GEF

Global Environment Facility

Mohamed T. El-Ashry
Chief Executive Officer
and Chairman

1818 H Street, NW
Washington, DC 20433 USA
Tel: 202.473.3202
Fax: 202.522.3240/3245
Email: melashry@worldbank.org

January 5, 2001

Dear Council Member:

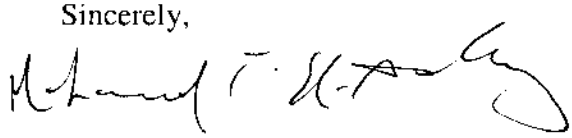
I am writing to notify you that we have today posted in the GEF's website at www.gefweb.org, a medium-sized project proposal entitled *Costa Rica: Biodiversity Conservation in Cacao Agroforestry.* The GEF will contribute $750,000 towards a total cost of $3,018,000.

The project will assist key stakeholder to promote changes in the design, management and use of cacao agroforestry farms that benefit long-term biodiversity conservation. It will promote biodiversity conservation through increasing maintenance of a floristically and structurally diverse shade canopy for cacao that provides habitat and resources for wildlife, and the diversification of farm cultivated areas with native species. It will identify cultural and agricultural practices that might be reducing the region's biodiversity, and target environmental education and training activities towards reducing these practices, while promoting others that are compatible with biodiversity conservation goals. The project will also promote the productivity, marketing, and certification of biodiversity friendly organic products through a variety of training, research, and outreach activities. Key beneficiaries will be indigenous and local communities and Afro-Caribbean organic producers in the Talamanca-Caribbean corridor.

The project proposal is being posted for your information. We would welcome any comments you may wish to provide by January 29, 2001, in accordance with the procedures approved by the Council.

If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,



cc: Alternates, Implementing Agencies, STAP

THE WORLD BANK/IFC/M.I.G.A.

OFFICE MEMORANDUM

DATE: October 18, 2000

TO: Kenneth King, Assistant CEO, GEF
Attention: Program Coordination

FROM: Lars Vidaeus, GEF Executive Coordinator

EXTENSION: 34188

SUBJECT: **Costa Rica: GEF Medium-Sized Project**
Biodiversity Conservation in Cacao Agroforestry

1. Please find attached the Project Brief for the " Costa Rica - Biodiversity Conservation in Cacao Agroforestry Project" submitted to the World Bank by the Tropical Agronomic Center for Research and Education (CATIE). The project has been endorsed by the GEF national focal point (letter attached).

2. In accordance with operational guidance for approval of Medium-Sized Projects, we are submitting this project brief to the GEF Secretariat for action by the Chief Executive Officer (CEO). We are simultaneously circulating copies to UNDP/GEF, UNEP/GEF, STAP, and the CBD Secretariat for comments within 15 working days, or by November 8, 2000.

3. We look forward to receiving the GEF Secretariat's comments on this Medium-Sized Project by Nov 22, 2000 (if not before). Thank you and best regards.

Distribution:

Messrs./Mmes. R. Asenjo, UNDP (Fax: (212) 906-6998
A. Djoghlaf, UNEP (Nairobi) (Fax: (254-2) 520-825)
M. Gadgil, STAP (Fax: (91-80) 334-1683 or (91-80) 331-5428)
M. Griffith, STAP Secretariat (Nairobi) (Fax: (254-2) 623-140)
H. Zedan, CBD Secretariat (Fax: (514) 288-6588)

cc: Messrs./Mmes. Serra, Lovejoy, Kimes, Bradley, Martinez (LCSES); Vergara (LCSES/QAT); Castro, Aryal, Khanna (ENVGC).

ENVGC ISC
IRIS4

Log No. 2001-**B3CRBWM**

GEF

GEFSEC Project Tracking System

Medium-sized Project Clearance/Approval

COSTA RICA: Biodiversity Conservation in Cacao Agroforestry	
GEF Contribution: $750,000 (including $25,000 – PDF A)	**Total Project Cost: $3.018 million**

Proposed Processing Action	Signee	Requested Action	*Signature*	*Date mm/dd/yy*
☑ **Project Review**	Program Manager	Recommendation	Mario Ramos	08/08/01
☑ **Circulation to Council**	ACEO	Clearance	Colin Rees	08/13/01
☐ **Project Approval**	Program Manager	Recommendation	Mario Ramos	
	Team Leader	Clearance	Colin Rees	
	CEO	Approval	Mohamed T. El-Ashry	
☐ **Project Review**	Implem. Agency	Approval		

Attachment:

- ☐ Project Review Sheet
- ☐ IA Cover Note (incorporating review comments)
- ☐ Letter of endorsement from GEF Focal Point
- ☐ Cover Letter to Council (for MTE's signature)
- ☐ Final Project Brief
- ☐ Electronic Version Available

GLOBAL ENVIRONMENTAL FACILITY

COSTA RICA

BIODIVERSITY CONSERVATION IN CACAO AGROFORESTRY

MEDIUM-SIZED PROJECT

CATIE

October 10, 2000

ACRONYMS

ABACO	Bordon Conservationist Organic Agriculture Association *(Asociación de Bordón para la Agricultura Conservacionista y Orgánica)*
ACAPRO	Organic Producers Association *(Asociación de Productores Orgánicos)*
ACBTC	Talamanca-Caribbean Biological Corridor Association *(Asociación del Corredor Biológico Talamanca-Caribe)*
ACRI	American Cocoa Research Institute
ADITIBRI	Association for the Development of Bribri Indigenous Territories *(Asociación de Desarrollo Integral de los Territorios Indígenas Bribri)*
ADITICA	Association for the Development of Cabecar Indigenous Territories *(Asociación de Desarrollo Integral de los Territorios Indígenas Cabecar)*
APPTA	Talamanca Small Producers Association *(Asociación de Pequeños Productores de Talamanca)*
BCIE	Central American Bank for Economic Integration *(Banco Centroamericano de Integración Económica)*
BM	The World Bank (*Banco Mundial*)
CABI	Commonwealth Agricultural Bureau International
CATIE	Tropical Agronomic Center for Research and Education *(Centro Agronómico Tropical de Investigación y Enseñanza)*
CMT	Talamancan Women's Association *(Comisión de Mujeres de Talamanca)*
CNP	National Production Council *(Consejo Nacional de la Producción)*
EARTH	Agricultural College for the Humid Tropics Region, Costa Rica *(Escuela Agrícola para la Región Tropical Húmeda)*
IDA	National Agrarian Institute *(Instituto de Desarrollo Agrario)*
INBio	National Institute for Biodiversity *(Instituto Nacional de la Biodiversidad)*
MAG	Ministry of Agriculture *(Ministerio de Agricultura y Ganadería)*
MINAE	Ministry of Environment and Energy *(Ministerio de Ambiente y Energía)*
MNICR	National Indigenous Council, Costa Rica *(Mesa Nacional Indígena)*
OCP	Organic Commodity Project
OLAFO	Norway International Cooperation Agency
PDR	Rural Development Program *(Programa de Desarrollo Rural)*
PFA	Agricultural Frontier Program *(Programa Frontera Agrícola)*
RUTA	Regional Unit for Technical Assistance
TNC	The Nature Conservancy
UCR	University of Costa Rica *(Universidad de Costa Rica)*
UNA	National University *(Universidad Nacional, Costa Rica)*
USDA	United States Department of Agriculture
WB	The World Bank
WWF	World Wildlife Fund

Biodiversity Conservation in Cacao Agroforestry

TABLE OF CONTENTS

PROJECT SUMMARY

PROJECT IDENTIFIERS	
1. PROJECT NAME: Biodiversity Conservation in Cacao Agroforestry	**2. GEF IMPLEMENTING AGENCY:** The World Bank
3. COUNTRY IN WHICH THE PROJECT IS BEING IMPLEMENTED: Costa Rica	**4. COUNTRY ELIGIBILITY:** Costa Rica ratified the Convention on Biological Diversity on August 26, 1994.
5. GEF LOCAL AREA(S) AND/OR CROSS-CUTTING ISSUES: Biological Diversity	**6. OPERATIONAL PROGRAM/SHORT-TERM MEASURE:** The project is in accordance with the GEF in two Operational Programs: Forest Ecosystems and Mountain Ecosystems.

7. PROJECT LINKAGE TO NATIONAL PRIORITIES, ACTION PLAN, AND PROGRAMS:

This project is closely linked to the Action Plan of the Costa Rican National Biodiversity Law of April 14, 1998 (No. 12635) on the sustainable use of biodiversity (food security, ecosystem conservation and the improvement of living standards, particularly of rural, indigenous communities). Project activities also comply with Forestry Law No. 7575, approved in 1996 (conservation of forest ecosystems and incentives for conservation) and follow the principles of the Indigenous Law No. 6172 (priority to development within indigenous reserves and communities, technical capacity-building, and institutional strengthening of indigenous organizations). The project is also highly compatible with current activities of the Ministry of Environment and Energy (MINAE) and the National Institute for Biodiversity (INBio) at the national level and in the project area (Limon Province, Municipalities of Talamanca and Siquirres) that support biodiversity conservation both inside and outside of the proposed project area. According to the 1996 GRUAS report (GEF/UNDP/MINAE) which delineates existing biological corridors in Costa Rica, the conservation of the Talamanca–Caribbean corridor is critical for protecting biodiversity along the Atlantic Coast of Costa Rica because it is an area of high biological diversity and serves as a continuation of the Mesoamerican Biological Corridor (MBC).

8. GEF NATIONAL OPERATIONAL FOCAL POINT AND DATE OF COUNTRY ENDORSEMENT:

GEF NATIONAL OPERATIONAL FOCAL POINT:
Milton Rojas Zamora
FUNDECOOPERACION
San Jose, Costa Rica

DATE OF COUNTRY ENDORSEMENT:
October 7, 1998

PROJECT OBJECTIVES AND ACTIVITIES	
9. PROJECT RATIONALE AND OBJECTIVES	**INDICATORS**
Cacao agroforestry systems hold great potential for the conservation of biodiversity because their floristically and structurally diverse tree canopies provide important habitats, resources and niches for a variety of plants and animals. Studies of the cacao ecosystems and avifauna in Talamanca have shown that the cacao agroforestry systems harbor a rich diversity of both resident and migratory bird species, that bird diversity within cacao plantations is similar to that of intact forests, and that cacao ecosystems serve as important nesting and foraging sites for a wide variety of forest mammals. The careful management of organic cacao agroforestry systems can, in addition to enhancing biodiversity conservation, also increase the income and living standards of the local indigenous populations by using sustainable production practices, marketing and certification criteria that favor biodiversity conservation. As such, the rationale of the project is <u>to improve the management of cacao-based poor indigenous small-farms according to both ecological and organic productive principles</u> so as to ensure conservation and sustainable use of plant and animal diversity and provide a sustainable source of family income. The overall objective of the project is <u>to promote and maintain on-farm biodiversity while improving livelihoods of organic cacao producers</u> (indigenou, Latin *mestizos* and Afrocaribbean groups) in the Talamanca-Caribbean corridor in Costa Rica.	? Monitoring program to determine species richness and abundance of key indicator groups (e.g., birds, mammals, butterflies, and plants) in agricultural landscapes established and operational. ? At least 300 cacao plantations rehabilitated according to ecological and productive guidelines. ? At least 900 local farmers and 10 local organizations strengthened through technical workshops and farmer-to-farmer extension programs. ? At least 50 local indigenous farmers trained and capable of monitoring biodiversity on their farms.

10. PROJECT OUTCOMES	**INDICATORS**
1. Increased number of indigenous and non-indigenous small farmers supporting biodiversity conservation within diverse, structurally complex cacao agroforestry ecosystems.	1.1 Three communal tree nurseries and 300 farm nurseries established and propagating useful native plant species. 1.2 Training materials produced which incorporate local knowledge and are culturally appropriate for educating local communities. 1.3 At least 600 local farmers and 10 organizations trained and educated in biodiversity conservation.
2. Increased use of on-farm production practices which favor biodiversity-friendly organic cacao production and which stimulate markets for biodiversity-friendly products in national and international markets.	2.1 Increased number of farms using organic fertilizers and using biodiversity-friendly methods for controlling *monilia*. 2.2 Biodiversity-friendly organic cacao production improved in 300 local farms, with 600 superior cacao trees propagated, organic fertilization and biological control of *monilia* validated, and better post-harvest practices implemented. 2.3 Organic cacao yields of participating farmers double to 400kg/ha in 6 years using biodiversity-friendly management practices. 2.4 Local information center providing services to local farmers and organizations to support improved marketing and increased volume of marketed certified biodiversity-friendly organic products.
3. Strengthened, better-organized local indigenous organizations to maintain indigenous socio-cultural values and traditional land use management.	3.1 Increased capacity, including indigenous farmers and local communities, to manage natural resources and sustain biodiversity. 3.2 Increased dissemination of education and training materials relating to community development, maintenance of traditional knowledge and agricultural practices, and correlation between formal Costa Rican laws and regulations and customary indigenous laws. 3.3 At least 300 women and 900 men participating in farmer-to-farmer extension program; at least 180 farmers from other cacao-producing areas visit project area, receive training and educational materials by EOP.

4. Ecological information collected, systematized, and synthesized for the development of guidelines and practices for biodiversity-friendly organic cacao production.	4.1 Baseline information on farm biodiversity (e.g., birds, mammals, butterflies, and plants) collected through inventories, which are updated quarterly during project implementation. 4.2 Database on species present in farms and their use of farm habitats as corridors established. 4.3 Increased capacity of local farmers to monitor biodiversity in agricultural ecosystems. 4.4 Guidelines for the sustainable extraction and harvesting of plants and wildlife prepared and disseminated.
11. PLANNED ACTIVITIES TO ACHIEVE OUTCOMES:	**INDICATORS:**
1. Promote on-farm biodiversity through improved management of diverse, structurally complex cacao agroforestry systems as well as identify and disseminate of agricultural and cultural practices that enhance biodiversity conservation.	1.1 Ecological and productive farm plans produced for 300 participating farms. 1.2 300 traditional cacao plantations rehabilitated according to ecological and productive guidelines that favor biodiversity conservation. 1.3 Distribution of seed and propagation materials of native plant species in local nurseries for the diversification of farms and cacao plantations. 1.4 Community-based training programs completed to raise awareness of the benefits of the conservation and sustainable use of biodiversity in agricultural ecosystems
2. Develop sustainable farm production procedures that favor biodiversity-friendly organic cacao production and stimulate marketing of biodiversity-friendly products in national and international markets.	2.1 Utilization of plants and wildlife evaluated in 50 local farms. 2.2 Rehabilitation and conservation measures identified and incorporated in training programs. 2.3 Community training workshops conducted for local farmers and organizations relating to sustainable production, use of biodiversity-friendly organic fertilizers, local standards for biodiversity friendly certification, and marketing opportunities for biodiversity-friendly organic cacao. 2.4 Establishment of local information center to increase marketing and planning capabilities of local organizations. Training materials produced and disseminated Web page and information center.

