identificar y describirá las acciones pertinentes en caso de aumento del riesgo.
10. En cooperación con el equipo de zoneamiento ecológico económico formulará la expresión del paisaje regional saludable.
11. Presentar un informe intermedio de avance y uno final con los resultados del estudio, para su análisis y aceptación por el Proyecto.

TERMINOS DE REFERENCIA PARA EL ESTABLECIMIENTO DE UN SISTEMA DE INFORMACION Y MONITOREO DE LA DIVERSIDAD BIOLOGICA EN LA RECOSMO

Requisitos:

La Empresa o Entidad Consultora (o grupo de Consultores), en adelante el consultor, deberá ser de reconocido prestigio y seriedad científico y técnico en el campo de la biología, con énfasis en ecología sistemática, estar debidamente acreditado en Guatemala y mostrar experiencia comprobable en ejecución de trabajos similares en ecosistemas tropicales, de preferencia en Guatemala, los países centroamericanos o latinoamérica. Los técnicos asignados al estudio deberán ser profesionales de preferencia de origen guatemalteco, con estudios superiores en biología, con énfasis en ecología sistemática de ecosistemas terrestres y acuáticos; conocimientos de biogeografía, geomorfología, hidrología, suelos, interpretación de imágenes de satélite y fotografía aérea y experiencia demostrable en la realización de estudios similares, además de por lo menos ocho años de ejercicio profesional.

Actividades:

El consultor, bajo la supervisión directa del Director del Proyecto y el Asesor Técnico Principal, deberá realizar las siguientes actividades:

1. Identificará los ecosistemas y especies especiales a monitorear y las características de las especies y de los ecosistemas a monitorear.
2. Determinará los rangos de las características que se considerarán aceptables o no y el intervalo de tiempo para monitorear cada característica.
3. Evaluará la conectividad, fragmentación, heterogeneidad de los ecosistemas y paisaje regional.
4. En cooperación con el grupo del estudio socioeconómico identificará que usos de la tierra y sistemas de manejo a monitorear y su relación con la biodiversidad a largo plazo.
5. En base a la información anterior y los resultados de EER-RECOSMO, diseñará el sistema de monitoreo de la biodiversidad de la RECOSMO.
6. Definirá el equipo mínimo de campo necesario para el monitoreo, y establecerá las necesidades de capacitación para su manejo y operación.
7. Someterá a consideración de la Dirección del Proyecto, y por su intermedio a CONRECOSMO, la comunidad académica y miembros de las OGS y ONGs que participan en el proyecto el sistema de monitoreo que haya sido diseñado.

**Términos de Referencia de los Sub-contratos para el manejo de las
Áreas Silvestres Protegidas:**

La entidad implementadora deberá realizar las acciones correspondientes al área protegida asignada.

a) Sierra de Santa Cruz: 46,000 ha

- Revisar estudio técnico
- Identificar áreas críticas
- Promover aprobación de estudio técnico y categoría de manejo
- Elaborar Plan Maestro
- Promover aprobación del Plan Maestro
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Poner a funcionar un Centro de Uso Múltiple, incluyendo E.I.A.
- Participar en la definición de los corredores biológicos: Sierra de Santa Cruz-Bocas del Polochic, Sierra de Santa Cruz-Chocón Machacas, Sierra de Santa Cruz-Río Sarstún
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área de los corredores biológicos
- Establecer parcelas demostrativas sobre prácticas de uso sostenible y agricultura orgánica
- Brindar asistencia técnica a 200 familias para el establecimiento y manejo de sistemas agroforestales con árboles de uso múltiple asociados a la producción de alimentos
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 100 ha
- Brindar asistencia técnica a comunidades, pequeños y medianos productores, para la elaboración, y ejecución de planes de manejo, uso de prácticas de aprovechamiento de bajo impacto y utilización, previa a la extracción de productos no maderables en áreas de uso forestal
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, una ruta ecoturística, incluyendo la E.I.A.
- Realizar ocho talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar sesenta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres,

capacitación de jóvenes de ambos sexos en conservación y
manejo de biodiversidad, organización social

