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Costa Rica

Biodiversity Resources Development Project

Project Document
January 1998

THE WORLD BANK

GEF Documentation

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Costa Rica
Biodiversity Resources Development Project

Project Document
January 21, 1998

Environmentally and Socially Sustainable Development Sector Management Unit
Central America Country Management Unit
Latin America and the Caribbean Regional Office

CURRENCY EQUIVALENTS

December 1997

Currency Unit	=	Costa Rican Colón
US$ 1.00	=	$ 240.00

FISCAL YEAR

January 1 to December 31

WEIGHTS AND MEASURES

Metric System

ABBREVIATIONS AND ACRONYMS

ACA	Area de Conservación Arenal-Tilarán, Arenal-Tilarán Conservation Area
ACG	Area de Conservación Guanacaste, Guanacaste Conservation Area
ACLA-C	Area de Conservación Amistad-Caribe, Amistad-Caribe Conservation Area
ACLA-P	Area de Conservación Amistad-Pacifico, Amistad-Pacifico Conservation Area
ACOSA	Area de Conservación Osa, Osa Conservation Area
ACT	Area de Conservación Tempisque, Tempisque Conservation Area
CA	Conservation Area
COP3	Third Conference of the Parties
GEF	Global Environment Facility
IBRD	International Bank for Reconstruction and Development
INBio	Instituto Nacional de Biodiversidad, National Biodiversity Institute
MINAE	Ministerio del Ambiente y Energía, Ministry of Environment and Energy
MIRENEM	Ministerio de Recursos Naturales, Energía, y Minas, Ministry of Natural Resources, Energy, and Mines (renamed MINAE in 1995)
NGO	Non-Governmental Organization
NORAD	Norwegian Development Agency
PCU	Project Coordinating Unit
PDF	Project Development Facility Block B Grant
PILA	La Amistad International Park
PNC	Corcovado National Park
RBNMV	Monteverde Cloud Forest Biological Reserve
SINAC	Sistema Nacional de Areas de Conservación, National System of Conservation Areas
STAP	Scientific and Technical Advisory Panel (for the GEF)
UNDP	United Nations Development Programme

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COSTA RICA
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

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Part I: Project Summary

COSTA RICA
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

GRANT AND PROJECT SUMMARY

Source of Grant:	Global Environment Facility Trust Fund
Grant Recipient/Executing Agency:	Instituto Nacional de Biodiversidad (National Biodiversity Institute, INBio)
Beneficiaries:	INBio; Five Costa Rican Conservation Areas (Tempisque, Arenal-Tilarán, Amistad Pacifico, Amistad Caribe, and Osa); the Ministry of Environment and Energy (Ministro de Ambiente y Energía, MINAE); local communities; environmental organizations; the international community.
Total Project Cost:	SDR 8.1 million (US$ 11.0 million equivalent)
Total Grant Cost:	SDR 5.2 million (US$ 7.0 million equivalent)
Terms:	Grant
Financing Plan:	GEF Grant US$ 7.0 million INBio US$ 4.0 million
Economic Rate of Return:	N/A; see Annex 6
Maps:	IBRD 29254; IBRD 29279; IBRD 29280
Project Identification No.:	CR-GE-39876

Estimated Grant Disbursements by Year
(US$ Million)

Fiscal Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Annual	0.8	1.3	1.0	1.1	1.0	0.9	0.9
Cumulative	0.8	2.1	3.1	4.2	5.2	6.1	7.0

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Country, Sector, and Project Background

1. **Costa Rica's Biological Diversity**. Costa Rica's 51,100 square kilometers of the isthmus joining North and South America contain at least half a million species in habitats ranging from near desert to exceedingly wet rain forests and cloud forests, and from sea level to over 3,500 meters. It is estimated that there are about 13,000 species of plants, 30,000 fungi, 1,500 vertebrates, 290,000 insects, 75,000 aquatic organisms from fresh to brackish waters, 15,000 marine invertebrates, up to 50,000 spiders, mites, and other terrestrial invertebrates, as many as 10,000 nematodes, and innumerable species of bacteria and viruses. Eighty percent of these species, many of which have yet to be described and named, have ranges that extend into other countries in Central and South America. Some species extend from central Brazil or Bolivia, through Costa Rica, to Guatemala and southern Mexico.

2. **Government's Biodiversity Strategy**. Costa Rica is at the forefront of biodiversity conservation and management. Recognizing that its biological resources are an important national asset, Costa Rica has actively pursued a policy of conservation and protection, and has encouraged innovation in financing and administration. The Government has articulated a strategy with three main objectives: (i) the establishment of large areas for conservation; (ii) the assessment of the biodiversity that lies within the conserved areas; and (iii) the integration of the sustainable use of biodiversity into the intellectual and economic fabric of the society. Congress is in the process of deliberating a proposed Biodiversity Law, which is expected to be approved prior to April 1998. Costa Rica received Global Environment Facility (GEF) financing in August 1996 and has started to update the National Biodiversity Conservation Strategy and to prepare an action plan which will further endorse and elaborate these objectives.

3. Establishment of Conservation Areas. Since the early 1970s, about 25 percent of the country's territory has been designated as national parks, national forests, and equivalent reserves. In 1986, the administration of these protected areas was transferred to the newly created Ministry of Natural Resources, Energy and Mines, renamed the Ministry of Environment and Energy (MINAE) in 1995. MINAE has inherited regulatory, policy and management responsibilities over natural resources as diverse as minerals, energy, and forests.

4. Based on the National Biodiversity Conservation Strategy of 1989, a National System of Conservation Areas (Sistema National de Areas de Conservacion; SINAC) was initiated with the goal of consolidating small, separate protected areas into eleven Conservation Areas. SINAC is increasingly characterized by decentralization of administration, deconcentration of resources, collegial structures of decision-making, and grouping of contiguous areas into larger units.

5. Assessment of Biodiversity. In 1989 the National Biodiversity Institute (Instituto Nacional de Biodiversidad; INBio) was created as a non-governmental, non-profit association to: (i) develop a strategy and carry out an inventory of Costa Rica's biodiversity; (ii) begin integrating national collections into one physical and administrative entity; and (iii) put biodiversity information into an easily accessible format for public access. In 1994 INBio was authorized by MINAE to develop and execute a National Biodiversity Inventory in the Conservation Areas in Costa Rica.

6. INBio has experimented intensively at various Conservation Areas, notably the Guanacaste Conservation Area (ACG), to successfully develop creative approaches to undertaking a large-scale biodiversity inventory. An important innovation is the use of specially trained staff from the communities surrounding the Conservation Areas to work as parataxonomists in collecting and preparing biological specimens. These parataxonomists understand local conditions and risks, have been trained by curators to collect, mount, and preserve specimens, and undertake targeted collection in consultation with the curators. This reduces the redundancy in collection, facilitates identification, and helps create community involvement. The work of these parataxonomists, supported by technicians and curators, reduces the time and effort required of international and national taxonomists to collect and prepare specimens for identification, and enables the experts to concentrate on classification of species. Another innovation is the development of an easily accessible computerized biodiversity information management system using bar-coding to identify specimens collected by parataxonomists.

7. Sustainable Use of Biodiversity. Knowledge on the species that exist within a certain area, their correct identification and natural history, seasonal migration patterns, geographic distribution, and status, is the starting point for the use of biodiversity in conservation, land use planning, environmental impact assessments and environmental monitoring. Accurate scientific documentation and identification of specimens is essential for verifying, cataloguing, and identifying distributions for further research, collection, or development.

8. INBio has been at the forefront of using the knowledge obtained through its inventory work. It has: initiated ground breaking bioprospecting projects with several pharmaceutical companies, notably Merck and Co. and Bristol-Myers Squibb; pioneered bio-literacy projects with school children; created multimedia products to inform and educate the Costa Rican public; experimented with the use of wild species in integrated agricultural pest management; and increased the ecotourism potential of Conservation Areas through enhanced knowledge of flora and fauna.

9. **Project Background**. With the mandate to develop a National Biodiversity Inventory, it was clear to INBio that in order to take advantage of the savings made possible through INBio's innovative approaches, the scale of inventory activities would have to be increased. This expansion in collection, cataloguing, and identification of sustainable use of biodiversity would tax their human, physical, and managerial resources. Therefore INBio approached the GEF and other donors to assist it in establishing a framework to strengthen institutional capacity by: training more parataxonomists, technicians, and curators; building more infrastructure for sorting,

analysis, and storage; purchasing more equipment; expanding management systems; and strengthening the uses and applications of biodiversity services to increase revenue generating opportunities and general awareness of the contribution of biological resources to ecosystem and environmental health, and to sustainable development.

10. The donors responded positively, in part due to expected GEF support. NORAD, the Norwegian Development Agency, provided two grants of US$ 0.4 million in April 1995 and US$ 1.4 million in October 1997 to: enable a series of participatory workshops to take place with scientific Taxonomic Working Groups and potential clients and users so as to determine the methodologies and protocols that should be used for collection and cataloguing; undertake limited collection and cataloguing activities; pilot the development of products based on the inventory; and develop institutional capacity at INBio. These NORAD funded activities lay the foundation for, and are closely aligned with, the project (although they are not necessary for the viability of the project). In June 1995, the GEF Secretariat approved a US$ 283,000 Project Development Facility Block B Grant (PDF) to assist INBio in preparing this project and to mobilize donor assistance. In 1996 the Government of Canada launched a five year grant of US$ 3.4 million to strengthen management capacity at INBio, to finance infrastructure for the Bio-Prospecting laboratory, and to finance meetings with indigenous communities adjacent to Conservation Areas.

11. While these donor-funded activities were being undertaken, the Government formed several working groups, in which INBio and SINAC both participated, to discuss the sustainable development of biodiversity in Costa Rica. As a result of these discussions and the work that had been undertaken with the assistance of donor-funded projects, it became apparent that the sustainability of the Conservation Areas depends on the benefits generated for society and the local communities. As a result, SINAC has focused on developing a decentralized system of Conservation Areas that takes an ecosystem approach to conservation, and that involves the local community in the development of strategies for sustainable development. INBio and SINAC have agreed that inventory activities should be based on community demand-driven criteria, and should cover a range of ecosystems and geographic locations.

12. Based on this approach, in December 1997, the Government of the Netherlands has approved a four year grant of US$ 8.2 million, which would finance the collection and cataloguing of five taxonomic groups including plants, mollusks, nematodes, lepidoptera, and vertebrates; ecosystem mapping for the Conservation Areas; the further development of the biodiversity information management system; projects based on sustainable uses and applications of the inventory; and infrastructure, training, and institutional strengthening of the Conservation Areas and INBio. The activities funded by the Dutch are highly complementary to this project (although not necessary for its viability).

13. Since initiating the National Biodiversity Inventory, and with the help of the donor funded activities, INBio has so far trained 61 parataxonomists, 20 technicians, and 25 curators, collected two million specimens and entered them into the database, and identified an average of ten new species each month.

14. **Project Strategy**. The project would build on this work carried out by INBio. The taxonomic groups included in this project are: Hymenoptera, Coleoptera, Diptera, and fungi. These four taxonomic groups are part of a high priority group of taxa that were chosen because, together, they cover a wide spectrum of species richness and a broad range of niches and habitats. They cover a range of collecting and cataloguing logistical challenges and represent a range of prior taxonomic knowledge and difficulty. Species from each group are represented at the national and international level, and will provide experience relevant to other countries. These four taxonomic groups are expected to generate a large number of potential applications and potential uses. Criteria used to select the taxonomic groups for inclusion in the project are presented in Technical Annex 2.

15. Five Conservation Areas have been chosen as sites for collection activities, in both this project and the Dutch project: Tempisque, Arenal-Tilarán, Amistad Caribe, Amistad Pacifico, and Osa. These Conservation Areas have been chosen because of their high coverage of Costa Rican biodiversity, significant endemism, and outstanding biological importance for Costa Rica and Meso-America, as well as their human, financial, and infrastructure resources. Tempisque covers the driest region of Costa Rica, and includes an important wetlands refuge. Arenal-Tilarán is physiographically complex, with volcanic activity, humid tropical forests, and a breadth of rainfall gradients and soil heterogeneity, resulting in high biodiversity and endemism. Amistad Caribe and Amistad Pacifico cover the highest mountain ranges in the country, with altitudes ranging from sea level to 3,800 meters above sea level, and extend to both the Pacific and Caribbean coasts. Amistad Caribe includes the largest wilderness area in Meso-America, and Amistad Pacifico consists of mid and high elevation protected areas with extensive subalpine paramo vegetation with high endemism, and montane forests dominated by oak. Osa, which includes the Corcovado National Park, contains most of the lowland tropical rain forests that occur on the Pacific side of Meso-America, and harbors high numbers of endemic species. Technical Annex 3 describes the biological importance of these areas in more detail.

Project Objectives

16. This project would demonstrate that increased knowledge and information about particular species enhance their value and increase the marketability of biodiversity services, by enhancing the knowledge of Costa Rica's species, testing methodologies for undertaking a cost effective inventory, and maximizing the value of those species and the social return to the investment in knowledge through conservation and sustainable use. Specifically, the project would: (a) develop and update the framework for undertaking a biodiversity inventory of priority sub-groups within four major taxonomic groups - Hymenoptera, Coleoptera, Diptera, and fungi - at selected sites within the five Conservation Areas of Tempisque, Arenal-Tilarán, Amistad Caribe, Amistad Pacifico, and Osa; (b) undertake the collection and cataloguing activities related to the inventory; (c) develop and test potential applications based on the inventory; and (d) strengthen the institutional capacity at INBio.

Project Description

The project is expected to take seven years to implement. The project would have the following components, described in more detail in Technical Annex 1:

17. **Framework** (US$ 0.7 million). This component would finance consultants, transportation, travel-related expenditures, and materials for: consultations with scientists; consultations with representatives of different user groups, communities, other stakeholders; and the work of the Commission on the Use of Indigenous Knowledge and the Sharing of Benefits.

18. **Biodiversity Inventory** (US$ 8.0 million). This component would finance: the collection of specimens for priority sub-groups of the estimated 144,000 species of Hymenoptera, Coleoptera, Diptera, and fungi in the five Conservation Areas of Tempisque, Arenal-Tilarán, Osa, Amistad Pacifico, and Amistad Caribe; cataloguing; and information management activities. The two sub-components would be:

(i) **Collection Activities**. This sub-component would finance: incremental costs of salaries for new parataxonomists and research coordinators in the three Conservation Areas that currently don't have research coordinators; equipment; maintenance; supplies; transportation and training programs for local parataxonomists and technicians; collection of specimens for Hymenoptera, Coleoptera, Diptera, and fungi in the five Conservation Areas; preliminary sorting of specimens in the field; recording of relevant specimen natural history information; and transfer of the specimens to INBio for further processing.

(ii) **Cataloguing Activities**. This sub-component would finance: incremental salaries for technicians and curators; international taxonomic consultants; equipment; training programs; recurrent costs on a declining basis at INBio for activities and equipment related to cataloguing and information management; and travel and per diem for international and national experts working in Costa Rica who have volunteered their time. This would enable the processing and storage of the millions of specimens that the collection activities would generate, the identification and cataloguing of each specimen, and the recording of relevant data in a computerized information management system.

19. **Sustainable Uses of Biodiversity** (US$ 0.9 million). This component would finance consultants, studies, equipment, materials, publications, seminars, transportation, and per diem for the development of applications based on the inventory. It is intended to have a demonstration effect by testing various alternatives to show which are the most feasible for revenue or non-revenue generating uses.

20. **Institutional Strengthening** (US$ 1.3 million). This component would finance incremental costs of additional personnel, equipment, and recurrent costs on a declining basis for the Project Coordination Unit. Given the special handling and storage needs of fungi, this component would finance the infrastructure, equipment, and maintenance costs of a fungi laboratory at INBio.

Project Financing and Incremental Costs

21. Total project costs are estimated at US$ 11.0 million equivalent, of which the GEF would finance about US$ 7.0 million, INBio would finance about US$ 1.0 million in counterpart funds, and international taxonomists would contribute about US$ 3.0 million in services. Retroactive financing of US$ 200,000 would be available as of January 16, 1998. The incremental cost of generating global benefits associated with the GEF-funded project is estimated at about US$ 10.0 million. Of these incremental costs, the GEF would finance US$ 7.0 million and the international taxonomists would contribute US$ 3.0 million. Schedule A and Technical Annex 5 contain the project costs and financing plan. The incremental cost analysis and justification for the GEF grant are provided in Technical Annex 6.

Project Implementation

22. **INBio**. INBio operates under an administrative system characterized by decentralized and collaborative decision making with few levels of hierarchy. The institution is headed by a Director reporting to the Board of Directors and to an Assembly which has community representation. Operations are managed by the Director and Deputy Director. The organization has four divisions, each with a Coordinator: Biodiversity Inventory, Bio-Prospecting, Information Dissemination, and Information Management. A Project Coordination Unit, reporting to the Director, has been established to coordinate and manage donor-funded activities. Field offices, staffed mainly by parataxonomists, are maintained in some of the Conservation Areas, under the supervision of Conservation Area management.

23. **SINAC**. SINAC is a decentralized and participatory institutional management system that unifies MINAE's competencies regarding forestry, wildlife and protected area issues, in order to plan and execute processes aimed at the sustainable management of the country's natural resources. Administratively, SINAC is a system composed of eleven subsystems called Conservation Areas. SINAC's Directorate consists of a General Director, Director, an Advisory Team and a Technical Unit. The main responsibilities of the Technical Unit are to: support the Conservation Areas through implementation of plans and projects; negotiate international treaties and conventions on biodiversity; obtain financing; and improve the quality of management and information systems. The SINAC Director at the center, and the Directors of each Conservation Area in the field, are responsible for coordination with INBio.