3. Train and strengthen beneficiary farmers and local indigenous organizations on biodiversity conservation and sustainable farm production; to produce educational, technical, and extension materials; and to promote the replication of project experiences in other indigenous communities which cultivate cacao within the Mesoamerican Biological Corridor.	3.1 Socio-economic surveys conducted to determine (a) perceptions of indigenous people on biodiversity conservation; (b) cultural practices that promote biodiversity conservation identified and promoted; and (c) practices which adversely impact upon biodiversity. 3.2 Community training programs and collaborative workshops for indigenous and non-indigenous farmers conducted, including farmer-to-farmer extension visits, workshops, and meetings. 3.3 Educational materials produced and disseminated to local farmers and organizations on (a) biodiversity conservation and monitoring; (b) conservation of endangered species; (c) ecological and productive farm planning; (d) rehabilitation and management of cacao plantations; (e) management of clonal cacao-banana-timber plantations; (f) grafting and propagation of plant material; (g) organic fertilization; (h) cacao fermentation and drying; (i) cultural and biological control of *monilia*; (j) certification and marketing of biodiversity friendly organic crops.
4. Establish a participatory program for monitoring biodiversity (e.g., key indicator species of birds, mammals, butterflies and plants) in croplands, forest patches, fallow lands, home gardens, and cacao and banana plots on the farm.	4.1 Biological assessments carried out on 50 farms to evaluate the use of farmland as biological corridors by animal species (key groups: mammals, birds, butterflies). 4.2 Biodiversity baseline established in PY1 that allows monitoring of project impacts on biodiversity in cacao ecosystems and surrounding areas. 4.3 Continuous participatory monitoring of biodiversity during PY2 & 3. 4.3 Information dissemination via Web page and other educational and extension materials.

12. ESTIMATED BUDGET (IN US$)
Project Preparation:
PDF A (GEF): 25,000; PDF Co-financing: 32,000

Medium-Sized Project:
The grant from the GEF would finance the incremental costs associated with the conservation and monitoring of biodiversity in the project area, as reflected in the four components. Total costs of implementing the medium-sized project are estimated at US$3,018,000, including co-financing from participating institutions and a contribution in kind from cacao farmers, as follows:

US$357,000 from CATIE;
US$250,000 from producer associations (APPTA, ACAPRO, ABACO, and others);
US$1,036,000 from other institutions (USDA, CABI, ACRI, OCP, PFA, WWF, GTZ, MINAE, INBio);
US$650,000 in kind from participating farmers joining the project in its first 3 years; and
US$725,000 from GEF.

(See details of co-financing on page 18 of Project Description and in Annex 6)

INFORMATION ON INSTITUTION SUBMITTING PROJECT BRIEF

13. EXECUTING AGENCY: Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) – CATIE is an international, non-profit civil association that conducts research, education and outreach activities in agricultural sciences, forest management and biodiversity conservation, agroforestry systems and watersheds, socioeconomics and related subjects on natural resource management throughout Latin America, with an emphasis on Central America and the Caribbean. CATIE's mission to alleviate poverty and increase human well-being by applying research and teaching towards the conservation and sustainable use of natural resources in Tropical America. Given its active research, outreach and training program and its close relations to many Central America government, research and academic institutions, CATIE is a well-known leader of natural resource management and conservation in the region.

14. INFORMATION ON PROPOSED EXECUTING AGENCY (IF DIFFERENT FROM ABOVE): Same as above

15. DATE OF INITIAL SUBMISSION OF PROJECT CONCEPT: July 1998

INFORMATION TO BE COMPLETED BY IMPLEMENTING AGENCY

16. PROJECT IDENTIFICATION NUMBER: P061315

17. IMPLEMENTING AGENCY CONTACT PERSONS:
Christine Kimes, Regional GEF Coordinator
Tel.: +1(202) 473-3689; Fax: (202) 614-0087; E-mail: ckimes@worldbank.org

Juan Martínez, Task Manager
RUTA – Costa Rica
Tel: (506) 255-4011 x229; Fax: (506) 222-6556; Email: jmartinez@ruta.org

18. PROJECT LINKAGE TO IMPLEMENTING AGENCY PROGRAM(S):

The project is complementary with on-going World Bank projects targeted at poverty alleviation, natural resources management, and biodiversity conservation within the Mesoamerican Biological Corridor in Costa Rica as well as in other Central American countries, including the World Bank/GEF Biodiversity Resources Development project and the World Bank/GEF Costa Rica Ecomarkets project; the Rural Poverty and Natural Resources project and the Atlantic Mesoamerican Biological Corridor in Panama; the Rural Municipalities project and Atlantic Mesoamerican Corridor in Nicaragua; and the Rural Land Management project and Biodiversity in Priority Areas project in Honduras.

Likewise, the project complements the ongoing UNDP/GEF Biological Corridor Project in Talamanca. During project formulation, the proposed project carried out consultations and workshops with the UNDP/GEF project in the Talamanca region to define comparative advantages, to identify complementary activities and avoid duplications between the two projects. During project implementation, cooperation between the two projects and the variety of organizations (e.g., farmers organizations, NGOs, academic institutions) working in the Talamanca area will be organized through complementary workshops throughout the life of both projects. While the project supports the same objectives as the World Bank/GEF Costa Rica Ecomarkets project, the proposed project focuses on the Talamanca region whereas the Costa Rica Ecomarkets project specifically targets biological corridors in Tortuguero, Barbilla and Osa, distinct from the Talamanca area.

Finally, the project shares similarities with the World Bank/GEF Medium-Sized Project for Promotion of Biodiversity Conservation within Coffee Landscapes in El Salvador (biodiversity conservation and improving the livelihood of local producers), in particular promoting the sustainable use of biodiversity in agricultural landscapes.

Biodiversity Conservation in Cacao Agroforestry

PROJECT DESCRIPTION

I. PROJECT RATIONALE AND OBJECTIVES

Cacao agroforestry systems hold great potential for the conservation of biodiversity given that their floristically and structurally diverse tree canopies provide important habitats, resources and niches for a variety of plants and animals. Studies of the cacao ecosystems and avifauna in biodiversity-rich areas of Costa Rica[1] indicate that (i) cacao agroforestry systems harbor a rich diversity of both resident and migratory bird species, and (ii) bird diversity within cacao plantations is similar to that of intact, primary forests. Of the birds known to occur in cacao plantations in Costa Rica's Talamanca-Caribbean Corridor, at least seven species are considered threatened, according to the criteria of the Nature Conservancy, Partners in Flight, the U.S. Breeding Bird Survey, and the CITES treaty on trade in endangered species. Pilot studies of mammals in the project area similarly suggest that cacao plantations serve as important nesting and foraging sites for a wide variety of forest mammals. In addition to providing habitats and food resources, the shade canopy of cacao plantations and the forest patches that occur within the indigenous farms likewise serves as important corridors for animals, facilitating both local and regional movement of animals within the Mesoamerican Biological Corridor. As such, cacao plantations serve to supplement primary forest habitats and enhance the survival of forest species in an increasingly fragmented landscape.

The careful management of organic cacao agroforestry systems can, in addition to enhancing biodiversity conservation, also increase the income and living standards of the local populations. Certified organic cacao receives a premium price in international markets, and this financial incentive encourages continued organic production and enables local populations to continue traditional practices – in the Talamanca-Caribbean corridor, these are largely indigenous communities – that are compatible with biodiversity conservation as well as with indigenous cultures. At present, cacao production in the region is low due to disease problems and inappropriate management; however if cacao plantations can be rehabilitated and managed using both ecological and productive criteria that favor biodiversity conservation, there is a great potential to improve production levels and thereby enhance family incomes.

Due to its geographic location, the Talamanca–Caribbean Corridor in Costa Rica area has a unique mixture of flora and fauna from North and South America and the Caribbean. With its highly varied topography, elevations and climate, the region contains a rich diversity of plant and animal life. The region hosts over 90% of the plant species found within Costa Rica, with more than 10,000 species of vascular plants (including more than 1,000 orchid species) and 4,000 species of nonvascular plants (including nearly 1,000 of the 1,300 species of ferns known in Costa Rica). Within its diverse life zones, the region also provides important habitat and resources for a rich diversity of animals, including 59 species of mammals (13 endemic), 43 amphibians, 51 reptiles (10 endemic), and over 350 birds (15 endemic).

[1] A preliminary list of studies (a summary of which is presented in Annex 1) include:
Parrish, J., Reitsma, R., and Greenberg, R., 1998, Cacao as Crop and Conservation Tool: Lessons from the Talamanca Region of Costa Rica.
Somarriba, E., and Beer, J., 1998, Cacao-Based Agroforestry Production Systems in Costa Rica and Panama
Greenberg, Russel, 1997, Biodiversity in the Cacao Agroecosystem: Shade Management and Landscape Considerations. Smithsonian Migratory Bird Center

Because of its rich biodiversity and strategic location, the area is of critical importance to both local and regional biodiversity conservation.

The proposed project area covers the *cantones* of Talamanca and Siquirres, in the Atlantic Region of Costa Rica, and comprises three different sub-areas: Talamanca, with the *Reserva Indigena* (28 communities); Cahuita and its environs (14 communities); and Siquirres (14 communities). The two *cantones* have a total population of 48,000 and an area of 3,672 square kilometers. The area lies within the Talamanca-Caribbean corridor and is part of the larger Mesoamerican Biological Corridor and its buffer zones. The project will be carried out in buffer zones surrounding several protected forested areas, including *La Amistad* International Park (193,929 ha in Costa Rica and 221,000 in Panama); the Biological Reserves of Hitoy-Cerere, Barbilla and Las Tablas (38,646 ha total); the Indigenous Reserves of Kekoldi, Tayni, Telire, Talamanca Ujarrás, Salitre and Cabagra with 217,441 ha; and the wildlife refuges of the Cahuita and Gandoca-Manzanillo National Park.

The overall objective of the project is to improve biodiversity conservation and the livelihood of indigenous people, *mestizos* and Afrocaribbean organic producers in the Talamanca-Caribbean Corridor through changes in the design, management and use of cacao agroforestry farms. The project proposes to promote biodiversity conservation through promoting maintenance of a floristically and structurally diverse shade canopy for cacao that provides habitat and resources for animals and the diversification of farm cultivated areas with native plant species, including plants that serve as critical perches or nesting sites, or provide key food resources for wildlife. The project will also identify cultural and agricultural practices that might be reducing the region's biodiversity and target environmental education and training activities towards reducing these practices, while promoting others that are compatible with conservation goals. At the same time, the project will promote the productivity, marketing and certification of biodiversity-friendly organic products through a variety of training, research and outreach activities. All production-related activities will include a strong conservation component and ensure that local and regional biodiversity is maintained.

Specific project objectives include:

(i) to promote and maintain on-farm biodiversity through: a) ecological and agroforestry farm planning and management; b) design and management of diverse, structurally complex cacao agroforestry systems using native plant species that provide products and services for the farmers and habitat and food resources for animals; c) collection and dissemination of seeds and other propagation material of native and useful species; and d) the identification and promotion of agricultural and cultural practices that enhance biodiversity conservation;

(ii) to promote sustainable farm production and certification procedures that favor on-farm biodiversity conservation, as well as to stimulate marketing of biodiversity-friendly products in national and international markets;

(iii) to train and strengthen beneficiary farmers and their organizations on biodiversity conservation and sustainable farm production, to produce educational, technical and extension materials, and to promote the replication of project experiences in other indigenous communities that cultivate cacao within the Mesoamerican Biological Corridor.

(iv) to monitor biodiversity (key indicator species of birds, mammals, butterflies and plants) in crop lands, forest patches, fallow lands, home gardens, and cacao and banana plots on the farm, and to quantify the utilization of plants and wildlife (game and fish) in order to identify cultural and

agricultural practices that deplete the region's biodiversity and to promote those compatible with conservation goals.

As such, the project will simultaneously address two issues that are fundamentally important not only to the Talamanca-Caribbean Corridor, but also to the whole of Costa Rica and throughout the Mesoamerican Biological Corridor: (a) the need to maintain and conserve biodiversity within both the forest reserves and their agricultural buffer zones; and (b) the need to improve the standards of living of farmers belonging to three different ethnic groups (indigenous people, *mestizos*, and Afrocaribbean). The experiences gained in this project would serve as models to be replicated in the neighboring biodiversity-rich Panamanian indigenous areas of Bocas del Toro and San Blas (Ngobe and Kuna tribes), in buffer zones around BOSAWAS protected area in Nicaragua (Sumu and Miskito tribes), the North Coast of Honduras (Miskito, Garifuna and Latin mestizos) and Mayan groups in Belize, Guatemala and Mexico.

II. CURRENT SITUATION, LEGISLATION AND ON-GOING ACTIVITIES

In Costa Rica, cacao plantations cover an estimated 4,000 hectares, of which 3,000 has. are located within forest areas and 1,000 has. are located in agricultural plantations. A large fraction of current Costa Rican cacao production comes from some 300 has. of intensively managed, high input plantations which produce approximately 1,000 kg/ha./year. At the other end of the spectrum are the approximately 1,500 has. of cacao agroforestry systems of the *BriBri* and *Cabecar* indigenous communities in Talamanca (approx. 900 farms). Average yield from these traditional systems is about 200 kg/ha./year. These farmers annually produce roughly 350 tons (dried) cocoa, of which 250 tons are certified as organic. The annual value of such production is estimated at US$ 300,000. An additional 2,500 farmers in the region have cacao plantations but do not harvest their cocoa due mainly to *monilia* infestation and low prices paid to non-certified cocoa.

A typical indigenous farm in Talamanca is 11 hectares in size, with 4 has. under natural forest with variable degree of fragmentation and selective timber extraction, 4 has. of fallow land, 1.5 has. of shaded cacao, 1 ha. of organic banana, and 0.5 ha. in patios and home garden around the house. Frequently, cacao and banana are intercropped under a shade canopy. Annual crops are produced by slashing and burning young fallow, under a shifting cultivation scheme within the farm with an estimated four-year rotation. Maize and beans are planted in separate fields in February and again in October; rice is planted in April. Crop fields are usually small (0.5 – 1.0 ha each; rice fields are typically larger than maize or bean fields), with cultivated area depending on family size, especially labor availability and consumption needs. Valuable timber species (such as *Cedrela odorata* and especially *Cordia alliodora*) regenerate naturally in cacao and banana plantations. Trees are harvested to supplement farm income or to satisfy family needs.

Traditional cacao systems are characterized by a floristically and structurally diverse shade canopy that harbors a vast array of secondary plant and animal diversity such lianas, epiphytes, mosses, lichens, insects, herpetofauna and birds (forest resident and migratory). Some farmers choose a polycultural form of management, where shade trees are planted amidst cacao trees either exclusively for cacao shade, or for the combined purposes of shade and alternative crop generation. The polycultural system can range from having multiple species of planted shade trees with occasional remnant forest species, to monocultural shade in which only one service, shade tree species (e.g. *Inga* spp or *Erythrina* spp) is planted. Monospecific shade canopies with valuable timber trees (*Cordia alliodora*) are also common.

The potential for cacao plantations both to harbor biodiversity and to provide an important source of family income is not yet being fully realized. Although there is still a potential for cacao to both conserve biodiversity and increase production, the present management does not sufficiently consider

either conservation or production criteria. Farmers do not manage their shade canopies for biodiversity conservation and are not aware of the importance of their canopies for flora and fauna. Overall productivity can be increased by careful canopy design and management (increase and diversify production of timber, fruits and other non-timber products), better organic fertilization and soil improvement, cultural and biological control of *monilia*, shade regulation, genetic improvement using high yielding, disease resistant local cacao genotypes and better fermentation and drying of cocoa beans.

In the absence of the project, traditional cacao agroforestry systems in the Talamanca-Caribbean Corridor are unlikely to persist as economic pressures at the household level drive the conversion of these environmentally-friendly systems to less diverse, structurally simplified, non-organic, land uses. These alternative land uses are more lucrative in the short term but result in the loss of local biodiversity as well as other ecosystem functions. The conversion of traditional cacao systems to other crops would likely disrupt the continuity of both the regional and local biological corridors as well as lead to a reduction in animal populations, including migratory birds. Furthermore, it is likely that forest fragments will be cleared for annual crop production and wildlife populations will be reduced by non-sustainable hunting and fishing.