b) Bocas del Polochic: 23,500 ha

- Revisar estudio técnico
- Identificar áreas críticas
- Promover aprobación de estudio técnico y categoría de manejo
- Elaborar Plan Maestro
- Promover aprobación del Plan Maestro
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Participar en la definición de los corredores biológicos: Bocas del Polochic-Sierra de Santa Cruz, Bocas del Polochic-Sierra de las Minas
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área de los corredores biológicos
- Proporcionar asistencia técnica a 100 familias para el establecimiento y manejo de sistemas agroforestales con árboles de uso múltiple asociados a la producción de alimentos
- Establecer parcelas demostrativas sobre prácticas de uso sostenible y agricultura orgánica
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 50 ha
- Brindar asistencia técnica a comunidades, pequeños y medianos productores, para la elaboración, y ejecución de planes de manejo, uso de prácticas de aprovechamiento de bajo impacto y utilización, previa a la extracción de productos no maderables en áreas de uso forestal
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, dos rutas ecoturísticas, incluyendo las E.I.A.
- Realizar ocho talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar treinta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

b) Punta de Manabique: 38,400 ha

- Revisar estudio técnico
- Identificar áreas críticas
- Promover aprobación de estudio técnico y categoría de manejo
- Elaborar Plan Maestro
- Promover aprobación del Plan Maestro
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Poner a funcionar un Centro de Uso Múltiple, previa E.I.A.
- Participar en la definición de los corredores biológicos: Punta de Manabique-Cerro San Gil
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área de los corredores biológicos
- Establecer parcelas demostrativas sobre prácticas de uso sostenible y agricultura orgánica
- Brindar asistencia técnica a 50 familias para el establecimiento y manejo de sistemas agroforestales con árboles de uso múltiple asociados a la producción de alimentos y a 150 familias en técnicas para pesca y conservación artesanales
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 50 ha
- Brindar asistencia técnica a comunidades, pequeños y medianos productores, para la elaboración, y ejecución de planes de manejo, uso de prácticas de aprovechamiento de bajo impacto y utilización, previa a la extracción de productos no maderables en áreas de uso forestal
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, dos rutas ecoturísticas, previa E.I.A.
- Realizar ocho talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar sesenta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

c) Cerro San Gil: 47,434 ha

- Revisar estudio técnico
- Identificar áreas críticas
- Promover aprobación de estudio técnico y categoría de manejo
- Elaborar Plan Maestro
- Promover aprobación del Plan Maestro
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Poner a funcionar un Centro de Uso Múltiple, incluyendo E.I.A.
- Participar en la definición de los corredores biológicos: Cerro San Gil-Sierra de las Minas; Cerro San Gil-Río Dulce; Cerro San Gil-Punta de Manabique
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área de los corredores biológicos
- Establecer parcelas demostrativas sobre prácticas de uso sostenible y agricultura orgánica
- Brindar asistencia técnica a 200 familias para el establecimiento y manejo de sistemas agroforestales con árboles de uso múltiple asociados a la producción de alimentos
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 100 ha
- Brindar asistencia técnica a comunidades, pequeños y medianos productores, para la elaboración, y ejecución de planes de manejo, uso de prácticas de aprovechamiento de bajo impacto y utilización, previa a la extracción de productos no maderables en áreas de uso forestal
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, una ruta ecoturística, incluyendo la E.I.A.
- Realizar diez talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar sesenta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

d) Río Sarstún: 9,600 ha

- Revisar estudio técnico
- Identificar áreas críticas
- Promover aprobación de estudio técnico y categoría de manejo
- Elaborar Plan Maestro
- Promover aprobación del Plan Maestro
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Participar en la definición de los corredores biológicos: Río Sarstún-Sierra de Santa Cruz; Río Sarstún-Chocón Machacas
- Proporcionar asistencia técnica a la Municipalidad a quien se haya adscrito el área de los corredores biológicos
- Establecer parcelas demostrativas sobre prácticas de uso sostenible y agricultura orgánica
- Brindar asistencia técnica a 100 familias para el establecimiento y manejo de sistemas agroforestales con árboles de uso múltiple asociados a la producción de alimentos
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 100 ha
- Brindar asistencia técnica a comunidades, pequeños y medianos productores, para la elaboración, y ejecución de planes de manejo, uso de prácticas de aprovechamiento de bajo impacto y utilización, previa a la extracción de productos no maderables en áreas de uso forestal
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, una ruta ecoturística, incluyendo la E.I.A.
- Realizar ocho talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar treinta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