24. Each Conservation Area is comprised of a Regional Bureau and Subregional Offices. The Regional Bureau has strategic decision making responsibilities, which are exercised by the Director and a Technical Committee composed of the Coordinators for Control, Promotion, and Protected Wildlands. The Local Council advises the Technical Committee, and is composed of representatives of local communities, governmental and non-governmental institutions, and groups in the region of influence.

25. **Coordination**. A high-level Committee, consisting only of the Director of INBio and the Minister of MINAE, would meet as necessary to set policy guidelines and resolve issues. A Coordinating Committee has been established composed of representatives of INBio and SINAC,

to serve as the main link between the two organizations, plan and monitor joint activities, build on experience from previous joint programs, and oversee project implementation. To improve coordination, the donors (currently including the GEF, the Dutch, and NORAD) would meet once a year with the Coordinating Committee to review progress made in each project, to evaluate the use of financial resources provided to the inventory, and to coordinate assistance.

26. A Project Coordination Unit has been established at INBio, and the Coordinator for this project has been appointed. The Project Coordination Unit would have regular contact with the Conservation Area staff. Project activities would take place at the most suitable location; in general, collection activities and initial sorting would take place within each Conservation Area, while the methodological framework, cataloguing, and identification of sustainable uses would take place at INBio. Routine supervisory authority over contractual staff, construction, material inventories, and daily work programs would be undertaken through existing systems within INBio and the five Conservation Areas. The Project Coordination Unit would continue to maintain separate project accounts and retain strict financial controls and contractual authority over all donor projects and components. INBio has existing accounting, control and auditing systems which are being used in the management of the PDF. These systems have been evaluated and found to be adequate to meet the needs of the project. These implementation and coordination arrangements would be precisely defined in a Cooperative Agreement between INBio and MINAE, satisfactory to the Bank.

27. **Monitoring and Evaluation**. INBio, as recipient of the GEF grant, would have full responsibility for overall management and supervision of the grant, as well as monitoring and evaluation. These responsibilities would be exercised through the INBio divisions, the Project Coordinating Unit established at INBio headquarters in Heredia, and each of the five Conservation Areas. A project implementation plan for the first year of the project, including timetables for procurement, has been prepared and agreed with the Bank. Technical Annex 8 includes details of the planning and reporting that will be undertaken by the Project Coordination Unit.

28. Twelve indicators have been selected against which successful implementation would be measured: (a) demand-driven methodologies and protocols developed, tested, improved, and widely applied for Hymenoptera, Coleoptera, Diptera and fungi; (b) number of international scientists familiar with these methodologies and protocols and able to apply them to other national inventories; (c) recommendations developed and disseminated on the use of indigenous knowledge and the sharing of benefits; (d) number of communities or organizations participating in the project; (e) number of specimens of Hymenoptera, Coleoptera, Diptera and fungi identified at species level; (f) number of new species described for science; (g) incorporation of biodiversity information generated by the project into conservation management plans and programs of the protected areas in the Conservation Areas; (h) number of conservation professionals and decision makers familiar with the biodiversity information generated by the project and able to influence conservation management in their own countries; (i) development and implementation of pilot agreements incorporating the information generated by the project; (j) development of syllabi for training parataxonomists, technicians, and curators; (k) number of parataxonomists, technicians,

and curators trained; and (l) number of voluntary taxonomic days. Quantitative targets for each indicator can be found in Technical Annex 8.

Sustainability and Participation

29. Financial sustainability would be promoted by the ongoing use of available funds and financing mechanisms, and the establishment of equitable revenue sharing mechanisms. Operating costs for the Protected Areas within the Conservation Areas during and after the project implementation period would be financed from conventional sources, which include the SINAC budget, fees for facility use, donor resources, and in some cases endowment funds. INBio and MINAE would share any income generated from the use of biodiversity, in order to augment the SINAC budget for the sustainability of the Conservation Areas. Its own share of revenues from the use of biodiversity would support INBio's operating expenditures. The income generated as a direct result of this project is expected to be small, since the uses and applications are intended to have a demonstration effect. Institutional sustainability would be promoted by further strengthening the scientific, technical and management capacity in Costa Rica, as well as developing mechanisms for self-sustainability. The sustainability of human resources would be promoted through training the parataxonomists, technicians, curators and information systems specialists, who would be expected to continue working at INBio and other institutions after the project implementation period.

30. As detailed in Technical Annex 5, project preparation has been participatory. NORAD and the PDF have funded scientific and technical workshops with national and international taxonomists to design the framework for inventory activities, and with clients and users to discuss potential applications. The PDF has also funded community consultations to discuss the possible benefits of the project to communities adjacent to the Conservation Areas. During implementation regular consultations and workshops would be held with local, national and international scientific contributors, clients, and users of the inventory, indigenous and non-indigenous communities adjacent to the five Conservation Areas, and non-governmental organizations. In addition, INBio's Assembly, which has community representation, and the Local Councils for each Conservation Area, would be asked to provide input and advice.

Lessons Learned and Technical Review

31. GEF has financed two projects in Costa Rica: the Biodiversity Conservation and Sustainable Development in the Osa and Amistad Pacifico Conservation Areas Project with the United Nations Development Programme (UNDP) as the implementing agency; and the Institutional Development for Biodiversity Management Project with the United Nations Environment Program as the implementing agency. INBio was the implementing agency for the research and inventory component of the UNDP project. After initial administrative start-up problems, implementation proceeded smoothly. This project was to test sampling methodologies and training protocols, and to strengthen the working relationship between INBio and MINAE. Lessons have also been learned from the preparation of the Indonesia Biodiversity Collections Project, which aims to strengthen the management of systematic collections and establish a computerized database for biodiversity inventory and monitoring. This project has shown the

value of client-driven activities and capacity building at the local level, of limited and realistic project objectives, and of timely availability of counterpart funding.

32. Four formal independent technical reviews have been undertaken for this project, at an early stage in May 1995, in December 1996, in September 1997, and in January 1998. The May 1995, review by the Scientific and Technical Advisory Panel (STAP) reviewer endorsed the project for GEF financing. The reviewer noted that in terms of innovation, potential replicability, and significance for global biodiversity conservation, the project would rank high according to GEF project selection criteria. The reviewer noted the global relevance of this project as a demonstration model, that the implementing agencies were considered appropriate in terms of both their capacity and mandate, that the project fit well with the national agenda for environmentally sustainable development, and that it complemented other Costa Rican initiatives in biodiversity conservation and management. In December 1996, the STAP reviewer commented that project design had improved and that the project continued to merit GEF support. Regarding possible refinements to project design, in December 1996 and in September 1997 the STAP reviewer supported the increase in project scope to five Conservation Areas, the inclusion of Diptera, and greater emphasis on sustainable use. In January 1998, the STAP reviewer supported the criteria to be used in selecting subgroups, priority collection sites, cessation of collection activities, and avoidance of overharvesting, noting that life history characteristics of the subgroups should bear on their selection and also noting the importance of long-term monitoring of the impact of collection activities.

Rationale for GEF Financing

33. This project addresses the three main objectives of the Convention on Biological Diversity - conservation, sustainable use, and equitable sharing of benefits. It is a global pilot project which will test methodologies, and provide lessons and applications that can be applied globally in both developing and developed countries. It will be particularly relevant to other countries in Central and South America, many of which share a large number of species with Costa Rica. The project is consistent with the guidance from the Conference of the Parties, including the Third Conference of the Parties (COP3). Recommendations from COP3 emphasized the need for capacity building for taxonomy, greater attention to species important as pollinators (Hymenoptera, Coleoptera) and for soil fertility (fungi, Coleoptera). This project also addresses the issue of more equitable sharing of benefits from biodiversity between nations. Consistent with COP guidance and GEF eligibility requirements, the project addresses the GEF biodiversity focal area (Operational Program 3, Forest Ecosystems).

34. Costa Rica ratified the Convention on Biological Diversity in September 1994. The project has been identified as a national priority; identifies and monitors biodiversity; builds capacity; provides opportunities for international cooperation in the joint development of technology; promotes sustainability; serves as a demonstration project; encourages scientific excellence; takes innovative measures to conserve biodiversity including economic incentives; strengthens involvement of local communities; and strengthens the conservation, management and sustainable use of ecosystems. This project is a global pilot being tested in Costa Rica because Costa Rica has an appropriate enabling environment and capacity in place. The project is

expected to develop cost-effective methodologies and to serve as a demonstration model for other developing countries globally.

35. This project is fully consistent with the Government's strategies to assess the biodiversity in conserved areas and to integrate the sustainable use of biodiversity into the country's development strategy. The Government is firmly committed to the project. The President of Costa Rica, the Minister of Finance, the Minister of Environment, and the Director of the SINAC have all indicated that this project is a priority, that they have no objection to INBio receiving the grant, and that the project will receive their full support.

Environmental Aspects

36. As a biodiversity project in high priority areas, the project is expected to make a major contribution to environmental goals, both in Costa Rica and globally. Protection of the natural resource base remains of paramount importance, and project activities have been designed to avoid any environmental damage. Ecosystem studies will be undertaken, and seminars will be held with Government officials and non-governmental organizations in Meso-America on the sustainable use and management of natural resources. As with any inventory activity in protected areas, there is a risk of over-sampling: criteria have been established for the cessation of sampling, and will be carefully monitored by the Taxonomic Working Groups. The only infrastructure to be financed in the project is the construction of a 100 square meter fungi laboratory at INBio, which is located in a semi-urban area; national guidelines on environmental assessments will be followed.

Project Benefits

37. Expected project benefits of global significance include: development of cost-effective methodologies for undertaking biodiversity inventories; recommendations on the use of indigenous knowledge and the sharing of benefits; an inventory of four major taxonomic groups, including species which occur widely throughout Central and South America; rapid training methodologies for parataxonomists, technicians, and curators; and legal, contractual, and financial models for revenue generating and non-revenue generating uses of the biodiversity inventory. An important benefit from this project would be an increased understanding of the inter-relationships and inter-linkages between biodiversity and ecosystem functioning and the crucial role biodiversity plays in sustainable development. Expected project benefits of national significance include: national capacity building; incorporation of biodiversity information in the management of protected areas; possible additional ecotourism and scientific tourism; and new bioprospecting opportunities.

Project Risks

38. Several features of this project carry risks. The project is expected to undertake extensive collection of specimens, which carries the risk of depleting the resource base through over-sampling. Project design includes elements to mitigate this risk. Criteria for the selection of priority sites and for the cessation of sampling have been developed for the Project. Conservationists will be involved in the planning workshops for the development of the

framework for sampling and sustainable harvesting, and will monitor the protocols and methodologies that have been established to protect the biological resources. In addition, SINAC has conservation guidelines which will be followed during project implementation.

39. As in other knowledge generating projects, this project carries the risk that the knowledge gained during the project will not be disseminated or utilized on a global basis. To mitigate this risk, project design includes activities to share knowledge through workshops and multimedia products, assess demand for biodiversity products and uses, and develop products and services.

40. This project would result in a 25 percent increase in the amount of resources and activities INBio would manage annually, carrying the risk that it would overwhelm INBio's absorptive capacity. Project implementation has been phased, and institutional strengthening has been frontloaded. INBio's existing accounting and control systems have been evaluated, and have been found to be adequate to meet the needs of the project.

41. As in other countries, there are real financial and human resource constraints in the five Conservation Areas, and if these constraints are not addressed, there is a risk that project objectives would not be met. The Government is making efforts to overcome these resource constraints through innovative revenue-generating programs, better targeting of donor resources (including this GEF-funded project), greater decentralization of managerial authority, and improved stakeholder involvement.

42. As is often the case in multi-agency projects, this project carries the risk that coordination between INBio and SINAC will be inadequate, and project implementation will suffer. To mitigate this risk, the proposed management system for the project is designed to promote coordination and accountability. In addition, this project carries the risk of poor donor coordination. To mitigate this risk, the donors would meet once a year with the project's Coordinating Committee.

43. The guidance and assistance of international taxonomists is an essential input into the design of the framework and the cataloguing of the species. Up to now, taxonomists and their employing institutions have donated their time on a pro-bono basis, and INBio has prepared project cost estimates on that basis. However, these taxonomists do not have binding agreements with INBio. To partially mitigate this risk, taxonomic groups have been chosen for which there is already strong support from international taxonomists, and a small amount of project funds have been earmarked for salary support to taxonomists. However, while INBio's assumptions are considered reasonable based on the commitments made so far by the members of the Taxonomic Working Groups, any program that depends on voluntary contributions of this sort carries risks that if these contributions are not forthcoming, the project would suffer.

Agreements

44. **Assurances**. During negotiations, assurances were obtained that INBio would:

(a) Maintain a Project Coordinating Unit with an organizational structure, functions, and staffing satisfactory to the Bank.

(b) Be responsible for any counterpart funding required for the Project, including potential fees and other expenses to ensure that the Taxonomic Working Groups are formed and operational in accordance with the Operational Manual and Annual Operating Plans satisfactory to the Bank.

(c) Carry out a plan satisfactory to the Bank, to: (i) upgrade the equipment, personnel, and training in connection with the biodiversity information management system; and (ii) provide adequate processing and storage facilities at INBio and in the Conservation Areas.

(d) Comply with the criteria for the selection of subgroups, priority collection sites, cessation of collection activities, and avoidance of overharvesting.

(e) Prepare and furnish to the Bank draft and final Annual Progress Reports and Annual Operating Plans.

45. **Special Conditions of Effectiveness**. Special Conditions of Grant effectiveness would be that:

(a) The Collaboration Agreement between INBio and MINAE shall have been signed.

(b) The Bank shall receive a satisfactory legal opinion related to the validity and enforceability of the Collaboration Agreement.

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Estimated Project Cost by Component
(US$)

Component	Local	Foreign	Total
Inventory Framework	310,996.0	361,164.0	672,160.0
Biodiversity Inventory			
Collection Activities	904,806.0	343,364.0	1,248,170.0
Cataloging Activities	2,065,808.0	3,919,922.0	5,985,730.0
Subtotal Biodiversity Inventory	2,970,614.0	4,263,286.0	7,233,900.0
Sustainable Uses of Biodiversity	558,239.0	263,721.0	821,960.0
Institutional Strengthening	1,076,094.0	77,316.0	1,153,410.0
Total BASELINE COSTS	4,915,943.0	4,965,487.0	9,881,430.0
Physical Contingencies	23,696.9	39,183.2	62,880.0
Price Contingencies	524,483.0	531,036.2	1,055,519.0
Total PROJECT COSTS	5,464,123.0	5,535,706.0	10,999,829.0

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Components by Financiers
(US$)

Components	INBIO		Taxonomists		GEF a/		Total	
	Amount	%	Amount	%	Amount	%	Amount	%
Inventory Framework	6,042.1	0.8	-	-	739,229.9	99.2	745,272.0	6.8
Biodiversity Inventory								
Collection Activities	159,077.8	13.6	-	-	1,198,312.0	88.3	1,357,389.0	10.6
Cataloging Activities	463,663.9	6.7	2,981,146.2	43.3	3,246,645.0	48.5	6,691,455.0	62.6
Subtotal Biodiversity Inventory	622,741.8	7.7	2,981,146.2	37.0	4,444,957.0	55.2	8,048,845.0	73.2
Sustainable Uses of Biodiversity	42,299.5	4.6	-	-	884,072.6	95.4	926,372.1	8.4
Institutional Strengthening	349,369.6	27.3	-	-	929,970.7	72.7	1,279,340.0	11.6
Total Disbursement	1,020,453.0	9.3	2,981,146.2	27.1	6,998,230.0	63.6	10,999,829.0	100.0

a/ Precise amount of Grant is US$ 7.0 million equivalent.

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Summary of Proposed Procurement Arrangements
(US$)

CATEGORY	ICB	NCB	OTHER	N.B.F.	Total
1. Civil Works 1/	-	-	57,415.6	-	57,415.6
			(49,951.6)		(49,951.6)
2. Goods					
Equipment 2/	348,522.4	169,420.1	213,166.4	-	871,808.9
	(303,214.5)	(147,395.5)	(162,453.8)		(758,473.8)
Vehicles 3/	-		137,423.2	-	137,423.2
			(119,558.2)		(119,558.2)
Publications 4/	-		320,378.4	-	320,378.4
			(278,729.2)		(278,729.2)
3. Training and Consultants					
Consultants 5/	-		4,341,862.0	2,981,146.2	7,323,008.0
			(4,341,862.0)		(4,341,862.0)
Training 6/	-		959,068.6	-	959,068.6
			(959,068.6)		(959,068.6)
4. Incremental Recurrent Costs 7/	-		1,330,727.0	-	1,330,727.0
			(490,586.9)		(490,586.9)
Total	348,522.4	169,420.1	7,670,171.0	2,981,146.2	10,999,829.0
	(303,214.5)	(147,395.5)	(6,695,016.0)	-	(6,998,230.0)

Note: Figures in parenthesis are the respective amounts financed by GEF. Precise amount of the Grant is US$ 7.0 million equivalent.

1/ Lump-sum fixed price contracts.
2/ NCB for field equipment, office equipment and furniture up to an aggregate amount of US$169,420; international and national shopping US$ 200,000 LIB for computers US$136,672
3/ Vehicles will be purchased through LIB in packages of US$150,000 or more
4/ Publications will be purchased through national shopping,up to an aggregate amount of US$337,373.
5/ QCBS procedures will be followed for consulting assignments with firms. Individual Consultants up to an aggregate of US$2 million.
6/ Travel, subsistence, per-diem and materials.
7/ Incremental salaries and operating expenditures.