The Talamanca-Caribbean Corridor is identified as a priority area within the 1995 GRUAS Report, a land use planning exercise carried out by the Ministry of Environment and Energy and its offices with the support of UNDP/GEF. The area harbors a rich biological diversity and is a strategic link within the larger Mesoamerican Biological Corridor, situated between the Tortuguero Biological Corridor (identified as a priority in the World Bank/GEF co-financed Costa Rica Ecomarkets project) and Panama' s Bocas del Toro region (identified as a priority in the World Bank/GEF co-financed Panama Atlantic Mesoamerican Biological Corridor project). The Talamanca-Caribbean corridor is under direct threat from the commercial production of bananas (now covering thousands of hectares), non-sustainable extraction of timber from agroforestry systems, non-timber products (e.g., palms for home construction), logging of natural forests and conversion of forests to agricultural land.

The proposed project is closely aligned with the legal framework for biodiversity conservation in Costa Rica. Costa Rican legislation on biodiversity conservation, forests, indigenous groups, and current governmental programs provides a sound frame for project operations, while a number of related institutions, both government and non-government, are active in the country and in the project area with specialized actions and projects related to biodiversity conservation, organic agriculture, marketing of organic products and institutional strengthening. More specifically, this project is closely linked to the Action Plan of the Costa Rican National Biodiversity Law of April 14, 1998 (No. 12635), which states that the sustainable use of biodiversity should maintain development options for future generations (including food security, ecosystem conservation, and improved living standards), foster cultural diversity, enhance knowledge of biodiversity, and increase conservation activities, particularly of rural, indigenous communities. Project activities also comply with the Forestry Law No. 7575, approved in 1996, which supports the conservation of forest ecosystems and provides incentives to individuals and groups that implement conservation measures. Finally, the project closely follows the principles of the Indigenous Law (No. 6172), which gives priority to development efforts within indigenous reserves and communities, supports technical capacity-building, and supports institutional strengthening of indigenous organizations.

The project is also highly compatible with current activities of the Ministry of Environment and Energy (MINAE) and the National Biodiversity Institute (*Instituto Nacional de la Biodiversidad*, known as INBio) at the national level, and specifically in the project area (Limon Province, Municipalities of Talamanca and Siquirres), that support biodiversity conservation both inside and outside of the proposed project area. More broadly, the project is complementary with on-going World Bank projects targeted at

poverty alleviation, natural resources management, and biodiversity conservation within the Mesoamerican Biological Corridor in Costa Rica as well as in other Central American countries, including the World Bank/GEF Biodiversity Resources Development project with INBio and the World Bank./GEF Costa Rica Ecomarkets project (with MINAE); the Rural Poverty and Natural Resources project and the Atlantic Mesoamerican Biological Corridor in Panama; the Rural Municipalities project and Atlantic Mesoamerican Corridor in Nicaragua; and the Rural Land Management project and Biodiversity in Priority Areas project in Honduras. Likewise, the project complements the ongoing UNDP/GEF Biological Corridor Project in Talamanca. During project formulation, the proposed project carried out consultations and workshops with the UNDP/GEF project in the Talamanca region to define comparative advantages, to identify complementary activities and avoid duplications between the two projects. During project implementation, cooperation between the two projects and the variety of organizations (e.g., farmers organizations, NGOs, academic institutions) working in the Talamanca area will be organized through complementary workshops throughout the life of both projects.

Finally, the project shares similarities with the World Bank/GEF Medium-Sized Project for Promotion of Biodiversity Conservation within Coffee Landscapes in El Salvador (biodiversity conservation and improving the livelihood of local producers), in particular promoting the sustainable use of biodiversity in agricultural landscapes.

III. EXPECTED PROJECT OUTCOMES

As a result of project activities over the next three years, conservation and sustainable use of biodiversity within cacao plantations and the landscape will be supported through: diversification of shade canopies within indigenous cacao plantations as well as rehabilitation and management of farms using ecological criteria and organic crop production; increased knowledge of the importance of the farm areas as habitats and corridors for plant and animal species; greater knowledge, among indigenous communities and non-governmental organizations, of the diversity of flora and fauna of the project area, the benefits they derive from biodiversity, and its importance for both local and regional agricultural sustainability; and increased availability of seed and propagation materials of native plant species in local nurseries for the diversification of farms and cacao plantations.

Sustainable farm production will be enhanced through: introduction of certification procedures that favor on-farm biodiversity conservation, and marketing of biodiversity-friendly products in national and international markets; local production and use of biodiversity-friendly organic fertilizers to improve soil quality; establishment of a diverse gene bank of local superior cacao trees to be used in enhancing the genetic quality of existing cacao plantations; increased market opportunities due to the creation and maintenance of an information center on local biodiversity-friendly, organic products and markets; and identification and promotion of appropriate certification schemes that promote biodiversity conservation and also provide financial advantages to local producers.

Furthermore, the project will promote stronger indigenous farmers organizations through: educational, technical, and extension materials produced and disseminated by the project; increased collaboration among farmers, communities and local organizations around biodiversity conservation and organic crop production; farmer-to-farmer extension on ecological and agroforestry farm and cacao management; and cross-national dissemination of materials and lessons learned to other indigenous communities that cultivate cacao within the Mesoamerican Biological Corridor and in similar areas of Central America.

Finally, local indigenous communities will improve their knowledge of biodiversity: creation of a baseline database that allows monitoring of project impacts on biodiversity in banana and cacao plantations, crop

lands, forest patches, fallow land, and home gardens; continuous participatory monitoring of the abundance and species richness of key indicator groups (e.g., birds, mammals, butterflies, and plants) within the project area and continual updating of a data base on biodiversity within farms; and development of guidelines that will permit the sustainable harvesting and extraction of selected plants and wildlife within the project area.

IV. ACTIVITIES AND FINANCIAL INPUTS REQUIRED FOR THE PROPOSED MEDIUM-SIZED PROJECT[2]

COMPONENT 1 – Promotion and Conservation of On-Farm Biodiversity
(Baseline: $322,000; GEF: $117,000 – TOTAL: $439,000)

The main objective of this component is to promote and maintain on-farm biodiversity through: a) ecological and agroforestry farm planning and management; b) design and management of diverse, structurally complex cacao agroforestry systems using native plant species that provide products and services to farmers and habitat and food resources for animals; c) collection and dissemination of seeds and other propagation material of native and useful species; and d) the identification and promotion of agricultural and cultural practices that enhance biodiversity conservation. The baseline cost for these activities is estimated at $322,000. The GEF incremental cost, estimated at $117,000, will finance (i) technical assistance in ecological and biodiversity-friendly farm planning; (ii) investments in equipment for on-farm biodiversity conservation; and (iii) research on traditional knowledge on biodiversity-friendly farm management.

COMPONENT 2 – Sustainable Production, Certification and Marketing of Biodiversity-Friendly, Organic Products
(Baseline: $1,266,000; GEF: $100,000 – TOTAL: $1,366,000)

The main objective of this component is to promote sustainable farm production, to promote certification procedures that favor on-farm biodiversity conservation, and to stimulate marketing of biodiversity-friendly products in national and international markets. The baseline costs for these activities are estimated at $1,266,000. The GEF incremental cost is estimated at $100,000 to finance the costs of the following activities: (i) research and technical assistance for the sustainable production of biodiversity-friendly cocoa; (ii) establishment of an information center that would increase the marketing and planning capabilities of local organizations; and (iii) workshops for promoting local standards for biodiversity-friendly certification, procedures, quality requirements and marketing opportunities for certified farm products.

COMPONENT 3 - Strengthening Farmers and Producers Organizations
(Baseline: $578,000; GEF: $396,000 – TOTAL: $974,000)

The main objective of this component is to train and strengthen beneficiary farmers and their organizations on biodiversity conservation and sustainable farm production, to produce educational, technical, and extension materials, and to promote the replication of project experiences in other indigenous communities that cultivate cacao within the Mesoamerican Biological Corridor and in similar areas of Central America. The baseline costs are estimated at $578,000. The GEF incremental cost of $396,000 is the cost of the

[2] For detailed information on project budget, see Annex 6. For detailed information on procurement within each project component, see Annex 3. For information on project disbursements, see Annex 4.

following activities: (i) training activities for capacity building for indigenous organizations; and (ii) workshops for inter-institutional technical interchange and field exchange visits.

COMPONENT 4 – Biodiversity Monitoring
(Baseline: $ 127,000; GEF: $ 112,000 – TOTAL: $239,000)

The main objective of this component is to: a) establish a participatory program for the monitoring of biodiversity (e.g., key indicator species of birds, mammals, butterflies and plants) in crop lands, forest patches, fallow lands, home gardens, and cacao and banana plots on the farm; and b) quantify the utilization of plants and wildlife (game and fish) in order to identify cultural and agricultural practices that deplete the region's biodiversity and to promote those compatible with conservation goals. The baseline cost for these activities is estimated at $127,000. The GEF incremental cost, estimated at $112,000, would finance targeted research on (i) inventories of farm biodiversity; (ii) the impact of human utilization on the conservation of biodiversity; (iii) sustainable timber production; and (iv) the impact of wildlife on crops.

V. SUSTAINABILITY ANALYSIS AND RISK ASSESSMENT

Main factors for project success include:

1. *Stakeholder and Community Participation* – The experience of community and producers organization prevalent today in the project area, especially among the indigenous population, and the dialogue maintained with them during the preparation phase of the project, indicate an active participation of the beneficiary groups in the implementation of the project. Furthermore, many of the activities proposed in this project reflect proposals made by the organizations during the preparation phase.
2. *Stability and growth of biodiversity-friendly, organic cocoa and banana* – Markets for biodiversity-friendly, organic products, both domestic and international, have been growing steadily in the last ten years, a fact testified by the continuous growth in exports and the stability of prices. The economic study carried out during preparation shows that organic cocoa yields can increase threefold in five to six years if the cultural and sanitary practices recommended by the project are followed, while the corresponding family income can double. Investments at the farm level are minimal.
3. *Legal/Institutional framework* – Costa Rican legislation on biodiversity conservation, forests, indigenous groups, and current governmental programs provides a sound framework for project implementation, while a number of related institutions, both government and non-government, are active in the country and in the project area with specialized actions and projects related to biodiversity conservation, organic agriculture, marketing of biodiversity-friendly, organic products and institutional strengthening.
4. *Tradition in organic production* – Farmers have a long tradition of growing organic cacao, which will provide a basis for project operations and adoption of appropriate recommendations. A significant effort will be dedicated to providing farmers with agroforestry and ecological farm planning tools tailored to biodiversity conservation and sustainable production.
5. *Expert multidisciplinary Project Technical Team* – CATIE has a long experience in the development, validation and dissemination of cacao-based agroforestry technologies, biodiversity management, and project implementation and administration in the Talamanca-Caribbean corridor area. The project's multidisciplinary team of ecologists, agroforestry experts, sociologists, economists and field promoters, plus the short term consultancies in key areas, will be able to provide sound advice in all matters of concern of this project.

Risk factors associated with the project and respective mitigating actions:

1. *Organic product prices* – International organic cocoa prices may decline in the future due to increased production in other countries, which might reduce farmers' motivations to produce biodiversity-friendly, organic cacao. This in turn may result in the conversion of cacao plantations into other non-environmentally friendly land uses. Although this possibility does not seem be a real concern in the foreseeable future, the fact that farmers in the area grow a variety of biodiversity-friendly, organic crops might mitigate the problem and stimulate producers to keep their cacao as organic.
2. *Gender issues* – Participation of women may be limited by family, gender and/or cultural reasons. The project is mitigating this risk by means of strong social and community strengthening activities.
3. *Problems related to cacao production* – Low prices for organic cacao and modest improvements in yields might make cocoa production less financially attractive. New cacao diseases (e.g. witches broom) may enter the area, further reducing cacao production and provoking a change in land use (e.g. conversion to banana monocultivation). Biodiversity-friendly farm management and cacao production (with more diverse, structurally complex shade canopies, organic fertilization, disease management, etc.) may demand more labor than traditional practices that may be resisted by some farmers. However, at the same time diversified farming may: (1) ensure a sustainable supply of animal proteins for family consumption, (2) reduce farm risk by increasing and diversifying the sustainable production of timber, fruits, fiber and other useful non-timber products, and (3) reduce the possibility of pest outbreaks as a result of higher ecosystem biodiversity. The project team will be closely monitoring all these issues in order to be able to take timely action to mitigate them.
4. *Conflicts between organizations* – During the social assessment, a general perception of conflict among local organizations was noted. The project will require negotiation skills on the part of the project executing agency and coordination among beneficiaries to reach project goals. The project executing agency will need to be aware of inter-organizational issues which arise and act quickly to ensure that coordination problems do not hinder project activities.

Through the on-going, long-term work on natural resources management carried out by CATIE and the World Bank in Central America, there is a significant opportunity to replicate project activities as well as to disseminate materials and lessons learned in neighboring Mesoamerican Biological Corridor countries, including the biodiversity-rich indigenous areas of Bocas del Toro and San Blas in Panama (Ngobe and Kuna tribes), in buffer zones around the BOSAWAS protected area in Nicaragua (Sumu and Miskito tribes), the North Coast of Honduras (Miskito, Garifuna and Latin mestizos) and Mayan groups in Belize, Guatemala and Mexico. Project information will be disseminated to national and regional MBC projects, producer organizations and indigenous communities through printed materials as well as through CATIE's website.

VI. SOCIAL ASSESSMENT AND PUBLIC INVOLVEMENT PLAN

Social Assessment:

As part of project preparation, a social assessment (SA) was carried out with the following objectives: (a) to evaluate existing patterns of natural resource management, access, and use among different groups and institutions in the project area; (b) to identify the stakeholders and beneficiaries, using a gender perspective, that should be involved in the preparation, implementation and evaluation the project and to obtain their input on project design and scope; (c) to identify the potential negative impacts of the proposed activities and to design measures to mitigate these impacts; and (d) to identify opportunities to build the capacity of local governments, indigenous organizations, producers and non-governmental organizations (NGOs). The following is a summary of the report entitled *Sociocultural Aspects of Cacao Cultivation from the Perspective of Afro-Caribbean, Indigenous and Mestizo Latino Producer Families*, prepared for this project by Ms. Evelyn Silva.

The process utilized in preparing the SA consisted of: (a) an analysis of the stakeholders and beneficiaries in the project area; (b) regional consultation workshops with representative stakeholders and beneficiaries carried out by a multi-disciplinary team; (c) an extensive analysis of secondary literature of natural resource management and cacao production; (d) meetings with local NGOs and indigenous peoples organizations; and (e) research on gender issues. Annex 2 summarizes the main findings of the SA.

Beneficiaries and Stakeholders:

The main group of beneficiaries is made up of approximately 3,000 families of small cacao farmers belonging to three different ethnic groups (indigenous people, *mestizos*, and Afro-Caribbean). Participating local organizations include: the Talamancan Association of Small Producers (APPTA); ABACO (Bordon Association for Organic and Conservationist Agriculture); ACAPRO (Association of Organic Producers); the National Association of Indigenous Agriculture (ANAI); the National Association of Organic Agriculture (ANAO); the Rural Organic Producers Association; Project Namasol; ASUNFOR, ADITIBRI, ADITICA, UCANEHU Association; SEJEKTO Cultural Association of Costa Rica; OCP, USDA, ACRI, CABI, OLAFO, and the National Indigenous Board.