e) **Reserva de la Biósfera Sierra de las Minas 236,300 ha**

- Identificar áreas críticas
- Actualizar Plan Maestro
- Promover aprobación del Plan Maestro actualizado
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Poner a funcionar un Centro de Uso Múltiple, incluyendo E.I.A.
- Participar en la definición de los corredores biológicos: Sierra de las Minas-Bocas del Polochic, Sierra de las Minas-Biotopo del Quetzal, Sierra de las Minas Cerro San Gil
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área de los corredores biológicos
- Establecer parcelas demostrativas sobre prácticas de uso sostenible y agricultura orgánica
- Brindar asistencia técnica a 300 familias para el establecimiento y manejo de sistemas agroforestales con árboles de uso múltiple asociados a la producción de alimentos
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 100 ha
- Brindar asistencia técnica a comunidades, pequeños y medianos productores, para la elaboración, y ejecución de planes de manejo, uso de prácticas de aprovechamiento de bajo impacto y utilización, previa a la extracción de productos no maderables en áreas de uso forestal
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, dos rutas ecoturísticas, incluyendo las E.I.A.
- Realizar veinticuatro talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar ciento treinta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

f) **Parque Nacional Río Dulce: 8,110 ha**

- Actualizar Plan Maestro y revizar Categoría de Manejo
- Identificar áreas críticas
- Promover aprobación del Plan Maestro actualizado
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Participar en la definición de los corredores biológicos: Río Dulce-Sierra de Santa Cruz; Río Dulce-Cerro San Gil
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área de los corredores biológicos
- Establecer parcelas demostrativas sobre prácticas de uso sostenible y agricultura orgánica
- Brindar asistencia técnica a 100 familias para el establecimiento y manejo de sistemas agroforestales con árboles de uso múltiple asociados a la producción de alimentos y a 150 familias en técnicas para pesca y conservación artesanales
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales (2.3.5)
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 100 ha
- Brindar asistencia técnica a comunidades, pequeños y medianos productores, para la elaboración, y ejecución de planes de manejo, uso de prácticas de aprovechamiento de bajo impacto y utilización, previa a la extracción de productos no maderables en áreas de uso forestal
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, una ruta ecoturística integrando patrimonio arqueológico y naturaleza, incluyendo la E.I.A.
- Realizar ocho talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar sesenta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

g) **Biotopo Universitario para la Protección del Quetzal: 1,153 ha**

- Identificar áreas críticas
- Actualizar Plan Maestro
- Promover aprobación del Plan Maestro
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Participar en la definición del corredor biológico: Biotopo Universitario para la Conservación del Quetzal-Sierra de las Minas
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área del corredor biológico
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Determinar necesidades de restauración ecosistemática y reforestación y formular y ejecutar un plan en áreas demostrativas comprendiendo un mínimo de 100 ha
- Realizar ocho talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar treinta talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

h) Biotopo Chocón-Machacas: 6,400 ha

- Identificar áreas críticas
- Actualizar Plan Maestro
- Promover aprobación del Plan Maestro actualizado
- Elaborar Planes Operativos Anuales (4 años)
- Ejecutar Planes Operativos (4 años)
- Participar en la definición de los corredores biológicos: Chocón Machacas-Sierra de Santa Cruz; Chocón Machacas-Río Sarstún
- Proporcionar asistencia técnica a las Municipalidades a quienes se haya adscrito el área de los corredores biológicos
- Establecer un programa de apoyo a las actividades de prevención y control de incendios forestales
- Identificar, planificar y establecer, con la cooperación del INGUAT, CAMTUR, las Universidades con programas afines y los pobladores locales, una ruta ecoturística, incluyendo la E.I.A.
- Realizar cuatro talleres sobre evaluación de impacto ambiental y sobre gestión ambiental de las actividades productivas
- Realizar diez talleres, en el área protegida y los corredores biológicos, con la participación de comunidades, gobierno municipal, gremiales y organizaciones campesinas, comités y Consejos de Desarrollo Urbano y Rural, como "diálogos de política ambiental y desarrollo sostenible" sobre el zonamiento ecológico-económico, clasificación de tierras de acuerdo a su potencial de uso, solución de conflictos, toma de decisiones sobre el uso de los recursos, conservación de áreas protegidas, sistemas agroforestales, conservación de suelos, control de erosión, administración comunitaria de actividades turísticas, prácticas para estimular la regeneración natural, prevención y control de incendios, actividades con mujeres, capacitación de jóvenes de ambos sexos en conservación y manejo de biodiversidad, organización social