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value (Threshold)	Procurement Method	Contracts Subject to Prior Review
1. Civil Works	All	Lump-sum fixed price (three quotations)	None
2. Goods	> 150,000	ICB	All
Computers and Vehicles	> 150,000	LIB	All
Other	>25,000-150,000	NCB	First two
	< 25,000	Intern./Nation. Shopping	None
3. Consultants (firms)	100,000 - 200,000	QCBS	TORs, RFPs, Evaluation
	<100,000	QCBS	Only TORs
4. Consultants (individ.)	>10,000	Individuals	Only TORs
	< 10,000	Individuals	None

ICB: International Competitive Bidding
LIB: Limited International Bidding
NCB: National Competitive Bidding
QCBS: Quality Cost-Based Selection
TOR: Terms of Reference
RFP: Request for Proposal

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Estimated Grant Disbursements by Year
(GEF Funding only)
(US$)

Fiscal Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Annual	800,000	1,300,000	1,050,000	1,100,000	950,000	900,000	900,000
Cummulative	800,000	2,100,000	3,150,000	4,250,000	5,200,000	6,100,000	7,000,000

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Suggested Allocation of Grant Proceeds

Category	Grant Amount US$	Disbursement %
1. Civil Works	50,000.0	90
2. Goods	1,100,000.0	100% FE, 80% LE
3. Consultant Services		
International Taxonomists	800,000.0	100
Other consultant services	3,400,000.0	100
4. Training	1,000,000.0	100
5. Incremental Recurrent Costs 1/	490,000.0	80%, 40%, 15%
6. Unallocated	160,000.0	-
Total	7,000,000.0	

1/ Declining percentage: 80% first and second years, 40% third and fourth years, and 15% thereafter.

FE: Foreign Expenditures
LE: Local Expenditures

Schedule C

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Timetable of Key Project Processing Events

(a) Time taken to prepare the project:	21 months
(b) Appraised by:	Gisu Mohadjer, Tom Wiens, John Dixon, Teresa Roncal, and Gary Hartshorn
(c) First Mission:	October 1994
(d) GEF Council:	March 1997
(e) Appraisal Mission departure:	April 1997
(f) Post-Appraisal Mission departure:	October 1997
(g) Negotiations:	January 1998
(h) Expected GEF/CEO Final Endorsement:	February 1998
(i) Planned Date of Effectiveness:	April 1998
(j) List of relevant PCRs/PPARs:	None

Status of Bank Group Operations in Costa Rica
IBRD Loans and IDA Credits in the Operations Portfolio

Project ID	Loan or Credit No.	Fiscal Year	Borrower	Purpose	Original Amount in US$ Millions				Difference Between expected and actual disbursements a/	
					IBRD	IDA	Cancellations	Undisbursed	Orig	Frm Rev'd
Number of Closed Loans/credits: 35										
Active Loans										
CR-PE-6954	IBRD36540	1994	GOVERNMENT	HEALTH SECTOR REFORM	22.00	0.00	0.00	14.08	12.09	1.89
CR-PE-6941	IBRD36250	1993	GOVERNMENT	WATER SUPPLY	26.00	0.00	10.00	11.55	13.66	.24
CR-PE-6938	IBRD34140	1992	GOVERNMENT	BASIC EDUCATION	23.00	0.00	0.00	5.49	5.49	0.00
CR-PE-6926	IBRD32050	1990	REPUBLIC OF COSTA RICA	TRNSPRT SCTR INV	60.00	0.00	12.00	18.24	30.25	7.16
Total					131.00	0.00	22.00	49.36	61.49	9.29

	Active Loans	Closed Loans	Total
Total Disbursed (IBRD and IDA):	59.64	614.80	674.44
of which has been repaid:	11.92	488.18	500.10
Total now held by IBRD and IDA:	97.08	126.62	223.70
Amount sold :	0.00	11.10	11.10
Of which repaid .	0.00	11.10	11.10
Total Undisbursed :	49.36	0.00	49.36

a. Intended disbursements to date minus actual disbursements to date as projected at appraisal.
b. Rating of 1-4: see OD 13.05. Annex D2. Preparation of Implementation Summary (Form 590). Following the FY94 Annual Review of Portfolio performance (ARPP), a letter based system will be used (HS = highly Satisfactory, S = satisfactory, U = unsatisfactory, HU = highly unsatisfactory): see proposed Improvements in Project and Portfolio Performance Rating Methodology (SecM94-901), August 23, 1994.

Note:
Disbursement data is updated at the end of the first week of the month.

Costa Rica
STATEMENT OF IFC's
Committed and Disbursed Portfolio
As of 30-Nov-97
(In US Dollar Millions)

		Committed				Disbursed			
		IFC				IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1991	Banex	2.50	.77	0.00	0.00	2.50	.77	0.00	0.00
1993	Hotel Camino	6.99	0.00	0.00	0.00	6.99	0.00	0.00	0.00
1993	INTERFIN	3.57	0.00	0.00	0.00	3.57	0.00	0.00	0.00
1994	HIDROZARCAS	2.93	0.00	.65	5.47	2.93	0.00	.65	5.47
1996	Ticofrut	4.75	0.00	0.00	4.75	4.75	0.00	0.00	4.75
Total Portfolio:		20.74	.77	.65	10.22	20.74	.77	.65	10.22

Approvals Pending Commitment

	Loan	Equity	Quasi	Partic
Total Pending Commitment:	0.00	0.00	0.00	0.00

Part II: Technical Annexes

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Project Description

1. The project is expected to take seven years to implement. The project would have the following components:

2. **Framework** (US$ 0.7 million). This component would finance consultants, transportation, travel-related expenditures, and materials for: consultations with scientists; consultations with representatives of different user groups, communities, other stakeholders; and the work of the Commission on the Use of Indigenous Knowledge and the Sharing of Benefits. Specifically, this component would finance the following:

(i) Consultations with Scientists: (a) annual workshops starting in the second year of the project (NORAD is funding the first year of workshops) of each of the four Taxonomic Working Groups that would develop and update the framework and protocols for collection and cataloguing activities, and would establish an annual operational plan; (b) an annual workshop with one representative from each of the Taxonomic Working Groups to discuss issues common to all the Taxonomic Working Groups; and (c) a workshop in the first year of the project on information management.

(ii) Consultations with Different User Groups to determine the demand for revenue generating and non-revenue generating products based on the inventory: (a) annual consultations at each Conservation Area; and (b) about six expert consultations per year with representatives of the major current or potential user groups.

(iii) Consultations with Stakeholders: (a) stakeholder analysis carried out by social scientists in the first two years of the project; (b) consultations with indigenous and non-indigenous communities to identify their concerns; (c) dissemination of information about the project in local languages; (d) regular meetings with indigenous leaders and non-governmental organization representatives starting in the second year of the project (the Government of Canada is funding these meetings in the first year of the project).

(iv) Commission on the Use of Indigenous Knowledge and the Sharing of Benefits: (a) formation of the Commission at the mid-point of the project, after the stakeholder analysis and early consultations have been undertaken; (b) an analysis of international best practice on the use of indigenous knowledge and sharing of benefits; (c) a consultant to draft a proposal for consideration by the Commission; (d) meetings of the Commission and its consultant with stakeholders; and (e) presentation of the final report.

3. **Biodiversity Inventory** (US$ 8.0 million). This component would finance the collection of specimens for priority subgroups of the estimated 144,000 species of Hymenoptera, Coleoptera, Diptera, and fungi in the five Conservation Areas of Tempisque, Arenal-Tilarán, Osa,

Amistad Pacifico, and Amistad Caribe; cataloguing; and information management activities. The two sub-components would be:

(i) **Collection Activities**. This sub-component would finance: incremental costs of salaries for new parataxonomists and research coordinators in the three Conservation Areas that currently don't have research coordinators; equipment; maintenance; supplies; transportation and training programs for parataxonomists and technicians; and recurrent costs on a declining basis. Collection would be guided by the framework established through consultations, and would follow methodologies and protocols prepared by the Taxonomic Working Groups. Parataxonomists selected from the local communities surrounding each Conservation Area would undergo an intensive six-month training program, followed up by short-term specialized training on specific collection methodologies and natural history. Each parataxonomist would be provided with the field equipment, materials, and supplies necessary to undertake the primary collection and sorting of the specimens prior to their transfer to INBio. In addition, parataxonomists would have access to computers within each Conservation Area for use in the sorting of specimens, and for recording collection and natural history information. The number of parataxonomists funded by the project would decrease over time, as primary collection activity for these groups decreases.

(ii) **Cataloguing Activities**. This sub-component would finance: incremental salaries for technicians and curators; international taxonomic consultants; equipment; training programs; recurrent costs on a declining basis; and travel and per diem for international and national experts working in Costa Rica who have volunteered their time. This would enable the processing and storage of the millions of specimens that the collection activities would generate, the identification and cataloguing of each specimen, and the recording of relevant data in a computerized information management system. Technicians would work closely with the parataxonomists to sort and mount specimens collected in the field. Each mounted specimen or isolate would be bar-coded, and the relevant collection and natural history information would be entered into a biodiversity information management system. At INBio, curators would work on identifying the specimens. International and national taxonomists would assist curators in the classification of new species. Technicians would join the parataxonomist training programs. Curators would undergo an intensive three month training program that includes classroom instruction, field work in Costa Rica, and in-service training outside Costa Rica. Technicians and curators would also receive short-term in-service training.

4. **Sustainable Uses of Biodiversity** (US$ 0.9 million). This component would finance the development of applications based on the inventory. It is intended to have a demonstration effect by testing various alternatives to show which are the most feasible for revenue or non-revenue generating uses. The component is currently designed to finance: (a) consultants, studies, and seminars, to undertake research on market opportunities, seek out revenue-generating joint ventures involving the private sector, and develop legal and financial instruments to ensure equitable sharing of benefits for biodiversity products based on the inventory. Some of the inventory-based applications include bioprospecting for pharmaceutical products, ecotourism, training and research opportunities, and the preparation of media products; (b) a publications coordinator, and the equipment and materials necessary to prepare and publish limited quantities of products such as field guides, scientific guides, brochures, videos, compact discs, web sites,

tourist guide books, calendars, and children's books; (c) equipment and materials for exhibits, maps and manuals for visitors, and educational signs for trails at the five Conservation Areas and INBio; (d) studies by graduate students on threatened and endangered species, indicator species, migration patterns, and monitoring of the impact of collection; and (e) transportation, per diem, materials, and seminars for Government institutions and non-governmental organizations in Meso-American on sustainable use and environmental management.

5. **Institutional Strengthening** (US$ 1.3 million). This component would finance incremental costs of additional personnel, equipment, and recurrent costs on a declining basis for the Project Coordination Unit. INBio has created a Project Coordination Unit for all donor-funded support related to inventory activities and uses, and will provide administrative, secretarial and operational support to the Unit. This component would therefore finance a coordinator for the project, a procurement specialist, two administrative assistants, an accountant, and a secretary, as well as a project launch workshop and annual audits. Other donors would also provide financing for staff of the Project Coordination Unit, including a science coordinator. Given the special handling and storage needs of fungi, this component would finance the infrastructure, equipment, and maintenance costs of a fungi laboratory at INBio. Other infrastructure needs are being financed by the Governments of Holland and Canada.

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Criteria for Selection of Priority Taxa

The following criteria have been used to select a group of four major taxa - Hymenoptera, Coleoptera, Diptera and fungi - for financing by the GEF-funded project:

- enthusiastic and committed leadership, and highly trained professionals for each taxa are available at both the national and international level;
- the four taxa cover a wide spectrum of species richness, from very species rich (fungi and Coleoptera) to less diverse groups (Diptera and Hymenoptera);
- the four taxa represent species and supra-species covering a broad range of niches and habitats;
- species within the four taxa cover a representative range of groups that are taxonomically complex like fungi as well as other less complex groups like Coleoptera, Hymenoptera and Diptera;
- a large number of potential applications and potential users exists for each taxa, such as biodiversity prospecting, biological control, organic degradation, pollination, education, and tourism;
- the four taxa represent a range of prior taxonomic knowledge and inventory difficulty;
- the four taxa are not dependent on prior knowledge of taxonomy and ecology of other taxa for inventory;
- all four taxa have manageable infrastructure needs; and
- all four taxa are represented at both national and international levels and will provide experience relevant to inventory in other countries; additionally many species and species groups within these taxa have multi-country ranges and some are pan-tropical.

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Biological Importance Of Proposed Conservation Areas

1. The five conservation areas proposed - Amistad/Caribe (ACLA-C), Amistad/Pacifico (ACLA-P), Arenal-Tilarán (ACA), Osa (ACOSA) and Tempisque (ACT) - are among the most important reservoirs of biological diversity in Costa Rica. Each of the five conservation areas contains a world-class protected area, e.g., La Amistad International Park (PILA) in ACLA-C and ACLA-P, Corcovado National Park (PNC) in ACOSA, Monteverde Cloud Forest Biological Reserve (RBNMV) in ACA and Palo Verde National Park in ACT. Together with the adjoining Panamanian component, PILA is the largest protected area in southern Mesoamerica. For administrative purposes the Costa Rican Government divided La Amistad into two conservation areas based on the Caribbean and Pacific watersheds, ACLA-C and ACLA-P, respectively.

2. With few notable exceptions (e.g., Monteverde in ACA and Sirena in ACOSA), the five conservation areas are very poorly known at the species level for the four focal taxonomic groups (Coleoptera, Diptera, Hymenoptera and fungi). Nevertheless, bioclimatic heterogeneity, ecoregional differences and forest ecosystem diversity are crude but legitimate general Surrogates for estimating biodiversity at the species level. It should be noted that this assessment of biological importance uses traditional species concepts, hence no attempt is made to assess or include genetic diversity. Given the representative and extensive coverage of virtually all major terrestrial ecosystems in the five conservation areas, it is expected that none of the focal taxonomic groups would be better represented in a different conservation area.

3. Amistad/Caribe (ACLA-C). Covering nearly all of the Caribbean slopes of Costa Rica's Talamanca Cordillera, ACLA-C includes the largest wilderness area in Mesoamerica. Not surprisingly, it is the least known area biologically. Though PILA is the largest and most important protected part of ACLA-C, the mosaic of one national park, two biological reserves, two wildlife refuges, three protective zones and major indigenous reserves covers virtually the entire elevational gradient on the Caribbean slope of the Talamanca Cordillera. Particularly noteworthy are the high elevation lakes that are biologically unknown, possibly endemic avifauna, and the proposed corridor connection with the lowland Gandoca-Manzanillo Wildlife Refuge. The latter is of significance because of the scarcity of protected lower elevation ecosystems in the PILA complex. All four focal taxonomic groups are expected to have greatest diversity in ACLA-C.

4. Amistad/Pacifico (ACLA-P). In contrast to its Caribbean slope homologue, ACLA-P consists of mid- and high-elevation protected areas, including three national parks, one biological reserve, two protective zones, one forest reserve and two wetlands. Of greatest biological importance is the subalpine páramo vegetation on the several Talamancan peaks above ~3,300 m. Chirripo (Costa Rica's highest peak at 3,818 m) is the most extensive and best known páramo. This shrubby vegetation characteristic of the wetter northern Andes (Ecuador to Venezuela) reaches its northern latitudinal limit in the high Talamancas of Costa Rica. Though not as species-

rich as the Andean páramo, the Costa Rican páramo has a high proportion of endemic species. Also of biological importance are the impressive montane forests dominated by oaks and the cathedral-like mid-elevation forests on andept soils. The latter is only represented in the Las Tablas Protection Zone of the Costa Rican PILA complex. The absence of lowland forest habitats in ACLA-P is expected to result in lower species diversity of the focal taxonomic groups than in the other four conservation areas. Nevertheless, the mid- to high-elevation oak forests will no doubt provide acceptable biodiversity levels of the focal groups sufficient to justify ACLA-P's participation in this project.

5. Arenal-Tilarán (ACA). This physiographically-complex conservation area extends from the Guanacaste Cordillera volcanos (Miravalles, Tenorio and Arenal), through the geologically older Tilaran Cordillera to the westernmost volcanic massif (Platanar) of the Central Volcanic Cordillera. Protected areas include three national parks, one biological reserve, two wildlife refuges, four protective zones, two forest reserves, two wetlands and significant private reserves (i.e., the Monteverde complex). The conservation focus is primarily on protecting critical watersheds and their catchment forests. Though the artificial Lake Arenal has major national importance for generating hydroelectric power and providing irrigation water to the dry Pacific lowlands, there are many other hydroelectric projects in progress or planned. Because of the lengthy dry season in northwest Costa Rica, the mid-elevation catchment forests on these generally low mountains perform critically important hydrologic functions in intercepting moisture-laden winds (producing luxuriant cloud forests) and modulating streamflow, particularly of permanent rivers flowing into the Pacific lowlands. The Monteverde region has long been the focus of taxonomic and ecological research, hence it is one of the best known biological areas in Costa Rica. The impressive physiographic complexity in conjunction with the predominant tradewinds produces great ecological diversity of habitats over short distances (i.e., tens to hundreds of meters). As has been reasonably well documented at Monteverde, the ACA has unusually high biodiversity due to the strong bioclimatic and physiographic gradients. The absence of lowland forest landscapes in this conservation area may be somewhat limiting for the focal taxonomic groups; however, the great breadth of the rainfall gradient and ample heterogeneity of soil types will provide good species diversity for all the focal groups.