Cooperating government institutions include: the Ministry of Agriculture and Livestock (MAG); the Ministry of Environment and Energy (MINAE); the National Council on Production (CNP); Port Administration Assembly of the Atlantic Coast (JAPDEVA); the Agricultural Development Institute (IDA); National Institute for Biodiversity (INBio), and the Rural Development Program (PDR-MAG). Also collaborating with the project are the Regional Agricultural School for the Humid Tropics (EARTH); the University of Costa Rica (UCR); the National University (UNA); and the Talamanca Technical Agricultural School.

Stakeholder Involvement in Project Preparation

During project preparation, regional consultation workshops and meetings were carried out by a multi-disciplinary team with farmers' organizations, local NGOs, indigenous organizations and individual beneficiaries to ensure project buy-in. The experience of community and producers organization working in the project area, especially among the indigenous population, and the dialogue maintained with them during the preparation phase of the proposed project is expected to facilitate an active participation of the beneficiary groups in the implementation of the project. Indeed, the majority of activities proposed in the proposed project directly reflect proposals made by local communities during local and regional consultations.

Gender Issues:

Project activities provide training and production opportunities for both women and men. Women will be trained on fermentation and drying of cacao, post-harvest handling of other farm products, and propagation of superior cacao trees and native plant species. Emphasis on fruits/fibers and other locally important products may contribute to opportunities for women who usually manage these products (for their own use and/or sale). Training opportunities on environmental and gender issues, biodiversity-friendly, organic production, certification and marketing will be provided to both men and women. Cacao rehabilitation and farm planning and management will be generally directed to men.

VII. INCREMENTAL COST ASSESSMENT

Baseline Project

The baseline project is the sum of activities related to biodiversity conservation, organic agricultural and agroforestry production currently under way in the project area. These include activities by CATIE and several partner institutions (USDA, CABI, ACRI, and OLAFO) on issues related to *moniliа* control, genetic improvement of cacao, and cultivation and management of non-timber products in indigenous reserves (Kekoldi). Producers associations, especially APPTA but also ACAPRO and ABACO and others, also have relevant activities in technical assistance, organic production, certification and marketing of organic products, and institutional strengthening. Other organizations, such as OCP, PFA, ANAI, Shiroles Educational Farm (operated by the indigenous Cabecar communities – ADITICA), USDA, CABI, ACRI, OLAFO, carry out research, development and conservation activities on cacao rehabilitation, marketing of organic products, institutional strengthening, biodiversity monitoring of water streams, ecotourism and birdwatching, and training of indigenous communities. Cacao farmers are also major contributors to the baseline set of activities. Their contribution is in kind and reflects the amount of labor allocated to the production and marketing of organic cocoa and other crops.

In the absence of GEF support, the baseline project would likely be limited to the Talamanca sub-area, where farmers, mostly from the indigenous community, would continue to manage their farms and cacao plantations according to traditional methods which may not ensure the conservation of farm biodiversity. Communities and organizations would continue their activities at current levels and there would be a moderate level of activities relating to the sustainable use of biodiversity. Organic certification would remain as the only criteria for certification, without taking into consideration other biodiversity-related criteria. The biodiversity-friendly certification proposed by this project would not be pursued.

The baseline project (3 years) has an estimated cost of US$ 2,293,000 and includes:

- US$250,000 spent by APPTA and other producers associations in technical assistance, organic production, certification and marketing of cocoa and other organic products, and institutional strengthening;
- US$357,000 by CATIE, in project coordination, technical assistance and training of beneficiaries;
- US$520,000 by the following institutions working in partnership with CATIE (USDA, CABI, ACRI, and OLAFO) in the above-mentioned activities;
- US$516,000 by another six institutions (CABI, OCP, European Union, OCP, ANAI, and Chiroles Educational Farm) in the above-mentioned activities; and
- US$650,000 in kind, reflecting the amount of labor of 900 participating farmers allocated to the production and marketing of organic cocoa and other crops.

These activities, although important, are insufficient to maintain biodiversity on the farms of the project area and may result in the loss of biodiversity in existing forest fragments in protected areas. GEF incremental cost support will introduce ecological and productive planning tools, at both the farm and agroecosystem levels, that are compatible with the conservation of local biodiversity while providing a sustainable source of family income. A grant from GEF for US$725,000 is being requested to support activities mainly devoted to biodiversity conservation and monitoring, as well as institutional strengthening. The GEF Alternative project will have a total cost of US$3,018,000.

Incremental Cost Analysis

Clearly, there are global environmental benefits from the baseline set of activities that would be carried out in the absence of the proposed project. In the absence of global environmental benefits generated through organic cacao production, the overall level of biodiversity in the Talamanca-Caribbean Corridor would be lower than presently exists today. Instead, through the proposed project, smaller-scale activities will be scaled up and farmer-to-farmer exchanges, improved monitoring of biodiversity in the area, as well as national and cross-national information exchange throughout the region will allow for increased dissemination of lessons learned relating to the sustainable use of biodiversity in agricultural landscapes, leading to a substantial increase in global environmental benefits.

Total costs of implementing the medium size project are estimated at $3,018,000. CATIE, producers' associations, farmers and other institutions will contribute approximately $2,293,000, representing baseline investments and program management costs. GEF support would cover the incremental costs of the proposed project, estimated at $725,000. GEF-supported activities would include technical assistance in ecological farm planning, workshops for promoting local standards for certification, capacity-building activities for indigenous organizations, and research on a variety of biodiversity-friendly farm management methods. Total GEF support for this project would total $750,000 (PDF + project grant). The table below shows contributions from each co-financier.

	BASELINE SCENARIO US$000					**Proposed GEF Alt. US$000**	**Increment US$000**
	CATIE	PROD. ASSOC.	OTHER INSTIT.	FARMERS	**TOTAL**	**TOTAL**	Requested of GEF
Implementation							
Component 1 – Conservation and Management of Farm Biodiversity	58	-	264	-	322	**439**	117
Component 2 – Production, Certification & Marketing of Biodiversity-Friendly, Organic Products	49	167	400	650	1,266	**1,366**	100
Component 3 – Strengthening Farmers and Producers Organizations	195	83	300	-	578	**974**	396
Component 4 – Biodiversity Monitoring	55	-	72		127	**239**	112
TOTAL (I)	357	250	1,036	650	2,293	**3,018**	725

VIII BUDGET

The following table sets forth the allocation of the amounts financed by the grant to each expenditure category.

Table 1: Allocation of Grant Proceeds
US$

Categories	**Amounts**
Goods	93,000
Technical Assistance	353,500
Training Program	84,000
Operational Costs	129,900
Contingencies	64,600
TOTAL	**725,000**

VIII. PROJECT IMPLEMENTATION PLAN

The project implementation period will be three years. Specific project outputs and indicators of project success for each component are indicated below. For more detailed information, see Annex 7.

The project-executing agency is the **Tropical Agronomic Center for Research and Education** (CATIE - Centro Agronómico Tropical de Investigación y Enseñanza). CATIE is an international, non-profit civil association for research, postgraduate education and outreach (short-term training, technical advise) activities in agricultural sciences, forest management and biodiversity conservation, agroforestry systems, watershed management, environmental, socioeconomic and related subjects on natural resources management throughout Latin America, with an emphasis on Central America and the Caribbean. CATIE will be responsible for providing technical and scientific guidance, financial administration and training. APPTA will provide technical assistance and direct access to farmers and producer organizations in the area. Many other organizations will collaborate in training and institutional strengthening activities. OCP will provide market opportunities for biodiversity-friendly, organic cacao. Monitoring of biodiversity will be supported by WWF in collaboration with CATIE's Area of Biodiversity and Protected Areas and INBio. Indigenous associations (Bribri and Cabecar – ADITIBRI and ADITICA) will provide official support of local communities to project activities. USDA will provide laboratory support in the genetic characterization of local superior cacao genotypes. Governmental (IDA, MAG, MINAE, CNP, INBio) and non-governmental organizations (ANAI) will contribute to the monitoring of biodiversity, provide legal advice and technical support on timber production and management, and financial retributions to farmers due to environmental services.

The project will be implemented under the responsibility of a team of permanent CATIE advisors including:

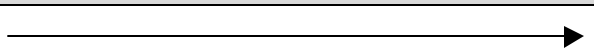
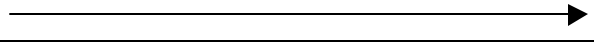
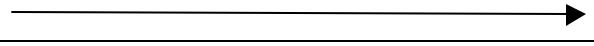
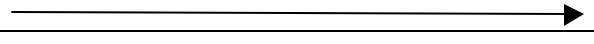
- A project coordinator, Dr. Eduardo Somarriba, an ecologist specializing in cacao-based agroforestry systems who has conducted research in the cacao plantations of Talamanca since 1987 and published numerous papers on the sustainable management of cacao-based agroforestry systems.

- A team of permanent CATIE advisors including a sociologist, an ecologist with expertise in biodiversity conservation, an economist specialized in marketing and certification, an expert in organic fertilizers and an expert in biological control of cacao diseases (see details in Annex 5). Committee members will actively participate in the design, coordination and implementation of all project activities, including training and outreach events.

- In addition, the project will contract: 1) two female professionals based in Talamanca (a field ecologist trained in systematic botany and biodiversity conservation, and an agronomist with expertise in organic agriculture); 2) one administrative assistant based in CATIE, Turrialba; 3) a nursery operator; 4) twenty part-time community extensionists (from local communities and organizations) to facilitate outreach and training activities; and 5) several short-term consultants.

Project activities are in each of the four components are expected to be carried out during each year of the project life. Nevertheless, certain activities are expected to be completed during the specific project years. Activities to be completed by the end of PY1 include (a) selection of 300 collaborating farmers; (b) establishment of three community nurseries; and (c) selection and training of project team. Activities to be completed by the end of PY2 include (a) production and dissemination of training materials; (b) research and validation on *monilia* bio-control biodiversity-friendly cacao organic fertilization; and (c) five Master's

theses on sustainable uses of biodiversity. All project activities are expected to be completed by the end of PY3.

PROJECT ACTIVITIES	PROJECT MONTHS
	0 6 12 18 24 30 36
Component 1 – Conservation and Management of Farm Biodiversity	
Component 2 – Production, Certification & Marketing of Biodiversity-Friendly, Organic Products	
Component 3 – Strengthening Farmers and Producers Organizations	
Component 4 – Biodiversity Monitoring	

Procurement

CATIE will be responsible for carrying out procurement of goods and services under the responsibility of their staff procurement specialist. Procurement of goods (vehicles, computers/accessories, office equipment including telephone lines, field and nursery equipment, printed training and educational materials) financed by the Bank under the project would be carried out in accordance with the Bank's *Guidelines for Procurement under IBRD Loans and IDA Credits* published by the Bank in January 1995 and revised in January and August 1996, September 1997, and January 1999. The purchase of goods will be made according to local shopping methods, whereby at least three quotes will be requested and decisions will take into account price as well as time of delivery, efficiency and reliability of goods. Consultant services would be procured in accordance with *Guidelines for the Selection and Employment of Consultants by World Bank Borrowers* published by the Bank in January 1997 and revised in September 1997 and January 1999. Consulting firms will be contracted following QCBS procedures according to the guidelines. The above procedures coincide with those followed by CATIE as an international organization in Costa Rica.

As generally expected in Medium-Sized Projects financed by a GEF grant, the limited amount of procurement will result in small packages for goods and services. The procurement methods to be used are described in Table 1. The grant will finance operational costs such as operation and maintenance of vehicles, rent, office equipment, insurance for equipment and vehicles procured under the project, office materials and utilities and communication expenditures required for the implementation of the project. No works will be financed under this project. CATIE will establish procedures for monitoring project execution and impact, procurement implementation, including monitoring of contracts for goods and services modifications, variations, and extensions of completion periods. CATIE will maintain detailed records of procurement activities financed under the grant. For more information on procurement-related issues, see Annex 3.

Disbursements, Accounting and Auditing

CATIE will prepare and forward to the Bank quarterly Project Management Reports (PMRs) covering progress in achieving the activities and targets corresponding to each quarter of project implementation, linking them to financial and physical indicators for project activities. The reports shall be delivered within 45 days from the end of the preceding quarter. The financial section of the PMRs will be based on the simplified tables included in the document "Financial Management Systems, Reporting and Auditing for Bank-GEF Medium-Size Projects" and Annex 9 to the Project Financial Management Manual.

CATIE will maintain separate records and accounts for project expenditures as well as a register of assets purchased with grant funds. CATIE will also have the responsibility for preparing the project's financial statements, which will indicate sources and expenditures in accordance with main project components and disbursement categories. Actual payments will be compared against those budgeted. A statement of receipts, sources and uses of funds, and undisbursed balances of the Special Account will also be included. Information reported will also contain the value of contracts signed, i.e. commitments, relative to actual payments.

Auditing of the project accounts will be done by an independent auditor following the Guidelines and Terms of Reference for Audits of Projects with Financing from the World Bank in the Latin America and Caribbean Region. Audit reports will be sent to the Bank no later than four months after the end of each year of project implementation.

Disbursements will be made in annual tranches, as set forth in Table 2 below, which will be linked to specific performance targets as outlined in the workplan presented in Annex 7. The closing date is June 30, 2003.

Table 2 - Estimated Schedule of Grant Disbursements
US$

Disbursement Tranches	Bank Fiscal Year	Expected Disburse. Date	Tranche Amount	Cumulative Amount	Disburse. % of Total	Grant Balance
1	2001	December 2000	319,000	319,000	44	406,000
2	2002	December 2001	211,000	530,000	73	195,000
3	2003	December 2002	195,000	725,000	100	----

IX. MONITORING & EVALUATION

Project monitoring and evaluation activities will be conducted by World Bank/RUTA supervision missions. Monitoring activities will include regular reporting on the activities related to each component of the project, as measured against the indicators presented in the project summary. Performance targets tied to the disbursement schedule will also be monitored. In addition, monitoring activities will include the production of two annual reports and a final comprehensive report. Biodiversity monitoring and evaluation activities will be implemented under Component #4 of this project and will include participatory methodologies. An internal assessment of progress under the project will be conducted annually.

X. PROJECT CHECKLIST

PROJECT ACTIVITY CATEGORIES:

BIODIVERSITY

Protected area zoning/management:
Buffer zone development: X
Inventory/monitoring: X
Ecotourism:
Agro-biodiversity: X
Trust fund (s):
Benefit-sharing:

TECHNICAL CATEGORIES:

Institution building: X
Investments:
Policy advice:
Targeted research:
Technical/management advice: X
Technology transfer:
Awareness/information/training: X

ANNEX 1

CACAO AGROECOSYSTEMS AND BIODIVERSITY IN COSTA RICA

1. The cacao agroecosystems and biodiversity of Costa Rica, and especially those of the project area (Talamanca-Caribbean corridor) have been widely studied in the last decade, and their importance to biodiversity conservation has been firmly established. As described by Parrish et. al. (1998, see below) the proposed project area is:

> ...predominantly composed of small cacao farms. These small landholders typically face substantially different challenges in growing a productive crop than large corporate-owned plantations. The rustic rainforest tree shade of small landholders in the region tends to have a tenuous existence, as these farmers are more susceptible in poor-market times to the need to sell their valuable tropical lumber or convert the entire cacao crop to open-grown *platanos*, banana, beans, or pasture than are large established plantation owners... These environmentally sensitive organic markets and the predominance of potentially environmentally enhancing shade management practices of cacao in the increasingly deforested Talamancan landscape have resulted in a focus on the use of cacao as conservation tool to enhance the biological corridor….