TERMINOS DE REFERENCIA PARA LA PLANIFICACION DE LOS CORREDORES BIOLÓGICOS QUE INTERCONECTARAN LAS AREAS PROTEGIDAS EN LA RECOSMO

Requisitos:

La Empresa o Entidad Consultora (o grupo de Consultores), en adelante el consultor, deberá poseer prestigio y seriedad técnica reconocidos, estar debidamente acreditado en Guatemala y mostrar experiencia comprobable en ejecución de trabajos similares en ecosistemas tropicales, con presencia de comunidades indígenas y ladinas, de preferencia en Guatemala, los países centroamericanos o latinoamérica. Los técnicos asignados al estudio deberán ser profesionales de preferencia de origen guatemalteco, con estudios superiores en ecología, biogeografía, economía y antropología o sociología y conocimientos economía de recursos naturales, suelos y uso de la tierra, ecología sistemática, geomorfología, hidrología, interpretación de imágenes de satélite y fotografía aérea y experiencia demostrable en la realización de estudios similares, y por lo menos cinco años de ejercicio profesional.

Actividades:

El consultor, bajo la supervisión directa del Director del Proyecto y el Asesor Técnico Principal, deberá realizar las siguientes actividades:

1. Con base en los resultados de la EER identificar y describir áreas críticas para la biodiversidad que deben integrarse a los corredores biológicos.
2. Con base a los resultados del zoneamiento ecológico-económico identificar y describir oportunidades y amenazas en los corredores biológicos.
3. En base a los estudios de tenencia de la tierra identificar las áreas propiedad de la nación que pudiesen integrarse a los corredores biológicos.
4. Elaborar los estudios técnicos para la declaratoria legal de las áreas protegidas según la ley de Areas protegidas y su Reglamento
5. Con el apoyo del equipo del proyecto, organizar y conducir consultas con la entidades que participan en el proyecto RECOSMO y los habitantes de las áreas preseleccionadas para el establecimiento de los corredores, e integrar las recomendaciones consensuadas en el documento final del estudio técnico y del plan maestro.
6. Elaborar los planes maestros de los seis corredores propuestos según la categoría aprobada y el instructivo de la Secretaria Ejecutiva del CONAP
7. Definir lineamientos para la elaboración de los planes

operativos anuales, para uso por el proyecto y las entidades seleccionadas para su manejo.

8. Presentar un informe intermedio de avance y uno final con los resultados del estudio, para su análisis y aceptación por el Proyecto.

TERMINOS DE REFERENCIA PARA LA ELABORACION DE UN ESTUDIO
SOCIOECONOMICO DE BASE EN LA RECOSMO

Requisitos:

La Empresa o Entidad Consultora (o grupo de Consultores), en adelante el consultor, deberá poseer prestigio y seriedad técnica reconocidos, estar debidamente acreditado en Guatemala y mostrar experiencia comprobable en ejecución de trabajos similares en Guatemala o la región centroamericana. Los técnicos asignados al estudio deberán ser profesionales de preferencia de origen guatemalteco, con estudios superiores en antropología social, sociología, economía de recursos naturales y conocimientos de uso de la tierra y ecología, experiencia demostrable en la realización de estudios similares, y por lo menos cinco años de ejercicio profesional.

Actividades:

El consultor, bajo la supervisión directa del Director del Proyecto y el Asesor Técnico Principal, deberá realizar las siguientes actividades:

1. Realizar un reconocimiento preliminar del área y comunidades y diseñar el estudio socioeconómico de base para el área del proyecto RECOSMO.
2. Elaborar y realizar una encuesta socioeconómica que permita obtener información general (y específica a nivel de estrato o comunidad muestral) sobre: tenencia de la tierra, uso de la tierra y prácticas de uso, agricultura, ciclos y calendarios agrícolas, producción y ciclos productivos, uso del bosque y otros recursos de la biodiversidad; otras actividades económicas; vivienda, cocina y condiciones de vida; salud; educación; la familia y el papel de la mujer.
3. Elaborar la información de manera que permita:
 - a. Describir los efectos del desarrollo económico y social sobre la diversidad biológica (aumento de la población; cambios en las expectativas, preferencias y patrón de consumo; integración del mercado de la región al mercado nacional y global);
 - b. Describir los sistemas de uso de la tierra y su relación con la biodiversidad (tierras nacionales, privadas, propiedades comunales o colectivas, concesiones de tierras a personas privadas, tierras municipales, baldíos nacionales, tierras invadidas, concesiones a ONGs , concesiones de recursos a personas privadas y otros)
 - c. Describir el tamaño de las propiedades y sistemas de uso de la tierra y sus efectos sobre la biodiversidad y (propiedades grandes, medianas, pequeñas).