6. Osa (ACOSA). This region is world famous because of the renown Corcovado National Park (PNC), considered by many to be the gem of the Costa Rican national system of protected areas. Protected areas include three national parks, one biological reserve, one wildlife refuge, one forest reserve and two wetlands. ACOSA is ecologically and biologically important because it contains most of the lowland tropical rain forests that occur on the Pacific side of Mesoamerica. In addition to having some of the most structurally impressive forests in tropical America, the ACOSA forests harbor unusually high numbers of endemic species, many with close taxonomic affinities to the Colombian Choco and even the Amazon Basin. ACOSA biodiversity is further enhanced by the presence of numerous dry forest elements occupying specialized habitats. ACOSA forests are the most unique in Costa Rica and Mesoamerica because of classic tropical rain forest in the Pacific lowlands and the intermixing of South American and dry Mesoamerican species. Because of the preponderance of lowland tropical rain forests in this conservation area, the highest levels of all four focal taxonomic groups should be found here.

7. Tempisque (ACT). This extensive conservation area covers the entire Nicoya Peninsula and much of the Guanacaste lowlands in the Canas-Bagaces region. ACT includes three national parks, three biological reserves, two absolute natural reserves, eight wildlife refuges, four protective zones, one forest reserve and four wetlands. Palo Verde National Park and Lomas Barbudal Biological Reserve are the largest units and the recommended units to include in this project. These two protected areas occur in the heart of the driest region of Costa Rica, yet Palo Verde has a large seasonal marsh that is an important Ramsar (internationally recognized) wetlands refuge for resident and migratory waterfowl. Of particular note are the isolated limestone hills with abundant rocks and sparse soil that have a surprisingly broad range of vegetation types due to the scarcity of groundwater in rock outcrops or at the opposite extreme the year-round presence of water in limestone seeps. The latter supports well-developed evergreen forest. The threatened lignum vitae tree, Guaiacum sanctum, is locally abundant on the Palo Verde hills. The highly monsoonal climate may limit fungal diversity; however, the three focal insect groups are reasonably to very diverse. Bees and wasps (Hymenoptera) are particularly rich in species, especially in Lomas Barbudal.

8. In sum, the five proposed conservation areas are excellent areas for inclusion in the Biodiversity Resources Development Project. Each conservation area has core protected areas that are of sufficient areal extent to provide habitats for large vertebrates, thus they are fully functional ecosystems. These five conservation areas have extraordinarily high coverage of Costa Rican biodiversity and outstanding biological importance for Costa Rica and Mesoamerica, thus they are the most appropriate suite of conservation areas for project implementation.

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Implementation Arrangements

Institutional Background

1. **INBio's Organization**. The National Biodiversity Institute (INBio) operates under an administrative system characterized by decentralized and collaborative decision-making with few levels of hierarchy. INBio is headed by a Director and Deputy Director reporting to a Board of Directors. The Directorate consists of groups for Administration, Finance, and General Services (totaling 26 persons in 1997). Also, an advisory group has been set up for Organizational Development, and additional advisory groups are planned for Conservation, External Debt Conversions, and Financial Feasibility in Product Development. The organization is divided into four units, each with a Coordinator: Biodiversity Inventory; Information Management; Bio-Prospecting; and Information Dissemination. A Project Coordination Unit (PCU), reporting to the Director, has been established to coordinate and manage donor-funded activities. INBio already has, or will have, field offices, staffed mainly by parataxonomists in the Conservation Areas (CAs), under the daily supervision of the CA's Research Director, with overall work programs developed by INBio curators and the INBio Parataxonomist Coordinator.

2. The activities of the four main units are:

(a) Biodiversity Inventory (77 persons). Responsible for the inventory collection and cataloguing, collection maintenance and management, and professional training;

(b) Information Management (12 persons). Responsible for development and maintenance of the System for Management of Biodiversity Information (BIMS), the Geographic Information System (GIS), development of multimedia user applications, maintenance of an Internet node and collection of documents on the Web, and maintenance of an Intranet for internal communications;

(c) Bio-Prospecting (29 persons). Responsible for developing collaborative products, research and development of natural products and biotechnology, exploration of biodiversity, and a database for bio-prospecting; and

(d) Information Dissemination (15 persons). Responsible for public relations, educational extension, workshops for informational exchange internationally, informational services for users, and relations with other national institutions involved in biodiversity study and management.

3. **SINAC Organization**. The National System of Protected Areas (SINAC) is a decentralized and participatory institutional management system that unifies the Ministry of Environment and Energy's (MINAE) competencies regarding forestry, wildlife and protected area

issues, in order to plan and execute processes aimed at the sustainable management of the country's natural resources. Administratively, SINAC is a system made up of a Directorate and eleven subsystems called Conservation Areas. SINAC's Directorate consists of about 40 staff, including a General Director, Director, an Advisory Team and a Technical Unit. The Technical Unit consists of a professional group whose main responsibilities are to: support the CAs through implementation of plans and projects; negotiate international treaties and conventions on biodiversity; obtain financing; and improve the quality of management and information systems.

4. A Conservation Area is a territorial unit containing different protected areas such as wildlife refuges, natural reserves, indigenous reserves, national parks, and wetlands. Each CA carries out an agreed development and management strategy, in which private and Government sectors participate in the management and conservation of natural resources and, together with civil society, seek to find sustainable development solutions. Each CA has a Regional Bureau and Subregional Offices. The Regional Bureau has strategic decision-making responsibilities, which are exercised by a Director and a Technical Committee composed of Coordinators for Control, Promotion, and Protected Wildlands. The Control function relates mainly to enforcement of law and regulations; Promotion to encouraging management and conservation on privately-owned lands within CAs, and Protected Wildlands with processes to ensure biodiversity conservation, including most activities relating to this project. The Technical Committee for each CA operates as a collegial body in making decisions and defining policies for technical management and operations, and serves as a channel for consultation and diffusion of information to local society. The Local Council for each CA is composed of representatives of local communities, governmental and non-governmental institutions or groups in the region of influence, and is usually selected by comparable Councils at the level of individual national parks or equivalent reserve. The Local Council operates under an elected Board of Directors, and advises the Technical Committee on plans and programs of conservation and development in the CA. A CA's administration also includes other departments which, depending upon the specific CA, may include Accounting and Finance, Human and Topographical Resources, and Land Tenancy; and support sections for Computer Services, a Research Center, and Biological Stations.

Implementation Arrangements

5. INBio, as recipient of the GEF grant, would have full responsibility for overall management and supervision of the project, as well as monitoring and evaluation. This responsibility would be carried out in close collaboration with SINAC regarding activities executed in the CAs, and with national and international taxonomists and scientists, and public and private sector entities.

6. The institutional framework for the Project would be legally defined by a Cooperation Agreement for Project Execution between INBio and MINAE. The Project would be implemented within the existing organizational framework of INBio and SINAC, with specified division of responsibilities between them and assignment of management authority over specific project components to existing subunits. Overall coordination would be performed by the PCU within INBio.

7. INBio will provide administrative, secretarial, and operational support to the Unit. This project would finance a project coordinator, an administrator, and a procurement specialist, two administrative assistants, an accountant, a secretary, along with three Research Coordinators for the CAs now lacking this position. Other donors would finance additional staff for the PCU, including a science coordinator.

8. **INBio Responsibilities**. INBio's direct responsibilities under the Project would include:

- Establishing and maintaining the PCU;
- Designing, executing, evaluating, and reporting on the project's programs and plans, subject to approval by the Bank;
- Implementing the project through the divisions and the PCU according to the agreements reached with the Bank;
- Participating in the Coordinating Committee and the high-level committee;
- Providing infrastructure, and designing logistical and administrative services and technical aspects (accommodations, laboratories, meeting rooms, meals, transportation, methodologies, and work agendas, among others) for project activities based at INBio;
- Participating in the design and responsible for the approval of new infrastructure within its facilities, consistent with INBio's global development strategy, its supporting legal framework, and environmental considerations;
- Managing personnel assigned to the project located at INBio;
- Ensuring that work done at INBio or work that is part of INBio's program conforms to the objectives of the project and the overall development strategy of INBio as an institution;
- Organizing, publishing, and distributing information and results generated by the project according to the characteristics and needs of its users; and
- Developing permanent biodiversity monitoring and evaluation mechanisms.

9. **PCU Responsibilities**. The direct responsibilities of the PCU under the Project would include:

- Coordinating donor-funded projects to ensure that there is no overlap between them;
- Coordinating with the SINAC and CAs on a daily basis to ensure the smooth operation of project activities;
- Maintaining separate project accounts, and retaining strict financial controls over the project;
- Administering project funds based on guidelines established by the Bank, including, among others: procurement, reporting, and auditing; and
- Providing regular reports on project activities and responding to requests for information by the Bank.

10. **SINAC Responsibilities**. SINAC's responsibilities under the project would include:

- Participating in the Coordinating Committee;

- Approving all plans and proposals for activities to be undertaken in the CAs, such as recommendations submitted by the Taxonomic Working Groups on sample sites and collection methodologies for field work for groups defined in the project;
- Supervising, monitoring, and evaluating the activities carried out in each CA;
- Within each CA region, assuring the participation of and adequate linkages with the local communities in the design and execution of project activities; and
- Organizing, publishing, and distributing information and results generated by the project to the users within the region of the concerned CAs.

11. **Conservation Area Responsibilities**. The direct responsibilities of the Conservation Areas would include:

- Managing project personnel located mainly in the CAs, such as parataxonomists;
- Providing the infrastructure and planning project logistical services (accommodations, laboratories, meeting rooms, food and transportation, among others) for the development of workshops, training and inventory activities within participating CAs;
- Administering assets and services assigned by the project for the activities programmed within the CAs, and reporting to the Project Coordinating Unit following procedures established for the project;
- Commenting to SINAC on all plans and proposals for activities to be undertaken in the CA;
- Implementing project activities in the CA;
- Advocating and ensuring the participation of local communities in the design and execution of the project; and
- Disseminating information about the project in the CAs.

12. **Policy and Decision-Making**. At the highest level, policy making authority would reside with the Director of INBio, and the Minister of MINAE who oversees the SINAC. At a decision-making level, coordination will be achieved by an INBio-MINAE Coordinating Committee. The Coordinating Committee would include the following members: Director of the SINAC, the Project Coordinator, the Directors of each involved CA, the Coordinator of the National Biodiversity Inventory at INBio, and the INBio Coordinator for INBio-SINAC Relations. This Committee would build on experience from previous joint programs and would provide the institutional memory for project implementation. It would have responsibility for planning joint activities between INBio and SINAC, coordinating and monitoring the project, approving methodologies and protocols for collection, and incorporating project generated information into the plans and programs of the CAs and INBio. This body would meet quarterly.

13. A Donor's Committee would be formed that would meet annually with the Coordinating Committee to evaluate use of financial resources provided to the inventory, coordinate assistance, and evaluate progress of the various donor-funded projects. Currently, the GEF, the Dutch, and NORAD are members of the Donor's Committee, but the expectation is that if other donors were to provide funding for inventory activities, they would also join.

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Consultation Process

Preparation

1. The Biodiversity Resources Development Project was prepared through a stakeholder consultation and participation process with representatives of the National Biodiversity Institute (Instituto Nacional de Biodiversidad, INBio), the Ministry of Environment and Energy (Ministerio de Ambiente y Energía, MINAE), the National System of Conservation Areas (Sistema Nacional de Areas de Conservación, SINAC), the Conservation Areas, local communities, international experts in taxonomy and biodiversity, and potential clients and users of the inventory supported by GEF Project Development Facility (PDF) Grant and the Norwegian Agency for International Development (NORAD).

2. Scientific Consultations. NORAD funded six scientific and technical workshops on different taxonomic groups, including Coleoptera, Hymenoptera, and fungi. These workshops supported the organization of Taxonomic Working Groups and the definition of protocols and methodologies for inventory activities, and were attended by INBio staff, and international and national taxonomists. In January of 1998, NORAD will finance a workshop with national and international experts on the systematization and management of biodiversity and the definition of the general framework for the inventory oriented to respond to market demand.

3. Social Consultations. Four social workshops funded by NORAD were held with potential clients and users in the sectors of education, agriculture, ecotourism, and bioprospecting to start the dialogue on possible opportunities within each sector for the application and sustainable use of biodiversity. In January and February 1998, PDF funds will support five workshops in the Conservation Areas with civil society organizations and a national workshop with experts in order to identify the demand for biodiversity. Through these workshops, a group of potential demands for biodiversity will be developed to be considered in the process of planning inventory activities.

4. Stakeholder Consultations. The PDF financed a process of consultation with communities living near the Guanacaste Conservation Area (which is no longer in the project). This process included two consultations in surrounding communities in December 1995 and workshops in four communities near Guanacaste in the fall of 1996. The objective of these consultations was to provide information about the new project and explore mechanisms for information sharing and communication with the local communities. The reports from these consultations indicate that the communities surrounding Conservation Areas are likely to be interested in participating in the activities of the Conservation Area, in particular with respect to employment as park guards or parataxonomists. The Tempisque Conservation Area has also worked with surrounding communities on issues of community organization and financing mechanisms for conservation and forestry.

5. With the assistance of funding from the Government of Canada, and using its own resources, INBio has started to work with some of the indigenous communities that live close to the Conservation Areas, and has had meetings with non-governmental organizations representing these communities. In addition, the Conservation Areas have also undertaken important outreach programs with the surrounding indigenous communities, notably at the Amistad Caribe Conservation Area. This preliminary work as demonstrated that there is potential for the indigenous communities to benefit from the biodiversity inventory work being undertaken in this project, including: the domestication of species; collection of species based on indigenous knowledge; employment as ecological guides, park guards, or parataxonomists; and conservation and biological education.

Implementation

6. The consultation and participation process initiated during the project preparation period will continue during implementation with support from the Government of Canada and NORAD in 1998, and from this project. This project will finance the continuation of participatory planning workshops with local, national and international contributors, clients, and users of the inventory to guide and adjust the process. Participation would be also ensured through the Local Councils at each Conservation Area and through INBio's Assembly which both have community representation.

7. Scientific Consultations. In the first semester of 1998, NORAD will support scientific workshops for the Taxonomic Working Groups for the four taxonomic groups in this project to develop detailed protocols and methodologies for the biodiversity inventory in the five Conservation Areas oriented to demand. In the second semester of 1998, NORAD will support a workshop with Meso-American taxonomists for the development of mechanisms to share the experience with taxonomists of the region.

8. Financing for these workshops will be provided by this project, which will finance annual workshops starting in 1999 for each of the four Taxonomic Working Groups that would develop and update the framework and protocols for collection and cataloguing activities, and would establish an annual operational plan. Starting in the first year, the project will also finance an annual workshop with one representative from each of the Taxonomic Working Groups to discuss issues common to all the Taxonomic Working Groups; and a workshop in 1998 on information management.

9. Social Consultations. The GEF-funded Project will continue the work started by NORAD and the PDF, and will support consultations with different user groups to determine the demand for revenue- and non-revenue generating products based on the inventory. Annual consultations will be held in each Conservation Area and there will be approximately six expert consultations each year with representatives of the major current or potential user groups.

10. Stakeholder Consultations and Indigenous Peoples. The indigenous population of Costa Rica is estimated to be approximately 30,000 and most live on Indigenous Reserves (see IBRD Map 29254). Although the Project will not undertake collection in Indigenous Reserves, an

important potential benefit to the Indigenous Reserves could be the collection of useful species based on indigenous knowledge.

11. In 1998, the Government of Canada will support two meetings with indigenous communities living in the areas surrounding the Amistad-Caribe Conservation Area in order to analyze themes of common interest related to sustainable use of biodiversity and to identify opportunities for working together. The project will continue to support consultations with indigenous communities and additional stakeholder consultation activities as follows: (a) regular meetings with indigenous leaders and non-governmental organization representatives starting in the second year of the project; (b) stakeholder analyses carried out by social scientists in the first two years of the project; (c) consultations with indigenous and non-indigenous communities to identify their concerns and interest in project-related activities; and (d) dissemination of information about the project in local languages.

12. INBio will take the lead in putting together a commission to analyze the issue of indigenous knowledge, and will present their findings to the Government and society. The project will support stakeholder consultations and the organization of a Commission on the Use of Indigenous Knowledge and the Sharing of Benefits. The Project would finance: (a) formation of the Commission at the midpoint of the project, after the stakeholder analysis and early consultations have been completed; (b) an analysis of international best practice on the use of indigenous knowledge and sharing of benefits; (c) a consultant to draft a proposal for consideration by the Commission; (d) meetings of the Commission and their consultations with stakeholders; and (e) presentation of the final report.

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Incremental Costs and Global Environmental Benefits

Context and Broad Development Goals

1. For centuries, biodiversity has provided fuels, medicines, materials for shelter, food and energy for human beings. Examples of biodiversity uses are varied and the benefits derived are interconnected. And yet, biodiversity is threatened in many countries. The protection it receives at the national level is often much less than what would be justified by international or global interests. Costa Rica is somewhat of an exception to this trend: there is a high level of interest in Costa Rica's biodiversity at both the national and international levels.

2. New research is finding that the biological richness of Costa Rica is greater than initially thought, and, as other neighboring countries lose increasing amounts of their biodiversity, the importance of the Costa Rican "stock" of biodiversity grows. This has resulted in increasing interest in cataloguing the biological riches in Costa Rica, and finding new uses for the diversity so discovered.

3. However, it is essential to keep in mind that years of research efforts for biodiversity development may fail if the initial collection and documentation of biological material is not done properly. Problems may very well arise if material from the same species or subspecies, from the same environment or even from the same location, are not available for further investigation. Correct identification of species, and understanding of their natural history, is the starting point for this research. Accurate scientific documentation of the collection of specimens is necessary in order to return to the original source of promising material. The proposed GEF project is designed, along with other sources of funds including those from the Government of Costa Rica, to meet this need.