The importance of maintaining landscape elements, such as those provided by the small cacao farms, which contribute to the conservation of the Talamanca-Caribbean corridor, cannot be understated. The corridor is under direct threat from the commercial production of bananas (now covering thousands of hectares), continued logging of lowland tropical forest and of forested areas under traditional agroecosystems, and from for small-scale clearing for annual agriculture. Organic cacao provides a significant alternative, at the landscape-scale, as an environmentally sustainable, corridor compatible, land use with the potential to meet economic needs while preserving forest remnants. In the absence of such support, the maintenance of these traditional systems is in doubt as economic pressures at the household level drive the conversion of these smallholder shade crop systems toward land uses that are more lucrative in the short term.

2. Proceedings of the First International Workshop on Sustainable Cocoa Growing, held in March 1998 in Panama, have been published by the Smithsonian Migratory Bird center. A synthesis of several relevant documents is provided below[3]:

A. Cacao as Crop and Conservation Tool: Lessons from the Talamanca Region of Costa Rica. Parrish, J., Reitsma, R., and Greenberg, R. 1998.

> The Nature Conservancy has recently initiated efforts with its partner organizations in the Talamanca Region of Costa Rica to use cacao to enhance environmental conservation of a biological corridor stretching across the region. In the presentation of this case study, we explore cacao as a crop in southeastern Costa Rica, examining its management and the issues facing farmers of the Talamanca district. We also present data that demonstrate the importance of cacao in harboring biodiversity and that suggest the value of cacao in assisting local and landscape-level conservation.

B. The Cacao Landscape of Talamanca, Costa Rica

> Rustic Shade Management of Talamancan Cacao As in much of the world, cacao in Talamanca is grown along a spectrum of management from rustic, or traditional farms, to intensively managed planted polycultural shade canopies. Rustic cacao farms in Costa Rica are characterized by the planting

[3] The primary documents may be found on the Internet (at http://www.si.edu/smbc/)

of cacao under thinned primary or older secondary forest. In this traditional system, the understory is cleared and replaced by young cacao trees that grow to fill the lower stratum of the forest ecosystem. *Since the majority of the mid- and overstories of the forest are left untouched except for some thinning, the rustic cacao farm is structurally diverse and therefore expected to harbor a vast array of secondary plant and animal diversity such lianas, epiphytes, mosses, lichens, insects, herpetofauna, and birds (Perfecto et al. 1997) (ital. added).*

Polycultural Shade in Talamanca Many farmers may elect a polycultural form of management, where shade trees are planted amidst cacao trees either exclusively for cacao shade, or for the combined purposes of shade and alternative crop generation. The polycultural system can range from having multiple species of planted shade trees with occasional remnant forest species, to monocultural shade in which only one tree species is planted to supplement the cacao, as in plantations of cacao and Erythrina spp. Plantations with laurel (Cordia alliodora) as the predominant shade tree over cacao are becoming increasingly more common in Talamanca. Lumber from this species provides important additional income and farm resources.

Abandoned Cacao Plantations. Abandoned cacao plantations compose a common cacao agroecosystem in the Talamanca district of Costa Rica where some cacao pods may be harvested occasionally. Because of the susceptibility of cacao to fungal infestation, many farmers have left cacao plots to go fallow. Abandoned cacao plantation can constitute a significant proportion of the land cover of the lower Talamanca region, with the years since abandonment ranging from 1-30 years. In older abandoned plantations, significant secondary forest has overtaken the previously managed cacao, with up to near 100 % canopy cover with an understory of moribund cacao trees. Some farmers slowly reclaim these abandoned plots as the markets shift and incidence of disease in a region declines, or they may harvest uninfected pods as time permits. In Costa Rica, the abandoned cacao still makes up a considerable proportion of the landscape and likely harbors significant biodiversity. Because of the transition of the cacao farm to secondary forest, the faunal and floral communities may begin to more closely resemble that of secondary forest rather than the communities of more intensively managed systems.

C. Case Study: The Role of Cacao in Conservation Planning in Costa Rica

Surveys of the avifauna Results to date have illustrated clearly that cacao habitats can harbor high species richness equivalent to that of forest. Although a greater number of migrant species can be found in the more open habitats of managed cacao and tacotal, resident species richness in managed cacao can actually surpass that of nearby forest areas. Similarly, the abundance of both resident and migrant birds at sample points in managed and abandoned cacao was near equal to or greater than that found in forest points. *Simple measures of species richness and the abundance of individuals suggest that, categorically, cacao has great potential for providing habitat for birds of Talamanca (ital. added).*

Yet from a conservation standpoint, the composition of these bird communities is far more important than sheer numbers of species or individuals, given the lack of forest habitat that currently exists, the rate of deforestation, and the current population status of many bird species at risk. Therefore, a comparison of the bird communities of forest with managed and abandoned cacao plantations was made in order to characterize species as being typical of Talamancan forest communities. The number of forest species found in managed and abandoned cacao sampling points in Talamanca was not different from the number of forest obligate species per point found in sampled forest habitats themselves. Although forest typically had more trees per census circle and usually more diverse shade tree species composition, canopy cover and canopy height in the three habitats tended to be similar. However, a final test of the value of cacao would lie in the presence in the cacao and forest habitats of migrant and resident birds that are globally of conservation concern by a variety of ranking methods.

Table 2 presents the occurrence of bird species of conservation concern in the forest, managed cacao, and abandoned cacao habitats sampled in Talamanca according to criteria of The Nature Conservancy, Stotz et al. (1997), Partners in Flight and U.S. Breeding Bird Survey (for migratory species), and the CITES treaty on trade in endangered species. Based on data from the sampled points, ten threatened resident bird species were found, with 5, 6, and 7, species found in forest, abandoned cacao, and managed cacao, respectively. Overall, more species (17) of conservation concern were found in managed cacao, than in sampled forest points (13) or abandoned cacao (11), evidence that some aspects of managed cacao management are providing habitat for threatened forest species. Although cacao should not replace forest, as many species can only survive within intact forest habitat, cacao can clearly serve to supplement forest habitat and enhance the survival of forest species in an increasingly fragmented landscape. *These data suggest strongly that cacao has its greatest value when located near forest patches and suggests that cacao may help to enhance the size and health of protected areas when used as a buffer zone crop, or the functional size of the thin, narrow biological corridor of Talamanca (ital. added).*

Table 2.
Occurrence of bird species at risk in Talamancan forest, managed cacao, and abandoned cacao.

Scientific Name	**Status**	**Concern Criteria**	PIF Scr	**Forest**	**Managed Cacao**	**Abandoned Cacao**
Buteogallus anthracinus	R	C			**X**	**X**
Buteo albonotatus	R	C			**X**	
Dacnis venusta	R	HS				**X**
Manacus candei	R	HS		**X**	**X**	**X**
Phylloscartes superciliaris	R	HS			**X**	
Tangara inornata	R	HS		**X**	**X**	**X**
Thryothorus atrogularis	R	HS		**X**	**X**	**X**
Geotrygon veraguensis	R	HS		**X**		
Microbates cinereiventris	R	H		**X**		
Micrastur semitorquatus	R	H				**X**
Vermivora chrysoptera	M	PB	25		**X**	
Hylocichla mustelina	M	PB	20	**X**		
Dendroica castanea	M	P	19	**X**	**X**	**X**
Oporornis formosus	M	P	19	**X**	**X**	
Wilsonia canadensis	M	B	18	**X**	**X**	**X**
Catharus fuscescens	M	B	17	**X**		**X**
Coccyzus americanus	M	B	17		**X**	
Contopus borealis	M	B	17		**X**	
Contopus virens	M	B	17	**X**	**X**	**X**
Buteo swainsoni	M	C	16		**X**	
Archilochus colubris	M	C	14	**X**	**X**	
Buteo platypterus	M	C	12	**X**	**X**	**X**
Total Number of Bird Species at Risk				**13**	**17**	**11**

H: The Nature Conservancy/Natural Heritage Global Ranks between G1 and G3/4.
S: Ranked as a species of conservation concern according to criteria of Stotz et al. (1997).
P: Partners in Flight score of greater than 18.
B: Nearctic-Neotropical migratory bird species showing significant population declines according to the U.S. Breeding Bird Survey.
C: Species protected according to the CITES treaty.

D. Cacao-Based Agroforestry Production Systems in Costa Rica and Panama. Somarriba, E. and Beer, J. 1998.

Known Factors. Litter production and net primary productivity of shaded cacao plantations is similar to that of natural tropical forest and is much greater than most tropical agricultural systems. Carbon sequestering in shaded cacao systems was 5 Mg/ha/yr. over 10 years when sugar cane fields were converted to cacao plantations. These systems can be sustainable with little and even no external inputs (indicators: net primary productivity, soil organic material, and commercial production).

Preliminary Findings. Indications are that cacao plantations are suitable for small farmers in remote areas and buffer zones. Dried cocoa beans can be stored without rotting, value per unit weight is high thus facilitating transport to remote markets, forest-like structure enhances biodiversity and smoothes the gradient between protected areas and surrounding agricultural areas.

Unknown factors. The effect of increased soil organic material on biodiversity (e.g. soil flora and fauna). How important are cacao plantations in buffer zones as a means of extending protected areas and whether biodiversity conserved increases as a result.

E. Biodiversity in the Cacao Agroecosystem: Shade Management and Landscape Considerations. Greenberg, Russell. 1997. Smithsonian Migratory Bird Center.

The ability of cacao farms to harbor biological diversity – particularly forest dependent species -- is known for only a few taxa (primarily ants and birds) and from a few sites. Much of what we suspect to be true of cacao farms with respect to biodiversity is based on research in similar systems (primarily coffee) or is inferred from established ecological principles. On this basis, we suggest that (1) overall biological diversity and the diversity of forest dwelling organisms is higher in cacao plantations than non-shade crops or pastoral systems; (2) diversity will increase with an increase in both floristic and structural diversity of the shade level; (3) diversity within cacao plantations will be highest when they are located adjacent to extant patches, corridors, or large tracts of forest. Shaded plantations may play a particularly critical conservation role for migratory organisms (birds and perhaps insects) that arrive seasonally from the Temperate Zone, or from drier or higher altitude zones. Also, within the high levels of 'unplanned' biodiversity of traditional cacao farms, it is likely we will find many species that perform as yet studied or quantified "ecological services" such as biological control of pests and disease.

3. A biodiversity evaluation carried out during the preparation of the proposed Medium-Sized Project by biologist Rebecca Aragon. The area of study comprised the Atlantic Huetar Region of Costa Rica, with specific reference to the farms cultivating cacao. The characterization of the biodiversity of Costa Rica and of the project area (Talamanca, Cahuita, Siquirres) was carried out through workshops, field visits, interviews with cacao producers (male and female), and the available literature, making use of the standard methodologies for this kind of study. The theoretical basis for the study was the biodiversity valuation theory, within which the term biodiversity was analyzed as a measurable concept, taking into account the sociopolitical context of the area.

The study shows clearly that the cacao farms would be at risk if the present cultivation methods change to other less friendly to the environment, which would increase the already strong fragmentation of the area habitats. In the three areas studied, there is a high taxonomic, ecological and cultural diversity (the genetic diversity being inferred from the taxonomic one); however, diversity is higher in Talamanca, followed by Cahuita and then Siquirres, the latter being the more environmentally degraded of the three.

The various components of biodiversity were studied, but birds were chosen as the indicator group. Although limited, this is considered the best methodological option, given the time limitations of the study. The results of the study are the following.

Avifauna Composition of the Total Area Studied

Species #/% of CR	Families #/% of CR	Humid Forest Association #/% of cocoa	Threatened Species #/% of CR/ %of cocoa	Endangered Species #/% of CR/ %of cocoa	Nesting #/% of cocoa	Resident #/% of cocoa
158/18.48%	39/50.00%	145/91.77%	28/34.57%/ 17.72%	6/37.50%/ 3.80%	26/16.46%	152/96.20%

The study shows that 16 bird families living in the cacao farms of the area could be considered as threatened or endangered.

Avifauna Composition of the Siquirres Area

Species #/% of CR	Families #/% of CR	Humid Forest Association #/% of cocoa	Threatened Species #/% of CR/ %of cocoa	Endangered Species #/% of CR/ %of cocoa	Nesting #/% of cocoa	Resident #/% of cocoa
39/4.56%	25/32.05%	34/87.18%	4/4.94%/ 10.26%	1/6.25%/ 2.56%	11/28.21%	38/97.44%

In the cacao farms in the Siquirres area, five bird families are considered threatened or endangered.

Avifauna Composition of the Cahuita Area

Species #/% of CR	Families #/% of CR	Humid Forest Association #/% of cocoa	Threatened Species #/% of CR/ %of cocoa	Endangered Species #/% of CR/ %of cocoa	Nesting #/% of cocoa	Resident #/% of cocoa
65/7.60%	31/39.74%	55/84.62%	10/12.35%/ 15.39%	3/18.75%/ 4.62%	13/20.00%	64/98.46%

In the cocoa farms of the Cahuita area, nine bird families are considered threatened or endangered.

Avifauna Composition of the Alta Talamanca Area

Species #/% of CR	Families #/% of CR	Humid Forest Association #/% of cocoa	Threatened Species #/% of CR/ %of cocoa	Endangered Species #/% of CR/ %of cocoa	Nesting #/% of cocoa	Resident #/% of cocoa
118/13.80%	36/46.15%	111/94.07%	23/28.40%/ 19.49%	5/31.25%/ 13.56%	10/8.47%	114/96.61%

In the cacao farms of the Alta Talamanca area, fifteen bird families are considered threatened or endangered.

The general conclusion of the analysis is that the project will have two positive impacts --increase in the vegetal cover and use of organic fertilizers – on the biodiversity of the cacao farms (flora and fauna), as well as some light and medium-negative impacts. The latter, however, can be mitigated so that the final objective will be the conservation and promotion of biodiversity, without excluding the present human needs of the communities.

Furthermore, the highest risk for biodiversity in the cacao farms can be found in the growing pressure to change their present land use for other ones less friendly to the environment. It is hoped that the activities proposed in this project will lead cocoa production to be more profitable while promoting biodiversity. This implies that one of the project' s indirect benefit would be to diminish the risks presently associated with the Atlantic Huetar Region.

ANNEX 2

SOCIAL ASSESSMENT AND SOCIOECONOMIC EVALUATIONS

1. SOCIAL ASSESSMENT

As part of project preparation, a social assessment (SA) was carried out with the following objectives: (a) to evaluate existing patterns of natural resource management, access, and use among different groups and institutions in the project area; (b) to identify the stakeholders and beneficiaries, using a gender perspective, that should be involved in the preparation, implementation and evaluation the project and to obtain their input on project design and scope; (c) to identify the potential negative impacts of the proposed activities and to design measures to mitigate these impacts; and (d) to identify opportunities to build the capacity of local governments, indigenous organizations, producers and non-governmental organizations (NGOs). The following is a summary of the report entitled *Sociocultural Aspects of Cacao Cultivation from the Perspective of Afro-Caribbean, Indigenous and Mestizo Latino Producer Families*, prepared for this project by Ms. Evelyn Silva.