- d. Describir sistemas tecnológicos tradicionales en el uso de la tierra que favorezcan la conservación de la biodiversidad
 - e. Identificar sistemas y prácticas de uso de la tierra (relación tamaño tenencia e intensidad de manejo) que favorezcan la conservación de la biodiversidad y beneficien económicamente a la población.
 - f. Identificar y describir perspectivas para la conservación comunitaria in situ de recursos genéticos específicos.
 - g. Identificar técnicas vernáculas de poco impacto (bajo consumo de energía) existentes en la RECOSMO.
4. Definir el perfil de género para las comunidades asentadas en RECOSMO.
 5. Elaborar criterios para la priorización de comunidades y grupos humanos que deban ser atendidos por el proyecto, con actividades de desarrollo sostenible y conservación.
 6. Presentar un informe intermedio de avance y uno final con los resultados del estudio, para su análisis y aceptación por el Proyecto.

TERMINOS DE REFERENCIA PARA LA ELABORACION DE UN ESTUDIO DE
MERCADO DE PRODUCTOS PROVENIENTES DE LA RECOSMO

Requisitos:

El/la consultor-a (individual o corporativo), en adelante el consultor, deberá estar debidamente acreditado en Guatemala, y mostrar experiencia comprobable en ejecución de estudios similares en el campo de los recursos naturales, en Guatemala o los países centroamericanos. El/los técnicos que realicen el estudio deberán ser profesionales de preferencia de origen guatemalteco, con estudios superiores en economía o economía de recursos naturales renovables, experiencia comprobable en la realización de estudios similares y por lo menos cinco años de ejercicio profesional.

Actividades:

El consultor, bajo la supervisión directa del Director del Proyecto y el Asesor Técnico Principal, deberá realizar las siguientes actividades:

1. Identificar y caracterizar los productos derivados del uso de los recursos naturales, provenientes de la RECOSMO y comercializados a nivel local, regional, nacional y del exterior.
2. Identificar y caracterizar las fuentes de materia prima, procesos y canales involucrados para su acopio y comercialización.
3. Caracterizar los procesos de transformación locales y externos.
4. Identificar y caracterizar los canales y centros de comercialización de los productos, a nivel local, regional, nacional e internacional y el papel de la intermediación.
5. Analizar la rentabilidad financiera y económica para por lo menos los 15 principales procesos productivos identificados.
6. Caracterizar el comportamiento de la oferta y la demanda en los últimos 5 años y el comportamiento futuro esperado, para por lo menos los 15 principales productos a nivel regional, nacional e internacional.
7. Identificar alternativas de producción y comercialización para los principales productos de la RECOSMO.
8. Identificar opciones de mercado a nivel nacional e internacional, y posibles fuentes de financiamiento para productos certificados provenientes de la RECOSMO.

9. Proponer los cambios tecnológicos necesarios para aumentar la rentabilidad económica y financiera de los 10 principales alternativas de producción seleccionadas con base en la información anterior.
10. Definir los criterios de priorización para la selección de alternativas de producción financieramente rentables, económicamente deseables y ambientalmente sostenibles.
11. Presentar un informe intermedio de avance y uno final con los resultados del estudio, para su análisis y aceptación por el Proyecto.

TERMINOS DE REFERENCIA PARA LA ELABORACION DE UN ESTUDIO DE
FACTIBILIDAD PARA OPCIONES PRODUCTIVAS SOSTENIBLES DE PRODUCTOS
NO TRADICIONALES PROVENIENTES DE LA RECOSMO

Requisitos:

El/la consultor-a (individual o corporativo), en adelante el consultor, deberá estar debidamente acreditado en Guatemala, y mostrar experiencia comprobable en ejecución de estudios similares en el campo de los recursos naturales, en Guatemala o los países centroamericanos. El/los técnicos que realicen el estudio deberán ser profesionales de preferencia de origen guatemalteco, con estudios superiores en economía de recursos naturales renovables, experiencia comprobable en la realización de estudios similares y por lo menos cinco años de ejercicio profesional.