Identifying the Baseline Scenario

4. The proposed "Biodiversity Resources Development Project" is designed to implement intensive collection activities for four important taxa in five different Conservation Areas. The reasons for the selection of these taxa and the chosen sites are given elsewhere in this submission. Our task here is to assess the benefits and costs of the proposed project and the incremental costs that justify GEF involvement. Simply stated, the GEF funds incremental project costs that are not offset by incremental *national* benefits -- that is, the GEF can only fund those costs that produce global benefits beyond the borders of Costa Rica. To determine the incremental costs of the activity, one must examine the benefits and costs of the baseline scenario, and compare these to the "with-project" scenario, identify the additional costs of the project and deduct any additional national benefits.

5. ***National Costs:*** The baseline scenario comprises presently on-going conservation-related activities in the five selected Conservation Areas and inventory-related efforts managed by INBio at 25 to 30 individual sites located within protected areas in the five selected Conservation Areas. For the baseline scenario, total costs associated with the conservation, park maintenance, and special programs (for example, biology education for children, research, or fire control) for the five Conservation Areas were approximately US$ 3.00 million in 1996. Income from the same protected areas for that period was about US$ 500,000, largely from user fees from visitors (about US$ 355,000), and some limited support from park endowment funds that exist for three of the five Conservation Areas (a total of roughly another US$ 150,000 per year). In 1996, INBio's budget was about US$ 3.4 million and approximately 10 percent of this was due to activities directly related to inventorying activities in the five selected Conservation Areas, or a total of about US$ 350,000. (The 10 percent was determined by examining various line items in INBio's budget and deciding the share attributable to activities in the selected sites.) Total annual costs associated with the five sites in the mid-1990s were thus about US$ 3.35 million (US$ 3.0 million for conservation purposes for the five Conservation Areas; US$ 0.35 million from INBio for inventory-related work).

6. ***National Benefits.*** The directly measured national benefits under the baseline scenario are estimated to total about US$ 1.1 million per year. Although it is difficult to estimate these benefits precisely, the US$ 1.1 million figure is composed of three components: First, a rough 'guesstimate' of park entry fees and net economic rents from tourist revenue, totals some US$ 0.7 million, including benefits from both national visitors (US$ 0.3 million) and foreign visitors (US$ 0.4 million). Second, commercial agreements between INBio and chemical and pharmaceutical companies such as Merck Co., yielded US$ 0.4 million due to activities associated with biodiversity collection in four of the selected Conservation Areas. Finally, income derived from training workshops given by INBio represented approximately US$ 0.02 million. Of these benefits one could argue that the admission fees should not be included since they are largely independent of any INBio activities ("scientific tourism" is a very small share of the total). This would further reduce the estimate of national benefits from the proposed project but then one would also have to remove those park management costs that were not directly linked to biodiversity prospecting. Since this is difficult to do, we leave the numbers as presented.

7. Note that these estimates are annual gross benefits at the national level and that these estimates do not include any estimate of ecosystem benefits -- e.g. watershed protection, flood control, potable water supply or others -- provided by the existence of protected areas. Although potentially important, Costa Rica has already made the decision to protect theses areas. Also, the GEF project is about biodiversity resource development, not whether or not these conservation areas should be protected in the first place. The working assumption is that the direct (largely tourism) and indirect (largely ecosystem services) benefits of the protected areas exceed the costs of protection and hence continued protection of conservation areas is justified.

8. If one considers the biodiversity resource development component separately, the estimates of benefits (largely from bioprospecting agreements) are about equal to INBio's current expenditures in those areas. Thus the present levels of activities, both of biodiversity resource

development and for protection of conservation areas, are at a level where costs are roughly balanced by expected benefits.

9. ***Baseline Scenario***. The Baseline Scenario consists of maintaining conservation programs, inventory activities, and sustainable use applications at the levels described in the historical baseline *over the seven-year project period.* The full Baseline Scenario, therefore, includes more than just expenses directly linked to collection activities in the five Conservation Areas. Since INBio is the implementing agency, a number of institutional investments (e.g. framework development, sustainable uses development, institutional strengthening) are also included in the baseline since they form the structure upon which the GEF alternative is based.

10. The full cost of implementing the Baseline Scenario over seven years is estimated as US$ 32.9 million and consists of the following components: (a) ***biodiversity conservation at the five Conservation Areas:*** US$ 21.0 million; (b) ***framework development:*** US$ 0.5 million; (c) ***biodiversity inventory activities:*** US$ 5.5 million; (d) ***sustainable use applications:*** US$ 3.1 million; and (e) ***INBio institutional strengthening:*** US$ 2.8 million. (Note that these figures are for the entire seven year period of the project and are not discounted. Although a more formal economic analysis would enter each expense in the year that it occurred and discount the yearly expenditures to arrive at the present value of expenditures over the seven year period, we have not done that here and use the simpler undiscounted approach for both the baseline and the GEF alternative.)

11. Implementation of the Baseline Scenario would result in the continued level of collection and inventorying activities at selected sites. It is unlikely that the INBio teams would be able to complete the expected expanded inventories of many taxonomic groups nor develop "fast-track" methodologies for broader application. Testing these methodologies on an appropriate scale (several taxa simultaneously) would not be possible without a substantial input of additional financial and human resources.

Global Environmental Objectives and the GEF Alternative

12. The global environment objective of the project is to demonstrate the benefits of concentrated collection of biological material in a small number of sites and to develop a cost-effective methodology to do this. The proposed project, which is limited in scope to an inventory of four major taxonomic groups at various sites within the five Conservation Areas, would contribute to the development of the inventory by establishing the framework for such inventories, increasing human capacity, and developing applications which illustrate the benefits to be derived from the enhanced knowledge base provided through biodiversity inventories. An added and very important dimension of the proposed project is the direct linking of collection activities to observed demand for educational, conservation, or commercial purposes.

13. ***Costs of the GEF Alternative***: The GEF Alternative would permit SINAC and INBio to undertake a more ambitious program on an accelerated timetable that would address the global biodiversity objectives outlined above.

14. The scope and costs of implementing the GEF Alternative over the seven year period are as follows: (a) park management costs for protection and biodiversity conservation in the five conservation areas: US$ 21.0 million (same as in Baseline); (b) framework development: establish and monitor a framework for collection and cataloguing of species (US$ 1.3 million); (c) biodiversity inventory activities: undertake inventories of 4 taxonomic groups (US$ 12.5 million); (d) sustainable use applications: test potential revenue and non-revenue generating applications of the emerging biodiversity knowledge (US$ 4.0 million); and (e) INBio institutional strengthening: increase institutional capacity to manage the scaling up of biodiversity development (US$ 4.1 million). Projected over the seven-year life of the project, this totals US$ 42.9 million.

15. ***Additional National Benefits***. GEF support would make possible a level of activity that would not be possible under either the Baseline Scenario or the Extended Baseline Scenario, thereby helping to provide an essential body of knowledge for conservation and sustainable use of tropical biodiversity. The expected additional benefits to Costa Rica accruing from implementation of the GEF Alternative are modest. Additional tourism will be limited and is estimated to yield yearly benefits of US$ 0.07 million. In addition, new contracts from drug firms to support bioprospecting could yield between US$ 0.06 million and US$ 0.4 million, depending on how many new contracts are obtained each year. Using the conservative estimate of one new bioprospecting contract over the project period, the additional benefit to Costa Rica would be about US$ 0.06 million per year. In sum, the expected incremental national level benefits are approximately US$ 0.13 million per year, or about US$ 0.9 million over the seven year life of the project. These national benefits are far short of the additional costs and less even than the Costa Rican contribution to the GEF project.

16. ***Incremental Costs***: The total cost of the Baseline Scenario for the selected sites and taxa over the seven years of the project is estimated at US$ 32.90 million, and the total cost of the GEF Alternative is estimated at US$ 42.90 million. Note that conservation management costs are the same under both scenarios (as are the implicit, but unspecified, value of ecosystem services). The details of the Baseline and the GEF Alternative are presented in the attached Incremental Cost Matrix.

17. The incremental cost of the GEF Alternative is estimated at US$ 10.00 million, of which international taxonomists would contribute US$ 3.0 million (for in-kind services) and GEF would provide funding of US$ 7.0 million. The analysis of costs and benefits demonstrates that the request for US$ 7.00 million of incremental costs to be provided by GEF funding are justified since the modest additional national benefits identified (estimated at US$ 0.9 million) are more than offset by the contribution from INBio and SINAC of US$ 1.0 million.

Complementary Financing

18. As mentioned in the project document, other donors are actively involved in providing additional resources to support biodiversity resource development in Costa Rica. In particular, the governments of Canada, Norway and the Netherlands are all assisting INBio to support a broad range of biodiversity collection-related activities, including detailed collection at the same conservation areas for an expanded number of taxa. Associated investments in buildings, training,

and consultation are also being supported. Canadian assistance is being used to develop bioprospecting laboratory facilities at INBio and for consultation and work with indigenous peoples. The total of these other sources of support is some $13.2 million over a period of two to five years. Of this amount about $4.7 million are directly linked to the collecting and cataloguing activities related to the four taxa included in the GEF project. The Dutch resources are also supporting collection and processing of materials for five other taxa in the same areas.

Incremental Cost Matrix

Component Sector	Cost Category	US$ Million	Domestic Benefit	Global Benefit
Biodiversity Conservation at Five Conservation Areas	Baseline	21.0	Revenues generated from ecotourism & scientific tourism.	Conservation of globally significant biodiversity in the five Conservation Areas
	GEF Alternative	21.0	Additional domestic benefit of US$ 0.5 expected.	Same as above.
	Incremental	0		
Framework	Baseline	0.50	Initiation of framework development for collection and cataloguing activities	
	GEF Alternative	1.30		Development of full framework and protocols for collection and cataloguing activities, which may be applied globally reflecting both scientific and demand aspects
	Incremental	0.80		
Biodiversity Inventory	Baseline	5.50	Increased knowledge for commercial purposes	
	GEF Alternative	12.50	Same as above.	Tested cost-effective methodologies and best practices for undertaking biodiversity inventories which may be applied globally; increased understanding of the inter-relationships and inter-linkages between biodiversity and ecosystem functioning
	Incremental	7.00		
Sustainable Uses of Biodiversity	Baseline	3.10	Revenues created from commercial agreements; revenues created from training workshops.	
	GEF Alternative	4.00	Additional domestic benefit of US$ 0.4 expected	Increased understanding of the role biodiversity plays in sustainable development
	Incremental	0.90		
Institutional Strengthening	Baseline	2.80		
	GEF Alternative	4.10		Increased capacity to coordinate project activities aimed at protecting globally-significant biodiversity and deriving methodologies for undertaking biodiversity inventories
	Incremental	1.30		
Totals	**Baseline**	**32.90**		
	GEF Alternative	**42.90**		
	Incremental	**10.00**		
	GEF funds:	**7.00**		
	other sources:	**3.00**	**in-kind taxonomists - 3.00**	

Appendix 1

Preliminary Estimates of Global Benefits

1. Although not required to secure GEF support, a preliminary effort has been made to estimate some of the potential global benefits from the GEF-supported initiative. Although these are very much "back of the envelope" type estimates, it is useful and important to determine that there is some potential global benefit that justifies commitment of GEF resources. Since the GEF project is largely about develop of methodologies and techniques for in-depth inventorying of biological resources, and since the dissemination of this learning is an important component of the project's outputs, the potential benefits of this learning to other countries is substantial. Among a number of these potential global benefits the following three items have been identified:

(a) Avoided costs of developing bioinventory methodologies. By pioneering the development of bioinventory methodologies that use locally trained parataxonomists along with skilled professionals, and that better reflect demand by potential users, other countries can benefit from Costa Rica s experience. If 15 tropical countries can adapt the Costa Rican methodologies, and avoid one-half of the development costs, this represents a savings of US$ 8.6 million over the life of the project (US$ 1.15 x 0.5 x 15), equivalent to US$ 1.2 million on an annual basis.

(b) Avoided costs of developing an information system. Using a similar approach, the estimate of savings to other countries from adapting the systems developed in Costa Rica amounts to US$ 8.3 million over the life of the project (US$ 1.2 million on an annual basis). This is based on 15 countries enjoying a 70 percent savings in putting in place an information system that cost Costa Rica US$ 1.84 million to develop (US$ 1.84 x 0.3 x 15).

(c) Additional bioprospecting contracts. If each of these 15 countries also realizes on additional bioprospecting contract worth US$ 0.5 million (a modest sum), this will produce a value of US$ 7.5 million, equivalent to almost US$ 1.1 million on an annual basis.

2. Any of these three global benefits is sufficient by itself to justify the GEF component (that is, each is over US$ 1.0 million per year against average GEF costs of US$ 1.0 million per year). Hence, since the Costa Rican contribution to the GEF activity (both additional moneys and the present subsidy for protected area conservation) clearly exceeds any estimate of additional national benefits from the new activity, the entire amount of the proposed GEF component is suitable for GEF funding. This analysis of global benefits does not take into account many other potential benefits from discoveries that result, or willingness-to-pay to conserve Costa Rica's rich biological resources; these would only increase the level of global benefits.

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Components Project Cost Summary

	(Colones)			(US$)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
Inventory Framework	74,639,040.0	86,679,360.0	161,318,400.0	310,996.0	361,164.0	672,160.0	54	7
Biodiversity Inventory								
Collection Activities	217,153,440.0	82,407,360.0	299,560,800.0	904,806.0	343,364.0	1,248,170.0	28	13
Cataloging Activities	495,793,920.0	940,781,280.0	1,436,575,200.0	2,065,808.0	3,919,922.0	5,985,730.0	65	61
Subtotal Biodiversity Inventory	712,947,360.0	1,023,188,640.0	1,736,136,000.0	2,970,614.0	4,263,286.0	7,233,900.0	59	73
Biodiversity Uses and Applications	133,977,360.0	63,293,040.0	197,270,400.0	558,239.0	263,721.0	821,960.0	32	8
Institutional Strengthening	258,262,560.0	18,555,840.0	276,818,400.0	1,076,094.0	77,316.0	1,153,410.0	7	12
	1,179,826,320.0	1,191,716,880.0	2,371,543,200.0	4,915,943.0	4,965,487.0	9,881,430.0	50	100
Physical Contingencies	5,687,244.0	9,403,956.0	15,091,200.0	23,696.9	39,183.2	62,880.0	62	1
Price Contingencies	1,201,181,567.4	1,210,989,695.5	2,412,171,262.9	524,483.0	531,036.2	1,055,519.2	50	11
	2,386,695,131.4	2,412,110,531.5	4,798,805,662.9	5,464,122.8	5,535,706.3	10,999,829.2	50	111

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Expenditure Accounts Project Cost Summary

	(Colones)			(US$)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
Investment Costs								
Civil Works	12,000,000.0	-	12,000,000.0	50,000.0	-	50,000.0	-	1
Goods								
Field Equipment	33,633,600.0	14,414,400.0	48,048,000.0	140,140.0	60,060.0	200,200.0	30	2
Computers /a	3,762,720.0	25,181,280.0	28,944,000.0	15,678.0	104,922.0	120,600.0	87	1
Lab equipment /b	4,642,560.0	31,069,440.0	35,712,000.0	19,344.0	129,456.0	148,800.0	87	2
Vehicles	3,744,000.0	25,056,000.0	28,800,000.0	15,600.0	104,400.0	120,000.0	87	1
Office Equipment and furniture /c	35,460,000.0	35,460,000.0	70,920,000.0	147,750.0	147,750.0	295,500.0	50	3
Publications and Promotion Material	8,502,000.0	56,898,000.0	65,400,000.0	35,425.0	237,075.0	272,500.0	87	3
Subtotal Goods	89,744,880.0	188,079,120.0	277,824,000.0	373,937.0	783,663.0	1,157,600.0	68	12
Consultants and Technical Assistance								
International Consultants	-	184,896,000.0	184,896,000.0	-	770,400.0	770,400.0	100	8
National Consultants	651,624,000.0	87,000,000.0	738,624,000.0	2,715,100.0	362,500.0	3,077,600.0	12	31
Taxonomists /d	-	642,096,000.0	642,096,000.0	-	2,675,400.0	2,675,400.0	100	27
Subtotal Consultants and Technical Assistance	651,624,000.0	913,992,000.0	1,565,616,000.0	2,715,100.0	3,808,300.0	6,523,400.0	58	66
Training /e	139,508,640.0	89,645,760.0	229,154,400.0	581,286.0	373,524.0	954,810.0	39	10
Total Investment Costs	892,877,520.0	1,191,716,880.0	2,084,594,400.0	3,720,323.0	4,965,487.0	8,685,810.0	57	88
Recurrent Costs								
Operation and Maintenance Equipment	66,316,800.0	-	66,316,800.0	276,320.0	-	276,320.0	-	3
Salaries	158,160,000.0	-	158,160,000.0	659,000.0	-	659,000.0	-	7
Other recurrent costs /f	62,472,000.0	-	62,472,000.0	260,300.0	-	260,300.0	-	3
Total Recurrent Costs	286,948,800.0	-	286,948,800.0	1,195,620.0	-	1,195,620.0	-	12
Total BASELINE COSTS	1,179,826,320.0	1,191,716,880.0	2,371,543,200.0	4,915,943.0	4,965,487.0	9,881,430.0	50	100
Physical Contingencies	5,687,244.0	9,403,956.0	15,091,200.0	23,696.9	39,183.2	62,880.0	62	1
Price Contingencies	1,201,181,567.4	1,210,989,695.5	2,412,171,262.9	524,483.0	531,036.2	1,055,519.2	50	11
Total PROJECT COSTS	2,386,695,131.4	2,412,110,531.5	4,798,805,662.9	5,464,122.8	5,535,706.3	10,999,829.2	50	111

\a Incluye pcs, impresoras, redes, software
\b Incluye cristalería, equipo óptico, materiales y reactivos
\c Incluye equipo de comunicación y publicaciones.
\d Incluye el costo de honorarios que los Taxonomos Internacionales aportan al proyecto en forma voluntaria.
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\f Incluye gastos de viaje de curadores, coordinadores de investigacion, personal de la UCP, utiles de oficina y materiales de la UCP.