The process utilized in preparing the SA consisted of: (a) an analysis of the stakeholders and beneficiaries in the project area; (b) regional consultation workshops with representative stakeholders and beneficiaries carried out by a multi-disciplinary team; (c) an extensive analysis of secondary literature of natural resource management and cacao production; (d) meetings with local NGOs and indigenous peoples organizations; and (e) research on gender issues.

The major findings of the report mentions the literature consulted as well as the experience gained in each community visited and studied. The analysis focuses on the historical background that leads to the cultural identity of those families in relation to cocoa production, and how subsistence farming has changed some cultural traits and created others, in the way indigenous farmers practice agriculture and manage natural resources.

It is clear that farming families, by clinging to their cultural inheritance and in spite of the impact of external factors and the recent losses causes by a fungus disease affecting the cacao trees (*moniliasis*), keep their relationship and attachment to cacao production, including its marketing and biodiversity aspects. As part of this relationship with cacao, families continue to prepare their own chocolate, despite the lack of the necessary equipment, time and dedication that the procedure requires.

Producers are willing to continue to produce cacao while hoping that adequate technical assistance will be provided to them in the near future. However, even though the *moniliasis* disease has become part of the normal cacao cultivation, there has been no technical advice on how to combat it. Rather, efforts are based on the accumulated experience shared among farmers, which is important and vital but not effective enough to end the low yields/low income syndrome of the last few decades.

Subsistence farming families have been able to maintain a large number of associated crops thanks to the allowances of the ecosystems, the fragility of which can be put at risk with drastic pruning or indiscriminate cutting and cleaning of vegetation. The same relates to the very small scale of subsistence production and its fragile equilibrium with external factors.

Biodiversity-friendly farm management and cacao production (with more diverse, structurally complex shade canopies, organic fertilization, disease management, etc.) may demand more labor than traditional practices that may be resisted by some farmers. However, diversified farming may: (1) ensure a sustainable supply of animal proteins for family consumption, (2) reduce farm risk by increasing and diversifying the

sustainable production of timber, fruits, fiber and other useful non-timber products, and (3) reduce the possibility of pest outbreaks as a result of higher ecosystem biodiversity.

Regarding gender aspects of cacao production, there are several elements to consider, such as women's extra workload and the barriers they face in obtaining new opportunities in local organizations, be they productive or social. Another factor is the way men and women may deal with family income, the former often irresponsibly, spending it on alcohol while the latter tends to contribute it to the family budget.

In relation to the marketing of agricultural products, there are many elements to be considered, the most important of which are the trust and the credibility of farmers associations in establishing the commercial link with farmers. Other aspects are the facilities for processing and delivery of the products, new forms of product presentation, and the need for training. When asked about their interest in training programs and other support activities, producers are not too demanding, but it is necessary to plan training activities accordingly. Training and other support activities should be the main focus of the project's implementation.

Regarding the relationship of future beneficiaries with organizations and institutions, the general perception is that there is conflict among organizations, which will require a strong effort of negotiation and coordination on the part of the project. The institutions are seen as too distant from the problems to be solved and too slow to act when trying to solve them.

The study ends with a set of conclusions, recommendations and a risk analysis, trying to relate the three groups of beneficiaries and pointing to possibilities and sensitive areas in the project's execution.

2. SOCIOECONOMIC EVALUATION

The following is a summary of the findings and conclusions of the socioeconomic study conducted during the preparation phase of this project by Joao B. Monnerat. The area of influence of the present project covers the *cantones* of Talamanca and Siquirres, in the Atlantic Region of Costa Rica, and comprises three different sub-areas: Talamanca, with the *Reserva Indigena* (28 communities); Cahuita and its environs (14 communities); and Siquirres (14 communities). The two *cantones* have a total population of 48,000 and an area of 3,672 square kilometers. Project implementation will begin in Talamanca, where cocoa is harvested and producer organizations exist, advancing towards Siquirres, where levels of production and organization are weak or non-existent.

Although the project area presents varied terrain and soils, these physical features are considered adequate for cacao cultivation. Potential project beneficiaries do not use agrochemicals in their agriculture, a basic condition for both organic production and the conservation and development of biodiversity.

Until recently, a large part of the project area was used for cacao production. However, with the arrival of fungus disease *Moniliasis* in the 1980's, many cacao plantations were changed into large export banana enterprises or plantain fields. The cacao that remained was planted in lesser soils and belonged mostly to small- or medium-sized farmers.

It is estimated that some 3,000 families of small farmers have cacao on their farms: these would be the potential direct beneficiaries of the project. The main expected project benefits are the following: agricultural/organic (larger and better production of cocoa, banana, plantain and other crops); economic (higher incomes); organizational; social; and those related to biodiversity and sustainability.

The present typical cacao plot in Talamanca has a mix of cacao, banana, plantain, fruit trees and remnants of the native forest with commercial wood varieties, especially laurel. The sole input utilized in

production is labor. Banana is the main crop, while cacao has been neglected. In Siquirres, the cacao farm is partly or totally abandoned, overtaken by shrubs, but with good possibilities of being put back into production.

Total annual cocoa production of the whole project area has reached some 350,000-kg. (dry). Of these, 300,000 kg are certified as organic. This production comes from some 900 farmers, each cultivating an average of 3 hectares. Yields are a little above 100 kg/ha, considered as very low. The project may reach averages of 450 to 500 kg/ha in a period of 6 to 10 years.

The socioeconomic conditions of prospective project beneficiaries are precarious: income levels are very low for Costa Rican standards, varying from 20 to 50 thousand colones a month (70 to 167 US dollars). In Talamanca, this income is obtained on the farm, mostly from the sale of bananas and plantains. In Cahuita, it is made up of on-farm and off-farm revenues, while in Siquirres it comes mostly from off-farm activities.

Presently, the main problems of cocoa production in the project area are the following: general infestation of *moniliasis*; absence or deficiency of producer organizations; lack of incentives and/or financing to rehabilitate the cacao fields in some areas; and lack of training activities for all steps of cocoa production, processing and marketing.

The main producers' organization in Talamanca is APPTA, which markets almost all the cocoa in the project area and part of the organic banana and plantain. In Cahuita there are recently established organizations, interested mostly in banana, while in Siquirres levels of organization are either very low or non-existent.

Because of the present low-income levels of farmers, the cacao rehabilitation program proposed by the project uses only labor as an input. Expected yield increases will be the result of improved cultivation and sanitary practices. In Talamanca and Cahuita, yields are expected to grow from 150 to 450 kg/ha in five years; in Siquirres, where the plot has a higher density of cacao trees, yields are expected to reach 500 kg/ha in six years. In both areas, this threefold increase in production will mean a doubling of present income levels (from 30,000 - 50,000 colones to 60,000 - 100,000 clones a month), which will have a strong impact on the families' well being.

According to the project preparation model adopted (FARMOD, World Bank), incremental benefits accrue only from cocoa production, although, in reality, improvements are expected to take place also in banana, plantain and other crops.

ANNEX 3

PROCUREMENT UNDER THE PROJECT

Procurement Responsibilities – CATIE will be responsible for carrying out procurement of goods and services under the responsibility of their staff procurement specialist.

Procurement Procedures – Procurement of goods (vehicles, computers/accessories, office equipment including telephone lines, field and nursery equipment, printed training and educational materials) financed by the Bank under the project would be carried out in accordance with the Bank's *Guidelines for Procurement under IBRD Loans and IDA Credits* published by the Bank in January 1995 and revised in January and August 1996, September 1997, and January 1999. The purchase of goods will be made according to local shopping methods, whereby at least three quotes will be requested and decisions will take into account price as well as time of delivery, efficiency and reliability of goods. Consultant services would be procured in accordance with *Guidelines for the Selection and Employment of Consultants by World Bank Borrowers* published by the Bank in January 1997 and revised in September 1997 and January 1999. Consulting firms will be contracted following QCBS procedures according to the guidelines. The above procedures coincide with those followed by CATIE as an international organization in Costa Rica.

Procurement Methods – As generally expected in Medium-Sized Projects financed by a GEF grant, the limited amount of procurement will result in small packages for goods and services. The procurement methods to be used are described in Table 1.

Works – No works will be financed under this project.

Operational Costs – The grant will finance operational costs such as operation and maintenance of vehicles, rent, office equipment, insurance for equipment and vehicles procured under the project, office materials and utilities and communication expenditures required for the implementation of the project.

Procurement Monitoring – CATIE will establish procedures for monitoring project execution and impact, procurement implementation, including monitoring of contracts for goods and services modifications, variations, and extensions of completion periods. CATIE will maintain detailed records of procurement activities financed under the grant.

Table 1 – Procurement Plan for Goods and Services
US$

CATEGORY	AMOUNT	METHOD	YEAR
1. Goods Subtotal	**88,000**		
1 vehicle (diesel, 4x4, double cabin)	23,000	National shopping	1
5 motorcycles	5,000	National shopping	1
6 computers and accessories	14,000	National shopping	1
2 telephone lines	2,000	National shopping	1
Office supplies	6,000	National shopping	1 – 3
Field & nursery equipment	18,000	National shopping	1 – 3
Printed training & educ. Materials	20,000	National shopping	
2. Technical assistance (consultancies, services)	**358,500**		
Consultant in biodiversity-friendly, organic agriculture	75,000	Individual consultant	1 – 3
Consultant in ecological planning	75,000	Individual consultant	1 – 3
Consultant administrative matters	25,500	Individual consultant	1 – 3
Consultant in nursery operation	18,000	Individual consultant	1 – 3
APPTA contract (communal promoters, tech. Assistance)	140,000	Consulting Firm QCBS	1 – 3
Consultant on certification criteria	5,000	Individual consultant	1
Consultant on training materials	10,000	Individual consultant	1
Consultant on gender issues	5,000	Individual consultant	1
Consultant to design information center	5,000	Individual consultant	1
3. Training program	**84,000**		
Workshops, courses, field days, exchange visits, etc.	84,000	CATIE´s Procurement Policies (CPP) (local reasonable prices)	1 – 3
4. Support to other project activities	**69,600**	CATIE´s Proc. Policies	
5. Operational costs	**124,900**		
Applied research	54,400	CATIE´s Proc. Policies	1 – 3
Fuel & maintenance	7,500	CATIE´s Proc. Policies	1 – 3
Travel and miscellaneous costs	18,000	CATIE´s Proc. Policies	1 – 3
CATIE´s administrative expenses	30,000	CATIE´s Proc. Policies	
Communications, copies, etc.	15,000	CATIE´s Proc. Policies	
6. Unallocated	**24,000**		
Unforeseen expenses	24,000		
TOTAL	**725,000**		

ANNEX 4

PROGRESS REPORTS, DISBURSEMENTS, AUDIT AND SPECIAL ACCOUNT UNDER THE PROJECT

Progress Reports

CATIE will prepare and forward to the Bank quarterly Project Management Reports (PMRs) covering progress in achieving the activities and targets corresponding to each quarter of project implementation, linking them to financial and physical indicators for project activities. The reports shall be delivered within 45 days from the end of the preceding quarter.

The financial section of the PMRs will be based on the simplified tables included in the document "Financial Management Systems, Reporting and Auditing for Bank-GEF Medium-Size Projects" and Annex 9 to the Project Financial Management Manual.

Disbursements

The following table sets forth the allocation of the amounts financed by the grant to each expenditure category.

Table 1: Allocation of Grant Proceeds
US$

Categories	Amounts
Goods	93,000
Technical Assistance	353,500
Training Program	84,000
Operational Costs	129,900
Unallocated	64,600
TOTAL	**725,000**

Disbursements will be made in annual tranches, as set forth in Table 2 below. The closing date is June 30, 2003.

Table 2 - Estimated Schedule of Grant Disbursements
US$

Disbursement Tranches	Bank Fiscal Year	Expected Disbursement Date	Tranche Amount	Cumulative Amount	Disburse. % of Total	Grant Balance
1	2001	December 2000	319,000	319,000	44	406,000
2	2002	December 2001	211,000	530,000	73	195,000
3	2003	December 2002	195,000	725,000	100	----

Project Financial Statements and Financial Reporting

CATIE will maintain separate records and accounts for project expenditures as well as a register of assets purchased with grant funds. CATIE will also have the responsibility for preparing the project's financial statements, which will indicate sources and expenditures in accordance with main project components and disbursement categories. Actual payments will be compared against those budgeted. A statement of receipts,

sources and uses of funds, and undisbursed balances of the Special Account will also be included. Information reported will also contain the value of contracts signed, i.e. commitments, relative to actual payments.

Audit
Auditing of the project accounts will be done by an independent auditor following the Guidelines and Terms of Reference for Audits of Projects with Financing from the World Bank in the Latin America and Caribbean Region. Audit reports will be sent to the Bank no later than four months after the end of each year of project implementation.

Account Deposit and Replenishment
CATIE will open a dedicated bank "Special" Account, in US dollars, in a commercial bank acceptable to the World Bank. The initial deposit will be limited to US$319,000, corresponding to the estimated project expenditures for the first twelve months of the project. The special account would be replenished every year in accordance with the procedures set out in the Grant Agreement Letter, provided that quarterly PMRs have been timely submitted to the Bank during the preceding period, and satisfactory progress and achievements of the annual targets stated in _____ have been met.

The annual replenishment application will be sent at least one month prior to the end of the disbursement period, and will be supported by the following documentation:

(a) reconciled statement from the commercial bank in which the account is established showing all transactions in the Special Account (Statements of Expenditures and their supporting documents will be maintained by CATIE and will be available for Bank staff and external audit review)
(b) annual report covering progress in achieving the activities and targets corresponding to each disbursement period; and
(c) a forecast of grant funds needed to be covered by the withdrawal application, adjusting for any under-expenditure during the previous period.

The amounts to be disbursed for tranches 2 and 3 may be amended during the annual review process, by mutual agreement of CATIE and the Bank, should project implementation experience demonstrate the need for adjustment. Indicators may also be adjusted during the annual review process prior to the year that they would apply by mutual agreement of CATIE and the Bank.

Project Monitoring and Evaluation
Based on the detailed Operational Plan prepared for the project, the Project Manager will put together a corresponding Monitoring and Evaluation Plan at the beginning of project implementation, to facilitate project implementation reporting as well as mid-term monitoring and evaluation activities.

ANNEX 5

INFORMATION ON PROPOSED EXECUTING AGENCY

Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)

CATIE is an international, non-profit civil association that conducts research, education and outreach activities in agricultural sciences, forest management and biodiversity conservation, agroforestry systems and watersheds, socioeconomics and related subjects on natural resources management throughout Latin America, with an emphasis on Central America and the Caribbean. CATIE' s mission is to alleviate poverty and increase human well-being by applying research and teaching towards the conservation and sustainable use of natural resources in Tropical America. Due to its active research, outreach and training program and its close relations to many research and academic institutions, CATIE is a leader of natural resource management and conservation in the region.

The technical coordinator of the project would be Dr. Eduardo Somarriba (Area of Watershed Management and Agroforestry Systems), an ecologist and specialist in cacao and other agroforestry systems who has worked in CATIE for 11 years. Dr. Somarriba and his students have conducted research in the cacao plantations of Talamanca since 1995 and have produced 20 research papers on the sustainable management of cacao agroforestry systems. Dr. Somarriba' s knowledge of the area and its agricultural systems will facilitate the implementation of project activities and ensure that project activities are tailored to local conditions.

The technical advisory committee of the project will include:
1) Dr. Celia Harvey (Area of Watershed management and Agroforestry Systems), an ecologist and specialist in the design and management of agroforestry systems. Dr. Harvey has conducted previous research on the importance of agroforestry systems as habitats and corridors for plant and animal species and will direct the biodiversity component of the current project. At present, Dr. Harvey is directing a Master' s thesis on the importance of cacao and banana agroforestry systems for the conservation of plant and mammalian diversity in Talamanca, Costa Rica, that will serve as a baseline for the monitoring of biodiversity in the project area.