Actividades:

El consultor, bajo la supervisión directa del Director del Proyecto y el Asesor Técnico Principal, deberá realizar las siguientes actividades:

1. Identificar, con base en el estudio de mercado e información de campo las opciones productivas sostenibles más promisorias para el área de la RECOSMO, susceptibles de implementarse por parte de las comunidades, con apoyo de los fondos rotatorios.
2. Caracterizar y establecer criterios de priorización para la selección de opciones, con base en los resultados del zoneamiento ecológico económico y la EER, realizadas en el proyecto.
3. Definir los criterios para la selección de comunidades beneficiarias de los proyectos piloto, con base en la información anterior y del estudio socioeconómico.
4. Definir las áreas, comunidades y opciones productivas a probar. Definir las normas de calidad y producción para las opciones seleccionadas y necesidades de asistencia técnica y capacitación.
5. Definir las opciones tecnológicas ambientalmente sanas para la implementación de las opciones productivas (provisión de materia prima e insumos, producción o cultivo, transformación o cosecha).
6. Definir los calendarios de producción y los canales de comercialización, de acuerdo con los resultados de los estudios de mercado.
7. Presentar un informe intermedio de avance y uno final con los resultados del estudio, para su análisis y aceptación por el Proyecto.

TERMINOS DE REFERENCIA PARA LA ELABORACION DE UN ESTUDIO DE
FACTIBILIDAD PARA EL ESTABLECIMIENTO DE CENTROS DE ACOPIO PARA
LOS PRODUCTOS DE LA RECOSMO

Requisitos:

El/la consultor-a (individual o corporativo), en adelante el consultor, deberá estar debidamente acreditado en Guatemala, y mostrar experiencia comprobable en ejecución de estudios similares en el campo de los recursos naturales, en Guatemala o los países centroamericanos. El/los técnicos que realicen el estudio deberán ser profesionales de preferencia de origen guatemalteco, con estudios superiores en economía o administración de empresas, preferiblemente empresas agropecuarias, experiencia comprobable en la realización de estudios similares y por lo menos cinco años de ejercicio profesional.

Actividades:

El consultor, bajo la supervisión directa del Director del Proyecto y el Asesor Técnico Principal, deberá realizar las siguientes actividades:

1. Identificar, con base en el estudio de mercado y el estudio de factibilidad para opciones productivas, las necesidades de establecimiento de centros de acopio en el área de la RECOSMO.
2. Identificar los factores limitantes y las opciones de solución para el establecimiento de los centros, con participación de organizaciones de base (segundo y tercer orden), municipalidades, ONG u otras formas de organización, en el área de la RECOSMO.
3. Definir los criterios de priorización para la selección de sitios y tipos de centros de acopio y seleccionar cuatro sitios prioritarios en el área de RECOSMO.
4. Definir los diseños (tipo de productos, calendarios, canales de comercialización, y otros) para los cuatro sitios seleccionados.
5. Definir las normas de calidad de entrada y salida de los productos en los centros de acopio seleccionados.
6. Definir las necesidades de capacitación y asistencia técnica (administración) para los operarios de los centros.
7. Seleccionar el sitio de mayor prioridad y definir el diseño final, incluyendo necesidades arquitectónicas.
8. Presentar un informe intermedio de avance y uno final con los resultados del estudio, para su análisis y aceptación por el Proyecto.