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Project Components by Year -- Base Costs
(US$)

	Base Cost							
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Total**
Inventory Framework	45,780.0	129,980.0	109,980.0	133,980.0	92,480.0	92,480.0	67,480.0	672,160.0
Biodiversity Inventory								
Collection Activities	340,440.0	235,180.0	236,980.0	173,580.0	86,580.0	87,330.0	88,080.0	1,248,170.0
Cataloging Activities	454,380.0	973,190.0	877,190.0	951,940.0	955,410.0	890,410.0	883,210.0	5,985,730.0
Subtotal Biodiversity Inventory	794,820.0	1,208,370.0	1,114,170.0	1,125,520.0	1,041,990.0	977,740.0	971,290.0	7,233,900.0
Biodiversity Uses and Applications	77,200.0	154,620.0	121,700.0	124,620.0	109,700.0	119,620.0	114,500.0	821,960.0
Institutional Strengthening	145,080.0	266,380.0	152,205.0	144,705.0	154,680.0	145,180.0	145,180.0	1,153,410.0
Total BASELINE COSTS	1,062,880.0	1,759,350.0	1,498,055.0	1,528,825.0	1,398,850.0	1,335,020.0	1,298,450.0	9,881,430.0
Physical Contingencies	6,695.0	21,015.0	7,035.0	9,100.0	8,735.0	4,450.0	5,850.0	62,880.0
Price Contingencies								
Inflation								
Local	56,399.4	258,311.8	438,779.3	650,566.1	847,165.4	1,169,869.8	1,489,739.7	4,910,831.6
Foreign	7,174.2	41,307.7	55,112.6	84,101.7	100,057.4	112,177.7	131,105.0	531,036.2
Subtotal Inflation	63,573.6	299,619.5	493,891.9	734,667.8	947,222.7	1,282,047.6	1,620,844.7	5,441,867.8
Devaluation	-48,064.7	-221,425.0	-382,223.0	-572,653.9	-753,819.4	-1,053,821.3	-1,354,341.5	-4,386,348.7
Subtotal Price Contingencies	15,508.8	78,194.5	111,668.9	162,014.0	193,403.4	228,226.2	266,503.3	1,055,519.2
Total PROJECT COSTS	1,085,083.8	1,858,559.5	1,616,758.9	1,699,939.0	1,600,988.4	1,567,696.2	1,570,803.3	10,999,829.2
Taxes	30,604.6	69,554.6	38,873.0	47,517.8	49,311.3	37,164.2	42,962.3	315,987.8
Foreign Exchange	501,944.6	981,817.7	797,928.3	882,440.7	828,272.3	770,553.7	772,749.0	5,535,706.3

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Project Components by Year -- Totals Including Contingencies
(US$)

	Totals Including Contingencies							
	1998	1999	2000	2001	2002	2003	2004	Total
Inventory Framework	46,646.7	135,897.6	118,354.7	148,978.5	105,414.3	108,471.3	81,508.8	745,272.0
Biodiversity Inventory								
Collection Activities	350,915.6	247,388.3	256,496.1	193,192.3	99,329.2	103,087.6	106,980.3	1,357,389.4
Cataloging Activities	461,577.2	1,023,397.0	944,420.8	1,058,136.5	1,092,655.5	1,044,463.7	1,066,804.6	6,691,455.3
Subtotal Biodiversity Inventory	812,492.8	1,270,785.3	1,200,916.9	1,251,328.8	1,191,984.7	1,147,551.3	1,173,784.9	8,048,844.7
Biodiversity Uses and Applications	78,760.7	164,803.7	133,586.8	139,682.6	127,115.9	141,757.1	140,665.4	926,372.1
Institutional Strengthening	147,183.7	287,072.9	163,900.6	159,949.1	176,473.4	169,916.6	174,844.1	1,279,340.3
Total PROJECT COSTS	1,085,083.8	1,858,559.5	1,616,758.9	1,699,939.0	1,600,988.4	1,567,696.2	1,570,803.3	10,999,829.2

Costa Rica

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Project Components by Year – Investment/Recurrent Costs

(US$)

	Totals Including Contingencies							
	1998	1999	2000	2001	2002	2003	2004	Total
Inventory Framework								
Investment Costs	46,646.7	135,897.6	118,354.7	148,978.5	105,414.3	108,471.3	81,508.8	745,272.0
Subtotal Inventory Framework	46,646.7	135,897.6	118,354.7	148,978.5	105,414.3	108,471.3	81,508.8	745,272.0
Biodiversity Inventory								
Collection Activities								
Investment Costs	327,845.8	215,005.9	221,241.0	162,751.1	72,679.9	74,787.6	76,956.5	1,151,267.9
Recurrent Costs	23,069.7	32,382.4	35,255.1	30,441.2	26,649.3	28,299.9	30,023.9	206,121.5
Subtotal Collection Activities	350,915.6	247,388.3	256,496.1	193,192.3	99,329.2	103,087.6	106,980.3	1,357,389.4
Cataloging Activities								
Investment Costs	428,321.9	952,191.2	863,630.6	966,437.0	992,075.1	940,966.5	960,306.0	6,103,928.4
Recurrent Costs	33,255.3	71,205.8	80,790.1	91,699.5	100,580.4	103,497.2	106,498.6	587,526.9
Subtotal Cataloging Activities	461,577.2	1,023,397.0	944,420.8	1,058,136.5	1,092,655.5	1,044,463.7	1,066,804.6	6,691,455.3
Subtotal Biodiversity Inventory	812,492.8	1,270,785.3	1,200,916.9	1,251,328.8	1,191,984.7	1,147,551.3	1,173,784.9	8,048,844.7
Biodiversity Uses and Applications								
Investment Costs	78,760.7	164,803.7	133,586.8	139,682.6	127,115.9	141,757.1	140,665.4	926,372.1
Subtotal Biodiversity Uses and Applications	78,760.7	164,803.7	133,586.8	139,682.6	127,115.9	141,757.1	140,665.4	926,372.1
Institutional Strengthening								
Investment Costs	81,971.6	214,750.1	88,809.0	82,679.9	96,423.2	87,544.8	90,083.6	742,262.2
Recurrent Costs	65,212.1	72,322.8	75,091.5	77,269.2	80,050.3	82,371.7	84,760.5	537,078.1
Subtotal Institutional Strengthening	147,183.7	287,072.9	163,900.6	159,949.1	176,473.4	169,916.6	174,844.1	1,279,340.3
Total PROJECT COSTS	1,085,083.8	1,858,559.5	1,616,758.9	1,699,939.0	1,600,988.4	1,567,696.2	1,570,803.3	10,999,829.2
Total Investment Costs	963,546.7	1,682,648.5	1,425,622.2	1,500,529.1	1,393,708.5	1,353,527.4	1,349,520.3	9,669,102.6
Total Recurrent Costs	121,537.1	175,911.0	191,136.7	199,409.9	207,279.9	214,168.8	221,283.0	1,330,726.6

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Expenditure Accounts by Years – Base Costs
(US$)

	Base Cost								Foreign Exchange	
	1998	1999	2000	2001	2002	2003	2004	Total	%	Amount
Investment Costs										
Civil Works	-	50,000.0	-	-	-	-	-	50,000.0	-	-
Goods										
Field Equipment	55,200.0	40,000.0	36,000.0	24,000.0	15,000.0	15,000.0	15,000.0	200,200.0	30.0	60,060.0
Computers /a	16,700.0	34,000.0	200.0	55,000.0	14,700.0	-	-	120,600.0	87.0	104,922.0
Lab equipment /b	37,500.0	111,300.0	-	-	-	-	-	148,800.0	87.0	129,456.0
Vehicles	-	60,000.0	-	-	60,000.0	-	-	120,000.0	87.0	104,400.0
Office Equipment and furniture /c	12,000.0	40,000.0	59,500.0	52,000.0	40,000.0	40,000.0	52,000.0	295,500.0	50.0	147,750.0
Publications and Promotion Material	12,500.0	35,000.0	45,000.0	51,000.0	45,000.0	34,000.0	50,000.0	272,500.0	87.0	237,075.0
Subtotal Goods	133,900.0	320,300.0	140,700.0	182,000.0	174,700.0	89,000.0	117,000.0	1,157,600.0	67.7	783,663.0
Consultants and Technical Assistance										
International Consultants	59,200.0	138,400.0	118,400.0	118,400.0	118,400.0	118,400.0	99,200.0	770,400.0	100.0	770,400.0
National Consultants	378,300.0	517,800.0	517,800.0	479,300.0	394,800.0	394,800.0	394,800.0	3,077,600.0	11.8	362,500.0
Taxonomists /d	205,800.0	411,600.0	411,600.0	411,600.0	411,600.0	411,600.0	411,600.0	2,675,400.0	100.0	2,675,400.0
Subtotal Consultants and Technical Assistance	643,300.0	1,067,800.0	1,047,800.0	1,009,300.0	924,800.0	924,800.0	905,600.0	6,523,400.0	58.4	3,808,300.0
Training /e	165,880.0	152,740.0	131,620.0	157,120.0	117,110.0	138,230.0	92,110.0	954,810.0	39.1	373,524.0
Total Investment Costs	943,080.0	1,590,840.0	1,320,120.0	1,348,420.0	1,216,610.0	1,152,030.0	1,114,710.0	8,685,810.0	57.2	4,965,487.0
Recurrent Costs										
Operation and Maintenance Equipment	15,460.0	33,210.0	35,635.0	39,585.0	50,060.0	50,810.0	51,560.0	276,320.0	-	-
Salaries	76,000.0	88,000.0	95,000.0	100,000.0	100,000.0	100,000.0	100,000.0	659,000.0	-	-
Other recurrent costs /f	28,340.0	47,300.0	47,300.0	40,820.0	32,180.0	32,180.0	32,180.0	260,300.0	-	-
Total Recurrent Costs	119,800.0	168,510.0	177,935.0	180,405.0	182,240.0	182,990.0	183,740.0	1,195,620.0	-	-
Total BASELINE COSTS	1,062,880.0	1,759,350.0	1,498,055.0	1,528,825.0	1,398,850.0	1,335,020.0	1,298,450.0	9,881,430.0	50.3	4,965,487.0
Physical Contingencies	6,695.0	21,015.0	7,035.0	9,100.0	8,735.0	4,450.0	5,850.0	62,880.0	62.3	39,183.2
Price Contingencies										
Inflation										
Local	56,399.4	258,311.8	438,779.3	650,566.1	847,165.4	1,169,869.8	1,489,739.7	4,910,831.6	-	-
Foreign	7,174.2	41,307.7	55,112.6	84,101.7	100,057.4	112,177.7	131,105.0	531,036.2	100.0	531,036.2
Subtotal Inflation	63,573.6	299,619.5	493,891.9	734,667.8	947,222.7	1,282,047.6	1,620,844.7	5,441,867.8	9.8	531,036.2
Devaluation	-48,064.7	-221,425.0	-382,223.0	-572,653.9	-753,819.4	-1,053,821.3	-1,354,341.5	-4,386,348.7	-	-
Subtotal Price Contingencies	15,508.8	78,194.5	111,668.9	162,014.0	193,403.4	228,226.2	266,503.3	1,055,519.2	50.3	531,036.2
Total PROJECT COSTS	1,085,083.8	1,858,559.5	1,616,758.9	1,699,939.0	1,600,988.4	1,567,696.2	1,570,803.3	10,999,829.2	50.3	5,535,706.3
Taxes	30,604.6	69,554.6	38,873.0	47,517.8	49,311.3	37,164.2	42,962.3	315,987.8	-	-
Foreign Exchange	501,944.6	981,817.7	797,928.3	882,440.7	828,272.3	770,553.7	772,749.0	5,535,706.3	-	-

\a Incluye pcs, impresoras, redes, software
\b Incluye cristalería, equipo óptico, materiales y reactivos
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\e Incluye viajes, alimentación, materiales.
\f Incluye gastos de viaje de curadores, coordinadores de investigacion, personal de la UCP, utiles de oficina y materiales de la UCP.

Costa Rica

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Expenditure Accounts by Years -- Totals Including Contingencies

(US$)

	Totals Including Contingencies							
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Total**
Investment Costs								
Civil Works	-	57,415.6	-	-	-	-	-	57,415.6
Goods								
Field Equipment	58,800.4	43,844.7	40,604.5	27,854.7	17,914.1	18,433.6	18,968.1	226,420.1
Computers /a	17,789.3	37,268.0	225.6	63,833.7	17,555.8	-	-	136,672.3
Lab equipment /b	39,945.9	121,997.8	-	-	-	-	-	161,943.7
Vehicles	-	65,767.0	-	-	71,656.3	-	-	137,423.2
Office Equipment and furniture /c	12,782.7	43,844.7	67,110.3	60,351.9	47,770.8	49,156.2	65,756.2	346,772.8
Publications and Promotion Material	13,315.3	38,364.1	50,755.7	59,191.3	53,742.2	41,782.8	63,227.1	320,378.4
Subtotal Goods	142,633.6	351,086.1	158,696.1	211,231.6	208,639.1	109,372.5	147,951.5	1,329,610.6
Consultants and Technical Assistance								
International Consultants	60,058.4	144,478.6	127,184.6	130,872.9	134,668.3	138,573.6	119,469.2	855,305.6
National Consultants	383,785.4	540,542.0	556,217.8	529,792.3	449,045.9	462,068.2	475,468.2	3,396,919.6
Taxonomists /d	208,784.1	429,677.7	442,138.3	454,960.3	468,154.2	481,730.7	495,700.9	2,981,146.2
Subtotal Consultants and Technical Assistance	652,627.9	1,114,698.3	1,125,540.7	1,115,625.5	1,051,868.3	1,082,372.5	1,090,638.2	7,233,371.4
Training /e	168,285.3	159,448.4	141,385.4	173,671.9	133,201.0	161,782.4	110,930.5	1,048,705.0
Total Investment Costs	963,546.7	1,682,648.5	1,425,622.2	1,500,529.1	1,393,708.5	1,353,527.4	1,349,520.3	9,669,102.6
Recurrent Costs								
Operation and Maintenance Equipment	15,684.2	34,668.6	38,278.9	43,755.1	56,938.3	59,467.3	62,095.1	310,887.5
Salaries	77,102.0	91,865.0	102,048.4	110,534.6	113,740.1	117,038.5	120,432.7	732,761.3
Other recurrent costs /f	28,750.9	49,377.4	50,809.4	45,120.2	36,601.6	37,663.0	38,755.2	287,077.8
Total Recurrent Costs	121,537.1	175,911.0	191,136.7	199,409.9	207,279.9	214,168.8	221,283.0	1,330,726.6
Total PROJECT COSTS	1,085,083.8	1,858,559.5	1,616,758.9	1,699,939.0	1,600,988.4	1,567,696.2	1,570,803.3	10,999,829.2

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Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Disbursement Accounts by Financiers
(US$)

	INBIO		INBIO (Taxonomists)		GEF		Total			Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	For. Exch.	Taxes)	Taxes
Civil Works	7,464.0	13.0	-	-	49,951.6	87.0	57,415.6	0.5	-	49,951.6	7,464.0
Goods /a	172,849.4	13.0	-	-	1,156,761.2	87.0	1,329,610.6	12.1	899,395.8	257,365.4	172,849.4
Training and Consultants	0.0	-	2,981,146.2	36.0	5,300,930.2	64.0	8,282,076.4	75.3	4,636,310.5	3,645,765.9	-
Incremental recurrent costs	840,139.6	63.1	-	-	490,586.9	36.9	1,330,726.6	12.1	-	1,195,052.2	135,674.3
Total	1,020,453.0	9.3	2,981,146.2	27.1	6,998,230.0	63.6	10,999,829.2	100.0	5,535,706.3	5,148,135.1	315,987.8

\a Computers, lab and field equipment, office equipment and furniture, vehicles and publications.