2) Dr. Ulrike Krauss (a researcher from CABI who is associated with CATIE' s Area of Ecological Agriculture), a specialist in phytopathology and the biocontrol of cacao diseases. Dr. Krauss has worked in cacao agroecosystems in Peru, Trinidad and Costa Rica and is currently leading a project on the biological control of *monilia* disease in the Talamancan cacao plantations. Dr. Krauss has already identified biological organisms and cultural controls that are effective in reducing disease incidence and that will be used in this project to enhance cacao production.

3) Dr. Vera Sanchez (Area of Ecological Agriculture), a specialist in plant pathology and biological control. Dr. Sanchez has >15 years of experience in ecological agriculture and will direct the implementation and experimentation of organic agricultural production.

4) M.Sc. Kees Prins (Area of Economics and Sociology), a specialist in rural development, participatory methods and gender issues. Mr. Prins has > 20 years of experience working with rural communities in Latin America and will assist in the socioeconomic diagnostics and the preparation/orientation of training and outreach events, to ensure that all stakeholders are included in the project activities.

5) Dr. Mario Piedra (Area of Economics and Sociology), a specialist in marketing, economic development in rural communities and econometrics. Mr. Piedra will be responsible for establishing and maintaining the information center on market opportunities for biodiversity-friendly, organic crops that will enable local farmers to access both local and international markets, as well as leading the certification process.

The advisory committee (and technical coordinator) will participate in the design, coordination and implementation of all project activities, including training and outreach events. In addition, the project will hire an additional 10 staff members to implement project activities. These include 3 technical staff (2 agronomists experts in organic production and marketing; 1 ecologist expert in conservation biology), 1 administrative assistant, and 6 community agricultural extension specialists (from local communities) to facilitate outreach and training activities. These staff will be based permanently in the Talamancan region.

ANNEX 6

PROJECT BUDGET

YEAR ONE : July 2000 - June 2001												
DESCRIPTION	Quarters				Quantities	CATIE	GEF	CATIE & OTHERS	PRODUC. ASSOC.	OTHER INSTIT.	FARMERS	**TOTAL**
	1	2	3	4								
A - PROJECT ORGANIZATION												
A.1 - PROJECT UNIT												
(i) Project Coordinator (CATIE)	x	X	x	X	12 months	55,000						55,000
(ii) Permanent advisors (CATIE & others)	x	X	x	X		24,000		36,000	34,000	48,000		142,000
(iii) Secretary (CATIE)	x	X	x	X	12 months	5,000						5,000
(iv) Specialist Organic Agric.	x	X	x	X			25,000					25,000
(v) Ecologist	x	X	x	X			25,000					25,000
(vi) Admin. Assistant	x	X	x	X	12 months		8,500					8,500
(vii) Field Assist. & Nursery Operator	x	X	x	X	12 months		6,000					6,000
(viii) Communications, copies, etc.	x	X	x	X	12 months		5,000					
SUBTOTAL PROJECT UNIT						**84,000**	**69,500**	**36,000**	**34,000**	**48,000**	**-**	**266,500**
A.2. Investment Equipment & Materials												
- computers & accessories	x				6 sets		14,000					14,000
- telephone	x				2		2,000					2,000
- office supplies	x	X	x	x	12 months		2,000					2,000
- vehicle (4x4, double cabin, diesel)	x				1		23,000					23,000
- motorcycles	x				2		5,000					5,000
- field equipment	x				1 set		6,000					6,000
- fuel & maintenance	x	X	x	x	12 months		5,000					5,000
SUBTOTAL INVESTMENT & MAT.						**-**	**57,000**	**-**	**-**	**-**	**-**	**57,000**
TOTAL PROJECT ORG. (A1+A2)						**84,000**	**126,500**	**36,000**	**34,000**	**48,000**	**-**	**323,500**
B – PROJECT OPERATION												
B1 – TRAVEL												
(i) Travel of Coordinator & Advisors	x	X	x	x			3,000					3,000
(ii) Travel of Local Advisors & Trainers	x	X	x	x			2,500					2,500
Subtotal Travel						**-**	**5,500**	**-**	**-**	**-**	**-**	**5,500**
B2 – CONSULTING CONTRACTS												
(i) Certification criteria	x				1 contract		5,000					5,000
(ii) Design of educational materials	x				1 contract		10,000					10,000
(iv) Design of information center		X			1 contract		5,000					5,000
(v) Technical assistance (APPTA)	x	X	x	x	1 contract		50,000					50,000
Subtotal Consulting Contracts						**-**	**70,000**	**-**	**-**	**-**	**-**	**70,000**
B3 - PROJECT COMPONENTS												
COMP. 1 - On-Farm Biodiversity Conserv.												
Community nursery development	x	X					5,000					5,000
Biodiversity research projects			x									-

Research on Percep. & Local Know ledge			x	x		8,000	8,000					
Non-timber products from Ind. Reserves			x					50,000				
Establishment of on-farm nurseries		X					1,000					1,000
Rehabilitation of cocoa plantations			x				5,000		50,000	40,000		95,000
Subtotal Component1						**8,000**	**19,000**	**50,000**	**50,000**	**40,000**	**-**	**101,000**
COMP. 2 - Certif., Marketing and Prod.												
Cocoa research project	x						5,000	88,000				93,000
Database on biodiversity-friendly, organic farm products		X										-
Nutritional diagnosis of cocoa plant.		X					2,000					2,000
Collec. & descrip. of sup. Cocoa trees		X								18,000		18,000
Rehab. clonal demonstration farm			x				7,000					7,000
Promotion of the Information Center				x			1,000					1,000
Farmers´ contribution to project in kind	x	X	x	x							150,000	150,000
Subtotal Component 2						**-**	**15,000**	**88,000**	**-**	**18,000**	**150,000**	**271,000**
COMP. 3 - Institutional Strengthening												
Interinstitutional w orkshops	x						1,000					1,000
Production of educational materials	x						10,000					10,000
Training of local promoters	x						1,000		35,000			36,000
Training of students		X				16,000	4,000					20,000
Training on cocoa fermentation & drying		X					1,000					1,000
Training on ecological farm planning		X					5,000					5,000
Training farmer-to-farmer extension		X					5,000					5,000
Training of w omen on grafting & propag.			x				1,000					1,000
Train org. on certif., manag. & marketing				x			1,000			30,000		31,000
Exchange events betw een farmers		X					2,000					
Train. manag. of clonal cocoa plantations				x			2,000					2,000
Subtotal Component 3						**16,000**	**33,000**	**-**	**35,000**	**30,000**	**-**	**114,000**
COMP. 4 - Biodiversity Monitoring												
Research on Crop Losses to Wildlife			x	x		8,000	8,000			36,000		
Harvest & Extraction of Plants for Wildlife			x	x		8,000	8,000					
Sustainable Timber Prod. On Cocoa Farms			x	x		8,000	8,000					
Monitoring on-farm fauna biod., corridor			x	x			5,000					
Subtotal Component 4						**24,000**	**29,000**	**-**	**-**	**36,000**	**-**	**-**
SUBTOTAL PROJECT OPERATION						**48,000**	**171,500**	**138,000**	**85,000**	**124,000**	**150,000**	**561,500**
TOTAL PROJ. ORG. + OPERATION						**132,000**	**298,000**	**174,000**	**119,000**	**172,000**	**150,000**	**885,000**
OTHER EXPENSES												
Unforeseen expenses							7,000					7,000
CATIE´s administrative fee							10,000					10,000
Subtotal Other Expenses						**-**	**17,000**	**-**	**-**	**-**	**-**	**17,000**
TOTAL EXPENSES						**132,000**	**315,000**	**174,000**	**119,000**	**172,000**	**150,000**	**902,000**

YEAR TWO : July 2001 - June 2002												
DESCRIPTION	Quarters				Quantities	CATIE	GEF	CATIE & OTHERS	PRODUC. ASSOC.	OTHER INSTIT.	FARMERS	**TOTAL**
	1	2	3	4								
A - PROJECT ORGANIZATION												
A.1 - PROJECT UNIT												
(i) Project Coordinator (CATIE)	X	X	x	x	12 months	55,000						55,000
(ii) Permanent advisors (CATIE & others)	X	X	x	x		24,000		36,000	34,000	48,000		142,000
(iii) Secretary (CATIE)	X	X	x	x	12 months	5,000						5,000
(iv) Specialist Organ. Agr.	X	X	x	x			25,000					25,000
(v) Ecologist	X	X	x	x			25,000					25,000
(vi) Admin. Assistant	X	X	x	x	12 months		8,500					8,500
(vii) Field Assist. & Nursery Operator	X	X	x	x	12 months		6,000					6,000
(viii) Communications, copies, etc.	X	X	x	x			5000					5,000
SUBTOTAL PROJECT UNIT						**84,000**	**69,500**	**36,000**	**34,000**	**48,000**	**-**	**271,500**
A.2 - Investment in Equip. & Materials												
- motorcycles	X				2		5,000					5,000
- field equipment	X						6,000					6,000
- office supplies	X	X	x	x			2,000					2,000
- fuel & maintenance	X	X	x	x	12 months		5,000					5,000
SUBTOTAL INVEST. & MATERIALS						**-**	**18,000**	**-**	**-**	**-**	**-**	**18,000**
TOTAL PROJECT ORG. (A1+A2)						**84,000**	**87,500**	**36,000**	**34,000**	**48,000**	**-**	**289,500**
B - PROJECT OPERATION												
B1 – TRAVEL												
(i) Travel of Coordinator & Advisors	X	X	x	x			3,000					3,000
(ii) Travel of Local Advisors & Trainers	X	X	x	x			2,000					2,000
Subtotal Travel						**-**	**5,000**	**-**	**-**	**-**	**-**	**5,000**
B2 - CONSULTING CONTRACTS												
(i) Technical assistance (APPTA)	X	X	x	x	1 contract		50,000					50,000
Subtotal Consulting Contracts						**-**	**50,000**	**-**	**-**	**-**	**-**	**50,000**
B3 - PROJECT COMPONENTS												
COMP. 1 - Biodiversity Conservation												
Community nursery development	X	X					5,000					5,000
Research on Percep. & Local Knowledge	X	X				8,000						
Non-timber products from Ind. Reserves			x					50,000				
Establishment of on-farm nurseries		X					1,000					1,000
Rehabilitation of cocoa plantations			x				5,000		50,000	40,000		95,000
Subtotal Component1						**8,000**	**11,000**	**50,000**	**50,000**	**40,000**	**-**	**101,000**
COMP. 2 - Certif., Marketing and Prod.												
Cocoa research project	X							88,000				88,000
Nutritional diagnosis of cocoa plant.		X					2,000					2,000
Collec.& descrip. of sup. Cocoa trees		X								18,000		18,000
Rehab. clonal demonstration farm			x				7,000					7,000
Promotion of the Information Center				x			1,000					1,000

Farmers´ contribution to project in kind	X	X	x	x							210,000	210,000
Subtotal Component 2						**-**	**10,000**	**88,000**	**-**	**18,000**	**210,000**	**326,000**
COMP. 3 - Institutional Strengthening												
Interinstitutional w orkshops	X						1,000					1,000
Production of educational materials	X						5,000					5,000
Training of local promoters	X								35,000			35,000
Training of students		X				16,000	4,000					20,000
Training on cocoa fermentation & drying		X					1,000					1,000
Training on ecological farm planning		X					5,000					5,000
Training farmer-to-farmer extension		X					5,000					5,000
Training of w omen on grafting & propag.			x				1,000					1,000
Train org. on certif., manag. & marketing				x						30,000		30,000
Exchange events betw een farmers		X					2,000					
Train. manag. of clonal cocoa plantations				x			2,000					2,000
Subtotal Component 3						**16,000**	**26,000**	**-**	**35,000**	**30,000**	**-**	**107,000**
COMP. 4- Biod. Monitoring & Evaluation												
Research on Crop Losses to Wildlife						8,000				36,000		
Harvest & Extraction of Plants for Wildlife						8,000						
Sustainable Timber Prod. On Cocoa Farms						8,000						
Monitoring on-farm fauna biod., corridor							5,000					
Subtotal Component 4						**24,000**	**5,000**	**-**	**-**	**36,000**	**-**	**-**
SUBTOTAL PROJECT OPERATION						**48,000**	**107,000**	**138,000**	**85,000**	**124,000**	**210,000**	**589,000**
TOTAL PROJECT ORG. + OPERATION						**132,000**	**194,500**	**174,000**	**119,000**	**172,000**	**210,000**	**878,500**
OTHER EXPENSES												
Unforeseen expenses							7,000					7,000
CATIE´s administrative fee							10,000					10,000
Subtotal Other Expenses						**-**	**17,000**	**-**	**-**	**-**	**-**	**17,000**
TOTAL EXPENSES						**132,000**	**211,500**	**174,000**	**119,000**	**172,000**	**210,000**	**895,500**

YEAR THREE : July 2002 - June 2003												
DESCRIPTION	Quarters				Quantities	CATIE	GEF	CATIE & OTHERS	PRODUC. ASSOC.	OTHER INSTIT.	FARMERS	**TOTAL**
	1	2	3	4								
A - PROJECT ORGANIZATION												
PROJECT UNIT												
(i) Project Coordinator (CATIE)	x	X	x	x	12 months	55,000						55,000
(ii) Permanent advisors (CATIE & others)	x	X	x	x		24,000		34,000	32,000	48,000		138,000
(iii) Secretary (CATIE)	x	X	x	x	12 months	5,000						5,000
(iv) Specialist Organ. Agr.	x	X	x	x			25,000					25,000
(v) Ecologist	x	X	x	x			25,000					25,000
(vi) Admin. Assistant	x	X	x	x	12 months		8,500					8,500
(vii) Field Assist. & Nursery Operator	x	X	x	x	12 months		6,000					6,000
(ix) Office supplies							2,000					2,000
(x) Communications, copies, etc.	x	X	x	x			5,000					5,000
(xi) Field equipment	x						6,000					6,000
(x) fuel & maintenance	x	X	x	x	12 months		5,000					5,000
SUBTOTAL PROJECT UNIT						**84,000**	**82,500**	**34,000**	**32,000**	**48,000**	**-**	**280,500**
TOTAL PROJECT ORGANIZATION						**84,000**	**82,500**	**34,000**	**32,000**	**48,000**	**-**	**280,500**
B - PROJECT OPERATION												
B1 – TRAVEL												
(i) Travel of Coordinator & Advisors	x	X	x	x			3,000					3,000
(ii) Travel of Local Advisors & Trainers	x	X	x	x			2,000					2,000
Subtotal Travel						**-**	**5,000**	**-**	**-**	**-**	**-**	**5,000**
B2 – CONSULTING CONTRACTS												
(i) Technical assistance (APPTA)	x	X	x	x	1 contract		40,000					40,000
Subtotal Consulting Contracts						**-**	**40,000**	**-**	**-**	**-**	**-**	**40,000**
B3 – PROJECT COMPONENTS												
COMP. 1 - Biodiversity Conservation												
Community nursery development	x	X					5,000					5,000
Non-timber products from Ind. Reserves			x					50,000				
Establishment of on-farm nurseries		X					1,000					1,000
Rehabilitation of cocoa plantations			x				5,000		48,000	40,000		93,000
Subtotal Component1						**-**	**11,000**	**50,000**	**48,000**	**40,000**	**-**	**99,000**
COMP. 2- Biod. Monitoring & Evaluation												
Research on Crop Losses to Wildlife										36,000		
Harvest & Extraction of Plants for Wildlife												
Sustainable Timber Prod. On Cocoa Farms						8,000						
Monitoring on-farm fauna biod., corridor						1,400	5,000					
Subtotal Component2						**9,400**	**5,000**	**-**	**-**	**36,000**	**-**	**-**
COMP. 3 - Certif., Marketing and Prod.												
Cocoa research project	x							88,000				88,000
Nutritional diagnosis of cocoa plant.		X					2,000					2,000
Collec.& descrip. of sup. Cocoa trees		X								18,000		18,000