TERMINOS DE REFERENCIA PARA EL DISEÑO DE GUIAS CURRICULARES
AMBIENTALES PARA LAS EDUCACION PRIMARIA EN LA RECOSMO

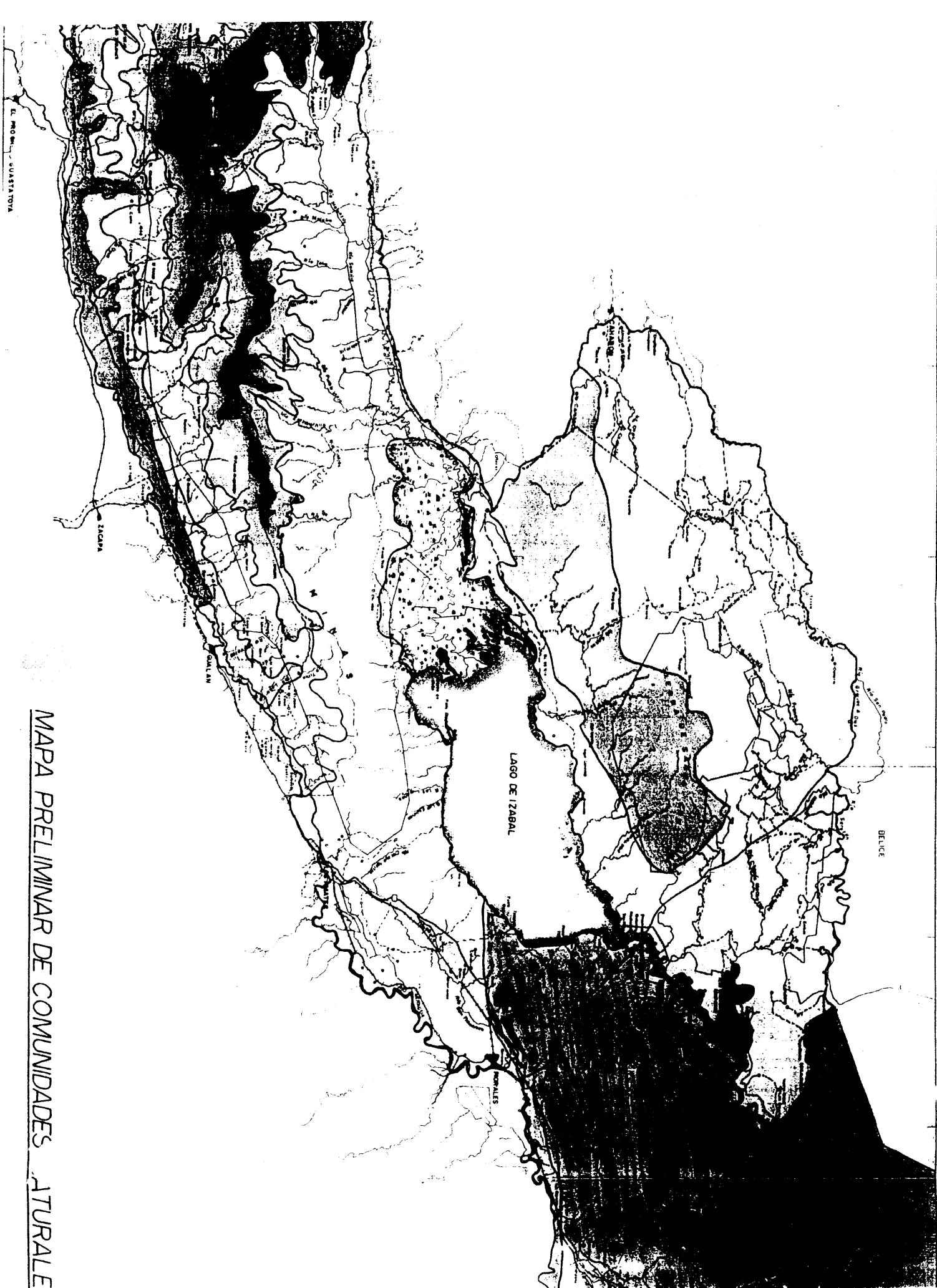
Requisitos:

El/la consultor-a (individual o corporativo), en adelante el consultor, deberá estar debidamente acreditado en Guatemala, y mostrar experiencia comprobable en ejecución de estudios similares en el campo de la educación ambiental en Guatemala o los países centroamericanos. El/los técnicos que realicen el estudio deberán ser profesionales de preferencia de origen guatemalteco, con estudios superiores en educación, evaluación educativa y planificación y diseño curricular, experiencia comprobable en la realización de estudios similares y por lo menos cinco años de ejercicio profesional.

Actividades:

El consultor, bajo la supervisión directa del Director del Proyecto y el Asesor Técnico Principal, deberá realizar las siguientes actividades:

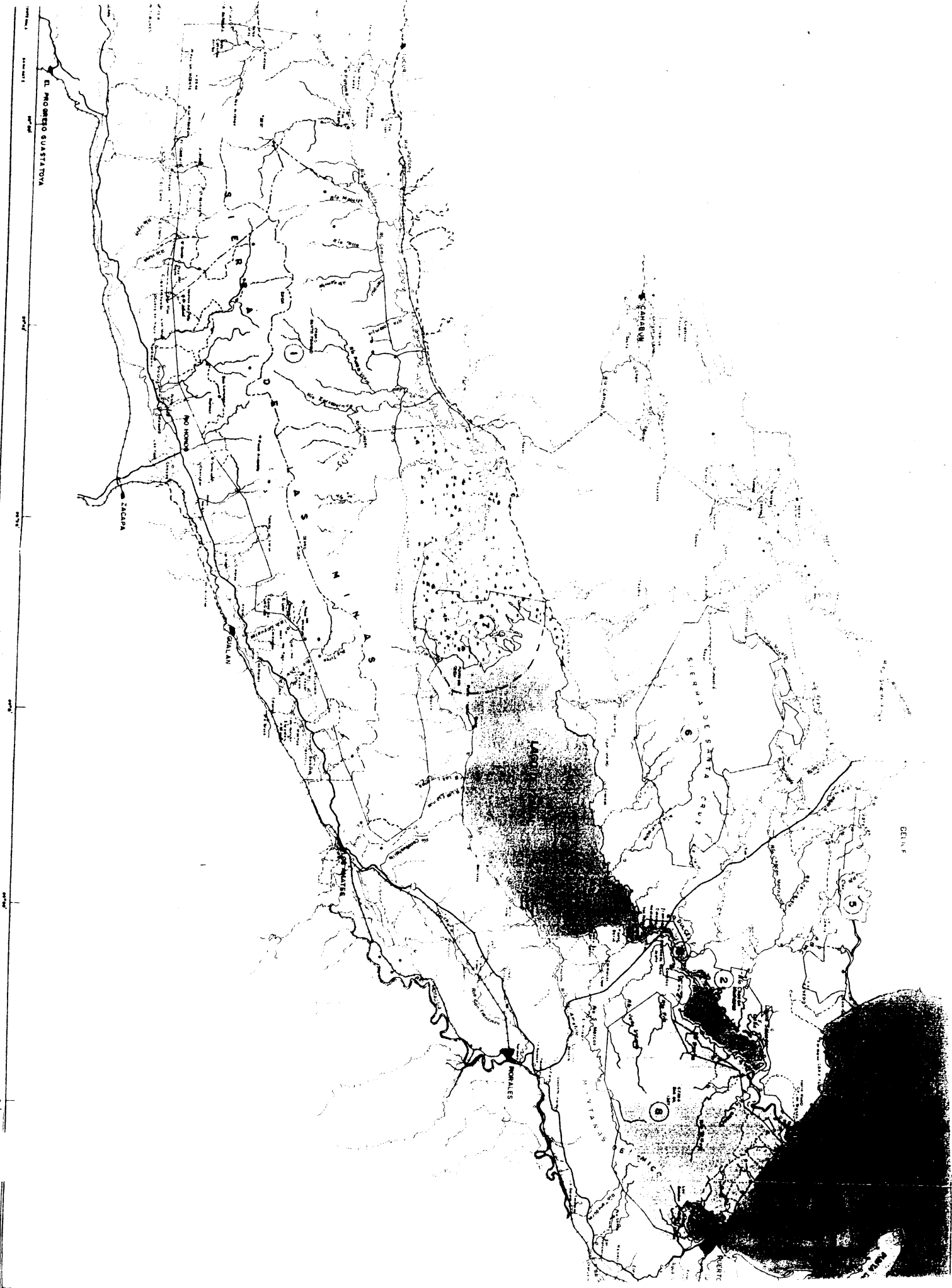
1. Evaluar las guías curriculares ambientales producidas por el SIMAC y PRONEBI.
2. Adecuar la guías curriculares ambientales a particularidades regionales y locales como grupo lingüístico, área silvestre protegida, región, pobreza, cultura y otras características del territorio con la participación de las personas e instituciones pertinentes.
3. Consultar a las instituciones administradoras de áreas protegidas e integrara sus observaciones a las guías curriculares ambientales.
4. Organizar y conducir 22 consultas con profesores de la recosmo sobre la guías curriculares, 1 por municipio y los capacitará en las mismas.
5. Organizar y conducir 22 consultas para monitorear los resultados de la implementación de las guías curriculares ambientales, 1 por municipio.
6. Presentar a la dirección del proyecto dos alternativas para las bases de licitación de la impresión de las guías curriculares ambientales de la RECOSMO según los requisitos del PNUD.



MAPA PRELIMINAR DE COMUNIDADES NATURALES

EL MUNICIPIO DE SUASTA TOVA





DEL N.F.