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Components by Financiers
(US$)

	INBIO		INBIO (Taxonomists)		GEF		Total			Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	For. Exch.	Taxes)	Taxes
Inventory Framework	6,042.1	0.8	-	-	739,229.9	99.2	745,272.0	6.8	399,140.4	340,089.5	6,042.1
Biodiversity Inventory											
Collection Activities	159,077.8	11.7	-	-	1,198,311.5	88.3	1,357,389.4	12.3	367,168.9	944,057.2	46,163.2
Cataloging Activities	463,663.9	6.9	2,981,146.2	44.6	3,246,645.2	48.5	6,691,455.3	60.8	4,377,797.0	2,180,039.5	133,618.8
Subtotal Biodiversity Inventory	622,741.8	7.7	2,981,146.2	37.0	4,444,956.8	55.2	8,048,844.7	73.2	4,744,966.0	3,124,096.7	179,782.0
Biodiversity Uses and Applications	42,299.5	4.6	-	-	884,072.6	95.4	926,372.1	8.4	306,118.0	577,954.6	42,299.5
Institutional Strengthening	349,369.6	27.3	-	-	929,970.7	72.7	1,279,340.3	11.6	85,481.9	1,105,994.3	87,864.1
Total Disbursement	1,020,453.0	9.3	2,981,146.2	27.1	6,998,230.0	63.6	10,999,829.2	100.0	5,535,706.3	5,148,135.1	315,987.8

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Expenditure Accounts by Financiers
(US$)

	INBIO		INBIO (Taxonomists)		GEF		Total			Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	For. Exch.	Taxes)	Taxes
Investment Costs											
Civil Works	7,464.0	13.0	-	-	49,951.6	87.0	57,415.6	0.5	-	49,951.6	7,464.0
Goods											
Field Equipment	29,434.6	13.0	-	-	196,985.5	87.0	226,420.1	2.1	67,926.0	129,059.5	29,434.6
Computers /a	17,767.4	13.0	-	-	118,904.9	87.0	136,672.3	1.2	118,904.9	-	17,767.4
Lab equipment /b	21,052.7	13.0	-	-	140,891.0	87.0	161,943.7	1.5	140,891.0	-	21,052.7
Vehicles	17,865.0	13.0	-	-	119,558.2	87.0	137,423.2	1.2	119,558.2	-	17,865.0
Office Equipment and furniture /c	45,080.5	13.0	-	-	301,692.3	87.0	346,772.8	3.2	173,386.4	128,305.9	45,080.5
Publications and Promotion Material	41,649.2	13.0	-	-	278,729.2	87.0	320,378.4	2.9	278,729.2	-	41,649.2
Subtotal Goods	172,849.4	13.0	-	-	1,156,761.2	87.0	1,329,610.6	12.1	899,395.8	257,365.4	172,849.4
Consultants and Technical Assistance											
International Consultants	-	-	-	-	855,305.6	100.0	855,305.6	7.8	855,305.6	-	-
National Consultants	-	-	-	-	3,396,919.6	100.0	3,396,919.6	30.9	389,676.8	3,007,242.8	-
Taxonomists /d	-	-	2,981,146.2	100.0	-	-	2,981,146.2	27.1	2,981,146.2	-	-
Subtotal Consultants and Technical Assistance	-	-	2,981,146.2	41.2	4,252,225.2	58.8	7,233,371.4	65.8	4,226,128.6	3,007,242.8	-
Training /e	0.0	-	-	-	1,048,705.0	100.0	1,048,705.0	9.5	410,181.9	638,523.1	-
Total Investment Costs	180,313.4	1.9	2,981,146.2	30.8	6,507,643.0	67.3	9,669,102.6	87.9	5,535,706.3	3,953,082.9	180,313.4
Recurrent Costs											
Operation and Maintenance Equipment	211,016.5	67.9	-	-	99,870.9	32.1	310,887.5	2.8	-	270,472.1	40,415.4
Salaries	459,872.8	62.8	-	-	272,888.5	37.2	732,761.3	6.7	-	637,502.4	95,259.0
Other recurrent costs /f	169,250.3	59.0	-	-	117,827.5	41.0	287,077.8	2.6	-	287,077.8	-
Total Recurrent Costs	840,139.6	63.1	-	-	490,586.9	36.9	1,330,726.6	12.1	-	1,195,052.2	135,674.3
Total Disbursement	1,020,453.0	9.3	2,981,146.2	27.1	6,998,230.0	63.6	10,999,829.2	100.0	5,535,706.3	5,148,135.1	315,987.8

\a Incluye pcs, impresoras, redes, software
\b Incluye cristalería, equipo óptico, materiales y reactivos
\c Incluye equipo de comunicación y publicaciones.
\d Incluye el costo de honorarios que los Taxonomos Internacionales aportan al proyecto en forma voluntaria.
\e Incluye viajes, alimentación, materiales.
\f Incluye gastos de viaje de curadores, coordinadores de investigacion, personal de la UCP, utiles de oficina y materiales de la UCP.

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Local/Foreign/Taxes by Financiers
(US$)

	INBIO		INBIO (Taxonomists)		GEF		Total	
	Amount	**%**	**Amount**	**%**	**Amount**	**%**	**Amount**	**%**
I. Foreign	*0.0*	-	2,981,146.2	53.9	2,554,560.2	46.1	5,535,706.3	50.3
II. Local (Excl. Taxes)	704,465.3	13.7	-	-	4,443,669.8	86.3	5,148,135.1	46.8
III. Taxes	315,987.8	100.0	-	-	-	-	315,987.8	2.9
Total Project	1,020,453.0	9.3	2,981,146.2	27.1	6,998,230.0	63.6	10,999,829.2	100.0

Costa Rica
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT
Procurement Arrangements
(US$)

Procurement Method

	International Competitive Bidding	National Competitive Bidding	Limited International Bidding	International Shopping	Local Shopping	Direct Contracting	Force Account	Consulting Services	N.B.F.	Total
Civil Works	-	-	-	-	57,415.6 (49,951.6)	-	-	-	-	57,415.6 (49,951.6)
Goods										
Equipment	348,522.4 (303,214.5)	169,420.1 (147,395.5)	136,672.3 (118,904.9)	171,910.1 (149,561.8)	45,284.0 (39,397.1)	-	-	-	-	871,808.9 (758,473.8)
Vehicles	-	-	137,423.2 (119,558.2)	-	-	-	-	-	-	137,423.2 (119,558.2)
Publications	-	-	-	28,289.4 (24,611.8)	292,089.0 (254,117.5)	-	-	-	-	320,378.4 (278,729.2)
Training and Consultants										
Consultants	-	-	-	-	-	-	-	4,341,861.7 (4,341,861.7)	2,981,146.2	7,323,007.8 (4,341,861.7)
Training	-	-	-	-	-	959,068.6 (959,068.6)	-	-	-	959,068.6 (959,068.6)
Incremental Recurrent Costs	-	-	-	-	-	-	1,330,726.6 (490,586.9)	-	-	1,330,726.6 (490,586.9)
Total	348,522.4 (303,214.5)	169,420.1 (147,395.5)	274,095.5 (238,463.1)	200,199.5 (174,173.6)	394,788.7 (343,466.2)	959,068.6 (959,068.6)	1,330,726.6 (490,586.9)	4,341,861.7 (4,341,861.7)	2,981,146.2 -	10,999,829.2 (6,998,230.0)

Note: Figures in parenthesis are the respective amounts financed by GEF

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Project Monitoring, Evaluation, and Reporting

1. The establishment of accurate monitoring and evaluation to track project performance and make adjustments is essential to effective project implementation. As indicated in the attached table, twelve indicators have been selected against which successful implementation would be measured: (a) demand-driven methodologies and protocols developed, tested, improved, and widely applied for Hymenoptera, Coleoptera, Diptera and fungi based on criteria for selection of priority taxonomic subgroups, criteria for selection of inventory sites, decisions on changes of protocol and cessation of sampling, and avoidance of overharvesting; (b) number of international scientists familiar with these methodologies and protocols and able to adopt or apply them to other national inventories through workshops, taxonomic working groups, visits to INBio, requests for inventory information; (c) recommendations developed and disseminated on the use of indigenous knowledge and the sharing of benefits; (d) number of communities or organizations located in the areas near the collection sites in the Conservation Areas that have developed mechanisms for participation or consultation in the project; (e) number of specimens of Hymenoptera, Coleoptera, Diptera and fungi identified at species level; (f) number of new species described for science; (g) incorporation of biodiversity information generated by the project into conservation management plans and programs of the protected areas in the Conservation Areas; (h) number of conservation professionals and decision makers familiar with the biodiversity information generated by the project and able to influence conservation management in their own countries; (i) development and implementation of pilot agreements with companies (pharmaceutical, ecotourism, agriculture), NGOs, community-based organizations, and universities incorporating the information generated by the project; (j) development of syllabi for training parataxonomists, technicians, and curators; (k) number of parataxonomists, technicians, and curators trained; and (l) number of voluntary taxonomic days provided by international taxonomists.

2. The Project Coordination Unit in INBio would have primary responsibility for project supervision, monitoring, and evaluation. It would be responsible for guiding project implementation through annual planning, budgeting, and reporting. In January of each year, the Project Coordination Unit would provide to the Bank an Annual Project Implementation Report, an Annual Operating Plan, Implementation Schedule, technical reports, financial reports, and procurement plans. The Project Coordination Unit would also prepare monthly accounting reports, and submit annual external audit reports. A project launch workshop would be held following effectiveness.

3. The Annual Project Implementation Report, Annual Operating Plan, and Implementation Schedule, all subject to approval by the Bank, would be prepared according to the following outline:

Annual Implementation Report

A. General Status of the Project
    1. Highlights
    2. Adherence to Annual Operating Plan and Implementation Schedule
    3. Detailed Status of Each Component
    5. Status of Recommended Actions from Previous Report
B. Project Administration
    1. Fund Flows and Budget
    2. Disbursements
    3. Procurement Experience in Relation to Procurement Plan
    4. Financial Reporting (accounts and audits)
C. Organization and Management
    1. General Monitoring and Evaluation
    2. Coordination Among INBio and Conservation Areas
D. Problems and Recommended Actions
E. Table of Key Input, Output, Outcome, and Impact Indicators
F. Table of Financial Indicators
G. Table of Disbursements
H. Table of World Bank Trust Fund Grant Agreement Covenants

Operating Plan and Implementation Schedule

A. Summary of Project Status
    1. Description of Project Components
    2. Summary of Project Status
B. Objectives for the Year
C. Proposed Activities, and for Each:
    1. Objectives
    2. Inputs and Outputs
    3. Indicators
    4. Schedule
    5. Costs
D. Summary Costs and Budgetary Allocation
E. Table of Key Input, Outputs, Outcome, and Impact Indicators
F. Implementation Schedule
G. Procurement Plan

PERFORMANCE MONITORING INDICATORS

Indicators	1998	1999	2000	2001	2002	2003	2004
	Target	*Target*	*Target*	*Target*	*Target*	*Target*	*Target*
Develop and update framework for collection							
- Demand-driven methodologies and protocols developed, tested, improved, and widely applied for Hymenoptera, Coleoptera, Diptera and fungi based on criteria for selection of priority taxonomic subgroups, criteria for selection of inventory sites, decisions on changes of protocol and cessation of sampling, and avoidance of overharvesting	4 developed	4 tested	4 tested & improved	4 tested & improved	4 tested & improved	4 tested & improved	4 final product
- Number of international scientists familiar with these methodologies and protocols and able to adopt or apply them to other national inventories [through workshops, taxonomic working groups, visits to INBio, requests for inventory information]		30	40	50	60	70	80
- Recommendations developed and disseminated on the use of indigenous knowledge and the sharing of benefits				final report			
- Number of communities or organizations located in the areas near the collection sites in the Conservation Areas that have developed mechanisms for participation or consultation in the project	10	20	30	35	40	45	50
Undertake collection and cataloguing							
- Number of specimens of Hymenoptera, Coleoptera, Diptera and fungi collected, separated at the level of morpho-species, and entered into the Biodiversity Information Management System (total)	123,600	247,200	247,200	166,400	92,200	92,200	92,200
Hymenoptera	36,500	73,000	73,000	48,600	24,300	24,300	24,300
Coleoptera	57,600	115,200	115,200	76,800	38,400	38,400	38,400
Diptera	11,500	23,000	23,000	11,500	11,500	11,500	14,400
Macro-fungi	18,000	36,000	36,000	18,000	18,000	18,000	18,000
- Number of specimens of Hymenoptera, Coleoptera, Diptera and fungi identified at species level (total)	24,700	103,800	195,700	230,000	193,400	154,500	126,700
Hymenoptera	7,300	30,700	57,800	67,600	55,200	42,800	34,100
Coleoptera	11,500	48,400	91,200	106,800	87,200	67,500	53,900
Diptera	2,300	9,600	18,200	25,200	22,000	18,300	15,500
Macro-fungi	3,600	15,100	28,500	30,400	29,000	25,900	23,200
- Number of new species described for science	150	2,100	3,900	4,600	3,900	3,100	2,500

Indicators	1998 Target	1999 Target	2000 Target	2001 Target	2002 Target	2003 Target	2004 Target
Develop and test potential applications							
- Incorporation of biodiversity information generated by the project into conservation management plans and programs of the protected areas in the Conservation Areas		5	10	15	20	25	30
- Number of publications:							
Educational		2	2	2	2	2	2
Scientific		4	4	4	4	4	4
Field Guides		2	2	2	2	2	2
- Number of conservation professionals and decision makers familiar with the biodiversity information generated by the project and able to influence conservation management in their own countries		32		64		96	
- Development and implementation of pilot agreements with companies (pharmaceutical, ecotourism, agriculture), NGOs, community-based organizations, and universities incorporating the information generated by the project		2	5	10	10	10	10
Strengthening institutional capacity							
- Fungi laboratory established and operating		operational					
- Development of syllabi for training parataxonomists, technicians, and curators	developed & improved	revised & improved	revised & improved	revised & improved	revised & improved	revised & improved	revised & improved
- Number of parataxonomists, technicians, and curators trained	26	26	26	22	19	19	19
Project implementation							
- Annual expenditures of GEF for project activities	833,449	1,340,504	1,039,308	1,097,872	929,523	889,703	867,778
- Annual expenditures of counterpart funds for project activities	42,849	88,287	135,312	147,106	203,311	196,261	207,324
- Number of voluntary taxonomic days	600	1,200	1,200	1,200	1,200	1,200	1,200

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Procurement and Disbursement Arrangements

Procurement

Procurement of works and goods 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 Credit (*January 1995, revised August 1996, and September 1997). Consultant services to provide technical assistance and training to the project would be procured in accordance with Guidelines for the *Use of Consultants by World Bank Borrowers and the World Bank as Executing Agency* (January 1997, revised September 1997).

The GEF Grant would finance civil works, goods (including vehicles), technical assistance, consultants and studies, training, and incremental recurrent costs. INBio has managed numerous donor projects, and its Project Implementation Unit would be responsible for procurement arrangements.

Goods to be procured under the project consist of vehicles, computers, field equipment, publications, office equipment, and furniture. Procurement arrangements are shown in table A. Vehicles would be procured through Limited International Bidding among suppliers with established maintenance and service records in Costa Rica. Standard bidding documents issued satisfactory to the Bank would be used for all National Competitive Bidding.

Civil works consist of the construction of a laboratory for fungi and the remodeling of offices in INBio which would be procured under lump-sum fixed price contracts on the basis of quotations from at least three qualified domestic contractors.

Consultant Services are expected to cost approximately US$4.3 million and would be procured in accordance with the Bank's procedures for hiring of consultants (see Table A).

Monitoring of procurement practices would be carried out to ensure consistency with Bank guidelines, the operational manual and MIS. Bank prior review thresholds are shown in table B. All International Competitive Bidding and Limited International Bidding packages would require prior review, as well as consultant contracts with individuals estimated to cost above US$10,000 and with firms above US$100,000.

Disbursement

Allocation of loan proceeds: Disbursements would be made against the categories of expenditures indicated in Table C. The proceeds of the Loan are expected to be disbursed over a period of seven years. The project is expected to be completed by December 2004 and the Loan Closing Date would be June 2005.

Use of Statements of Expenditures: Disbursements would be based on Statements of Expenditures (SOEs) for: (a) goods estimated to cost less than US$150,000; (b) works; (c) service contracts for consultancies valued below US$100,000 for firms and US$10,000 for individual consultants; (d) training expenditures; and (e) incremental recurrent costs. Documentation supporting SOEs would be retained by INBIO, and made available for examination by Bank staff as requested. All other disbursement requests would be accompanied by full documentation.

Special Account: The Special Account would be maintained in US dollars in a commercial bank acceptable to the Bank. The authorized allocation, sufficient for financing four months of eligible expenditures, would be US$350,000.

Table A: Summary of Proposed Procurement Arrangements
(US$)

CATEGORY	ICB	NCB	OTHER	N.B.F.	Total
1. Civil Works 1/	-	-	57,415.6	-	57,415.6
			(49,951.6)		(49,951.6)
2. Goods					
Equipment 2/	348,522.4	169,420.1	213,166.4	-	871,808.9
	(303,214.5)	(147,395.5)	(162,453.8)		(758,473.8)
Vehicles 3/	-		137,423.2	-	137,423.2
			(119,558.2)		(119,558.2)
Publications 4/	-		320,378.4	-	320,378.4
			(278,729.2)		(278,729.2)
3. Training and Consultants					
Consultants 5/	-		4,341,862.0	2,981,146.2	7,323,008.0
			(4,341,862.0)		(4,341,862.0)
Training 6/	-		959,068.6	-	959,068.6
			(959,068.6)		(959,068.6)
4. Incremental Recurrent Costs 7/	-		1,330,727.0	-	1,330,727.0
			(490,586.9)		(490,586.9)
Total	348,522.4	169,420.1	7,670,171.0	2,981,146.2	10,999,829.0
	(303,214.5)	(147,395.5)	(6,695,016.0)	-	(6,998,230.0)

Note: Figures in parenthesis are the respective amounts financed by GEF. Precise amount of the Grant is US$ 7.0 million equivalent.

1/ Lump-sum fixed price contracts.
2/ NCB for field equipment, office equipment and furniture up to an aggregate amount of US$169,420; international and national shopping US$ 200,000, LIB for computers US$136,672
3/ Vehicles will be purchased through LIB in packages of US$150,000 or more
4/ Publications will be purchased through national shopping, up to an aggregate amount of US$337,373.
5/ QCBS procedures will be followed for consulting assignments with firms. Individual Consultants up to an aggregate of US$2 million.
6/ Travel, subsistence, per-diem and materials.
7/ Incremental salaries and operating expenditures.