Rehab. Clonal demonstration farm			x				7,000					7,000
Promotion of the Information Center				x			1,000					1,000
Farmers´ contribution to project in kind	x	X	x	x							290,000	290,000
Subtotal Component3						**-**	**10,000**	**88,000**	**-**	**18,000**	**290,000**	**406,000**
COMP. 4 - Institutional Strengthening												
Production of educational materials	x						5,000					5,000
Training of local promoters	x								32,000			32,000
Training of students		X					4,000					4,000
Training on cocoa fermentation & drying		X					1,000					1,000
Training on ecological farm planning		X					5,000					5,000
Training farmer-to-farmer extension		X					5,000					5,000
Training of w omen on grafting & propag.			x				1,000					1,000
Train org. on certif., manag. & marketing				x						30,000		30,000
Exchange events betw een farmers		X					2,000					2,000
Train. Manag. of clonal cocoa plantations				x			2,000					2,000
Subtotal Component 4						**-**	**25,000**	**-**	**32,000**	**30,000**	**-**	**87,000**
SUBTOTAL PROJECT OPERATION						**9,400**	**96,000**	**138,000**	**80,000**	**124,000**	**290,000**	**637,000**
TOTAL PROJECT ORG. + OPERATION						**93,400**	**178,500**	**172,000**	**112,000**	**172,000**	**290,000**	**917,500**
OTHER EXPENSES												
Unforeseen expenses							5,000					5,000
CATIE´s administrative fee							10,000					10,000
Subtotal Other Expenses						**-**	**15,000**	**-**	**-**	**-**	**-**	**15,000**
TOTAL EXPENSES						**93,400**	**193,500**	**172,000**	**112,000**	**172,000**	**290,000**	**932,500**

ANNEX 7

WORK PLAN

	YEAR ONE – July 2000 – June 2001			
DESCRIPTION	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
A - PROJECT ORGANIZATION				
A.1 – Project Unit				
Contract Field Ecologist	3-year contract			
Contract Organic Agriculture	3-year contract			
Consultant Administrative Assistant	3-year contract			
Contract Nursery Operator – field assistant	3-year contract			
Office Equipment and Materials:				
- Computers and accessories	6 sets			
- Telephone	2			
- Office supplies	X			
Purchase of vehicle (Hilux, 4x4, diesel)	1			
Purchase of motorcycles	2			
Purchase of field equip. & materials	X			
A.2 – Meetings				
Meetings of Project Board to discuss Operational Plan	1			1
B – PROJECT OPERATION				
B.2 – Consulting Contracts				
Contract Consultant on Certif. Criteria	1 contract			
Contract Consultant on Design and Production of Extension, Training & Educational Materials	1 contract			
Contract Technical Assistance (APPTA)	1 contract			
Contract Consultant to Design Information Center on organic markets and local production.		1 contract		
B.3 – Project Components				
COMPONENT 1 – Promotion and Conservation of On-Farm Biodiversity				
Development of community nurseries	1 nursery	2 nurseries		

Establishment of farm nurseries		100 farms		
Agroforestry & ecological farm and cacao rehabilitation planning		100 farm plans		
Ecological rehabilitation of cocoa plantations			100 plantations	
Research Perceptions and local knowledge on biodiversity conservation			Study initiated in 50 farm	
COMPONENT 2 – Sustainable Production, Certification, and Marketing of Biodiversity-Friendly, Organic Products				
Validation of technologies Cultural and biological control of *monilia*	10 farms			
Validation of technologies Organic fertilization of cocoa	10 farms			
Nutritional (soil and tissue) diagnosis of cocoa plantations		100 farms surveyed		
Identification, collection and description of local superior cocoa trees		Propagation material 200 trees		
Information Center: database on farm biodiversity-friendly, organic products		100 farms added to database		
Rehabilitation of clonal cacao-banana-timber demonstration farm			1 Demo farm	
Information Center: Design Web page on biodiversity-friendly, organic markets and local products			Page designed	
Information Center: Promotion				Radio broadcast
COMPONENT 3 – Strengthening Farmers and Producer Organizations				
Workshops for inter-institutional Cooperation	1 workshop, 10 organizations, Coop. Plan.			
Production of extension & training materials on biodiversity conservation, environmental and gender issues (Spanish, Bribri)	500 copies			
Production of extension & training materials on agroforestry & ecological farm planning (Spanish, Bribri)	500 copies			
Production of extension & training materials on Ecological rehabilitation and management of cocoa plantations	500 copies			

(Spanish, Bribri)				
Production of extension and educational materials on propagation of native and useful species (Spanish, Bribri)	500 copies			
Production of extension & training materials on cocoa fermentation & drying (Spanish, Bribri)	500 copies			
Production of extension and educational materials on Certification and Marketing of biodiversity-friendly, organic products (Spanish, Bribri)	500 copies			
Production of extension and educational materials on conservation of endangered species (Spanish, Bribri)				
Production of extension and educational materials on Organic cocoa fertilization (Spanish, Bribri)				
Production of extension and educational materials on Cultural and biological control of *monilia* (Spanish, Bribri)				
Training of project personnel and local promoters on agroforestry & ecological farm planning, cacao genetic improvement, rehabilitation and agroforestry design of cacao plantations.	1 course for 20 promoters and project staff			
Training technical (Bribri) and postgraduate (CATIE) students on Agroforestry and Ecological Farm Planning		25 students trained		
Training farmers Agroforestry and Ecological Farm planning and cacao rehabilitation		100 farmers trained		
Training Farmer – to – Farmer farm planning		200 farmers trained		
Training women on cocoa fermentation and drying, certification, environmental and gender issues		100 women trained, 5 events		
Training Management of clonal cacao-banana-timber plantations		2 field trips, 40 participants		
Training women on propagation of native and useful species			100 women, 5 events	
Training of local organizations in certification, management and biodiversity-friendly, organic marketing				2 workshops for 20 communities
Farmer exchanges between Talamanca, Cahuita, Siquirres and other indigenous cacao producing areas				2 field trips for 40 farmers
Project Annual Report				1 report

COMPONENT 4 – Biodiversity Monitoring				
Monitoring on-farm fauna biodiversity, biological corridors and management			Study initiated in 50 farms	
Research Crop production losses to wildlife			Study initiated in 50 farms	
Research Harvest and extraction of plants and wildlife in local organic cacao farms			Study initiated in 50 farm	
Research Sustainable timber production in cocoa farms			Study initiated in 50 farms	

	YEAR TWO – July 2000 – June 2001			
DESCRIPTION	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
A – PROJECT ORGANIZATION				
A.1 – Project Unit				
Contract Field Ecologist				
Contract Organic Agriculture				
Consultant Administrative Assistant				
Contract Nursery Operator – field assistant				
Office Equipment and Materials:				
- Computers and accessories				
- Telephone				
- Office supplies				
Purchase of vehicle (Hilux, 4x4, diesel)				
Purchase of motorcycles		2		
Purchase of field equip. & materials				
A.2 – Meetings				
Meetings of Project Board to discuss Operational Plan				1
B – PROJECT OPERATION				
B.2 – Consulting Contracts				
Contract Consultant on Certif. Criteria				
Contract Consultant on Design and Production of Extension, Training & Educational Materials				

Contract Technical Assistance (APPTA)				
Contract Consultant to Design Information Center on biodiversity-friendly, organic markets and local production.				
B.3 – Project Components				
COMPONENT 1 – Promotion and Conservation of On-Farm Biodiversity				
Development of community nurseries				
Establishment of farm nurseries		100 farms		
Agroforestry & ecological farm and cacao rehabilitation planning		100 farm plans		
Ecological rehabilitation of cocoa plantations			100 plantations	
Research Perceptions and local knowledge on biodiversity conservation		MSc Thesis, 1 student graduated		
COMPONENT 2 – Sustainable Production, Certification, and Marketing of Biodiversity-Friendly, Organic Products				
Validation of technologies Cultural and biological control of *monilia*				
Validation of technologies Organic fertilization of cocoa				
Nutritional (soil and tissue) diagnosis of cocoa plantations		100 farms surveyed		
Identification, collection and description of local superior cocoa trees		Propagation material 200 trees		
Information Center: database on farm biodiversity-friendly, organic products		100 farms added to database		
Rehabilitation of clonal cacao-banana-timber demonstration farm				
Information Center: Design Web page on biodiversity-friendly, organic markets and local products				
Information Center: Promotion				Radio broadcast
COMPONENT 3 – Strengthening Farmers and Producer Organizations				
Workshops for inter-institutional cooperation		1 workshop, 10 organizations, Cooperation Plan		

		updated		
Production of extension & training materials on biodiversity conservation, environmental and gender issues (Spanish, Bribri)				
Production of extension & training materials on agroforestry & ecological farm planning (Spanish, Bribri)				
Production of extension & training materials on Ecological rehabilitation and management of cocoa plantations (Spanish, Bribri)				
Production of extension and educational materials on propagation of native and useful species (Spanish, Bribri)				
Production of extension & training materials on cocoa fermentation & drying (Spanish, Bribri)				
Production of extension and educational materials on Certification and Marketing of biodiversity-friendly, organic products (Spanish, Bribri)				
Production of extension and educational materials on conservation of endangered species (Spanish, Bribri)		500 copies		
Production of extension and educational materials on Organic cocoa fertilization (Spanish, Bribri)				
Production of extension and educational materials on Cultural and biological control of monilia (Spanish, Bribri)				
Training of project personnel and local promoters on agroforestry & ecological farm planning, cacao genetic improvement, rehabilitation and agroforestry design of cacao plantations.				
Training technical (Bribri) and postgraduate (CATIE) students on Agroforestry and Ecological Farm Planning		25 students trained		
Training farmers Agroforestry and Ecological Farm planning and cacao rehabilitation		100 farmers trained		
Training Farmer – to – Farmer farm planning		200 farmers trained		
Training women on cocoa fermentation and drying, certification, environmental and gender issues		100 women trained, 5 events		
Training Management of clonal cacao-banana-timber		2 field trips, 40		

plantations		participants		
Training women on propagation of native and useful species			100 women, 5 events	
Training of local organizations in certification, management and organic marketing				2 workshops for 20 communities
Farmer exchanges between Talamanca, Cahuita, Siquirres and other indigenous cacao producing areas				2 field trips for 40 farmers
Project Annual Report				1 report
COMPONENT 4 – Biodiversity Monitoring				
Monitoring on-farm fauna biodiversity, biological corridors and management				
Research Crop production losses to wildlife		MSc Thesis, 1 student graduated		
Research Harvest and extraction of plants and wildlife in local organic cacao farms		MSc Thesis, 1 student graduated		
Research Sustainable timber production in cocoa farms		MSc Thesis, 1 student graduated		

	YEAR THREE – July 2000 – June 2001			
DESCRIPTION	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
A – PROJECT ORGANIZATION				
A.1 – Project Unit				
Contract Field Ecologist				
Contract Organic Agriculture				
Consultant Administrative Assistant				
Contract Nursery Operator – field assistant				
Office Equipment and Materials:				
- Computers and accessories				
- Telephone				
- Office supplies				
Purchase of vehicle (Hilux, 4x4, diesel)				
Purchase of motorcycles				
Purchase of field equip. & materials				

A.2 – Meetings				
Meetings of Project Board to discuss Operational Plan				
B – PROJECT OPERATION				
B.2 – Consulting Contracts				
Contract Consultant on Certif. Criteria				
Contract Consultant on Design and Production of Extension, Training & Educational Materials				
Contract Technical Assistance (APPTA)				
Contract Consultant to Design Information Center on biodiversity-friendly, organic markets and local production.				
B.3 – Project Components				
COMPONENT 1 – Promotion and Conservation of On-Farm Biodiversity				
Development of community nurseries				
Establishment of farm nurseries		100 farms		
Agroforestry & ecological farm and cacao rehabilitation planning		100 farm plans		
Ecological rehabilitation of cocoa plantations			100 plantations	
Research Perceptions and local knowledge on biodiversity conservation				
COMPONENT 2 – Sustainable Production, Certification, and Marketing of Biodiversity-Friendly, Organic Products				
Validation of technologies Cultural and biological control of *monilia*			Technology validation completed	
Validation of technologies Organic fertilization of cocoa			Technology validation completed	
Nutritional (soil and tissue) diagnosis of cocoa plantations		100 farms surveyed		
Identification, collection and description of local superior cocoa trees		Propagation material 200 trees		
Information Center: database on farm biodiversity-friendly,		100 farms added		

organic products		to database		
Rehabilitation of clonal demonstration farm				
Information Center: Design Web page on biodiversity-friendly, organic markets and local products				
Information Center: Promotion				Radio broadcast
COMPONENT 3 – Strengthening Farmers and Producer Organizations				
Workshops for inter-institutional cooperation				
Production of extension & training materials on biodiversity conservation, environmental and gender issues (Spanish, Bribri)				
Production of extension & training materials on agroforestry & ecological farm planning (Spanish, Bribri)				
Production of extension & training materials on Ecological rehabilitation and management of cocoa plantations (Spanish, Bribri)				
Production of extension and educational materials on propagation of native and useful species (Spanish, Bribri)				
Production of extension & training materials on cocoa fermentation & drying (Spanish, Bribri)				
Production of extension and educational materials on Certification and Marketing of biodiversity-friendly, organic products (Spanish, Bribri)				
Production of extension and educational materials on conservation of endangered species (Spanish, Bribri)				
Production of extension and educational materials on Organic cocoa fertilization (Spanish, Bribri)			500 copies	
Production of extension and educational materials on Cultural and biological control of *monilia* (Spanish, Bribri)			500 copies	
Training of project personnel and local promoters on agroforestry & ecological farm planning, cacao genetic improvement, rehabilitation and agroforestry design of cacao plantations.				
Training technical (Bribri) and postgraduate (CATIE) students on Agroforestry and Ecological Farm Planning		25 students trained		

Training farmers Agroforestry and Ecological Farm planning and cacao rehabilitation		100 farmers trained		
Training Farmer – to – Farmer farm planning		200 farmers trained		
Training women on cocoa fermentation and drying, certification, environmental and gender issues		100 women trained, 5 events		
Training on Management of clonal cacao-banana-timber plantations		2 field trips, 40 participants		
Training women on propagation of native and useful species			100 women, 5 events	
Training of local organizations in certification, management and biodiversity-friendly, organic marketing				2 workshops for 20 communities
Farmer exchanges between Talamanca, Cahuita, Siquirres and other indigenous cacao producing areas				2 field trips for 40 farmers
Project Annual Report				1 report
COMPONENT 4 – Biodiversity Monitoring				
Monitoring on-farm fauna biodiversity, biological corridors and management			Monitoring completed	
Research Crop production losses to wildlife				
Research Harvest and extraction of plants and wildlife in local organic cacao farms				
Research Sustainable timber production in cocoa farms				