Table B: Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value (Threshold)	Procurement Method	Contracts Subject to Prior Review
1. Civil Works	All	Lump-sum fixed price (three quotations)	None
2. Goods	> 150,000	ICB	All
Computers and Vehicles	> 150,000	LIB	All
Other	>25,000-150,000	NCB	First two
	< 25,000	Intern./Nation. Shopping	None
3. Consultants (firms)	100,000 - 200,000	QCBS	TORs, RFPs, Evaluation
	<100,000	QCBS	Only TORs
4. Consultants (individ.)	>10,000	Individuals	Only TORs
	< 10,000	Individuals	None

ICB: International Competitive Bidding
LIB: Limited International Bidding
NCB: National Competitive Bidding
QCBS: Quality Cost-Based Selection
TOR: Terms of Reference
RFP: Request for Proposal

Table C: Suggested Allocation of Grant Proceeds

Category	Grant Amount US$	Disbursement %
1. Civil Works	50,000.0	90
2. Goods	1,100,000.0	100% FE, 80% LE
3. Consultant Services		
International Taxonomists	800,000	100
Other Consultants	3,400,000	100
4. Training	1,000,000.0	100
5. Incremental Recurrent Costs 1/	490,000.0	80%, 40%, 15%
6. Unallocated	160,000.0	-
Total	7,000,000.0	

1/ Declining percentage: 80% first and second years, 40% third and fourth years, and 15% thereafter.

FE: Foreign Expenditures
LE: Local Expenditures

COSTA RICA

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

Documents in the Project File

Working Papers

Analysis of the Sustainability of the Conservation Areas, October 1997.

Intellectual Property Rights, April 1997.

Importance of Systematic Biology in Biodiversity Development, December 1995.

Informe Sobre la Viabilidad Legal del INBio para Ejecutar el Proyecto GEF, December 1997.

Government Documents

Ley de Biodiversidad, Acta No.20, (Draft) November 7, 1997.

Donor - Funded Project Documents

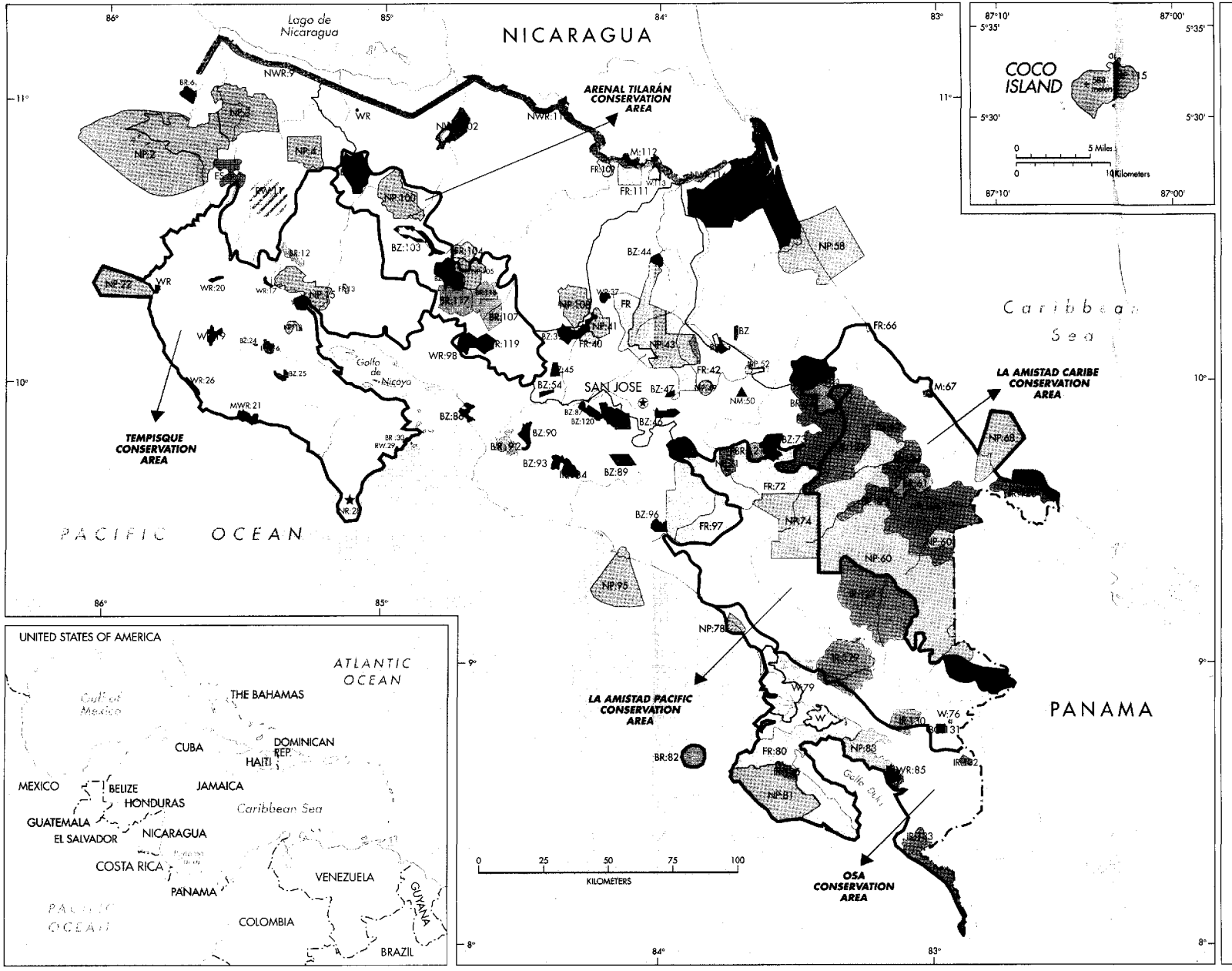
Development of Biodiversity Knowledge and Sustainable Use in Costa Rica (Government of the Netherlands), June 1997.

Contribution to the Knowledge and Sustainable Use of Biodiversity in Costa Rica (NORAD), August 1997.

Biodiversidad y Desarrollo Socio-Economico (Government of Canada), May 1996.

MAPS

MAP IBRD No. 29254:	Costa Rica: Conservation Areas and Protected Areas
MAP IBRD No. 29279:	Costa Rica: Ecosystems
MAP IBRD No. 29280:	Costa Rica: Physical Features and Transportation



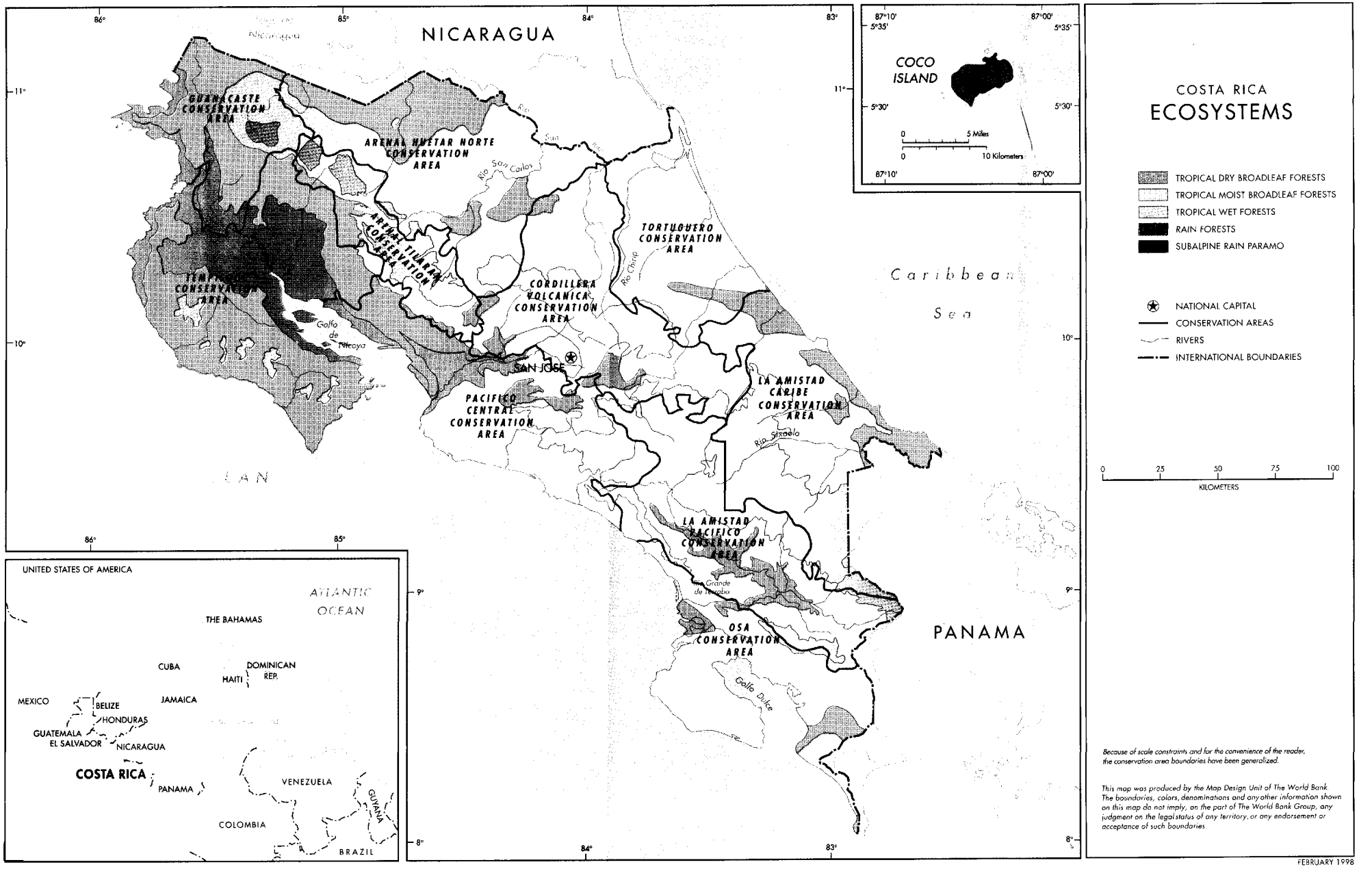
COSTA RICA
CONSERVATION AREAS AND PROTECTED AREAS

RECREATIONAL AREA	RA
EXPERIMENTAL STATION	ES
MARSH	M
RIPARIAN WETLAND	RW
WETLAND	W
NATIONAL MONUMENT	NM
NATIONAL PARK	NP
MIXED WILDLIFE REFUGE	MWR
WILDLIFE REFUGE	WR
NATIONAL WILDLIFE REFUGE	NWR
BIOLOGICAL RESERVE	BR
FOREST RESERVE	FR
INDIGENOUS RESERVE	IR
NATURAL RESERVE	NR
BUFFER ZONE	BZ
BOTANICAL GARDEN	BG
PRIVATE BIOLOGICAL RESERVE	PBR

NATIONAL CAPITAL
CONSERVATION AREAS
RIVERS
INTERNATIONAL BOUNDARIES

Because of scale constraints and for the convenience of the redeor, the conservation area boundaries have been generalized.

FEBRUARY 1998



COSTA RICA
ECOSYSTEMS

- TROPICAL DRY BROADLEAF FORESTS
- TROPICAL MOIST BROADLEAF FORESTS
- TROPICAL WET FORESTS
- RAIN FORESTS
- SUBALPINE RAIN PARAMO

- NATIONAL CAPITAL
- CONSERVATION AREAS
- RIVERS
- INTERNATIONAL BOUNDARIES

Because of scale constraints and for the convenience of the reader, the conservation area boundaries have been generalized.

This map was produced by the Map Design Unit of The World Bank. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

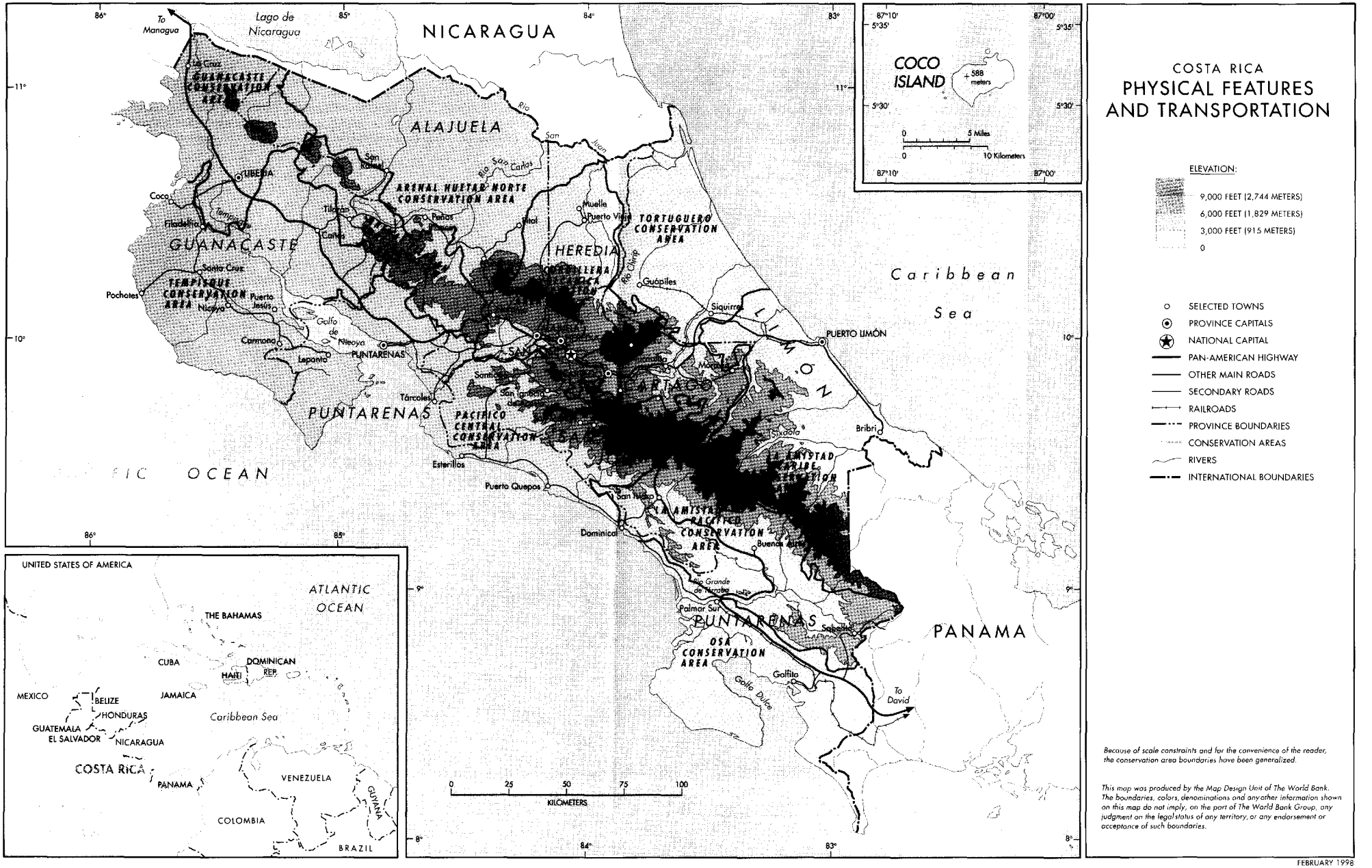
FEBRUARY 1998

Key to IBRD Map No. 29254: Costa Rica: Conservation Areas and Project Areas

Number	Name	Category
1	A.R. Junquillal	Recreational Area
2	P.N. Santa Rosa	National Park
3	P.N. Guanacaste	National Park
4	P.N. Rincon de la Vieja	National Park
5	E.E. Horizontes	Experimental Station
6	R.B. Isla Bolanos	Biological Reserve
9	R.N.V.S. Border Corridor	National Wildlife Refuge
11	H.R. Zapandi	Riparian Wetland
12	R.B. Lomas Barbudal	Biological Reserve
13	R.F. Taboga	Forest Reserve
15	P.N. Palo Verde	National Park
16	R.V.S. Corral de Piedra	Wildlife Refuge
17	R.V.S. Mata Redonda	Wildlife Refuge
18	P.N. Barra Honda	National Park
19	R.V.S. Bosque Diria	Wildlife Refuge
20	R.V.S. Rio Canas	Wildlife Refuge
21	R.M.V.S. Camaronal	Mixed Wildlife Refuge
22	P.N. Baulas	National Park
24	Z.P. Cerro La Cruz	Buffer Zone
25	Z.P. Nosara	Buffer Zone
26	R.V.S. Ostional	Wildlife Refuge
28	R.N.A. Cabo Blanco	Absolute Natural Reserve
29	R.V.S. Curu	Wildlife Refuge
30	R.B. Isla Negritos	Biological Reserve
32	R.B. Isla Pajaros	Biological Reserve
36	R.N.A. Nicolas Weesberg	Absolute Natural Reserve
37	R.V.S. Bosque Alegre	Wildlife Refuge
38	ZZ.P. Rio Toro	Buffer Zone
39	Z.P. El Chayote	Buffer Zone
40	R.F. Grecia	Forest Reserve
41	P.N. Volcan Poas	National Park
42	R.F. Cordillera Volcanica	Forest Reserve
43	P.N. Braulio Carrillo	National Park
44	Z.P. La Selva	Buffer Zone
45	Z.P. Rio Grande	Buffer Zone
46	Z.P. La Carpintera	Buffer Zone
47	R.F. Rio Tiribi	Buffer Zone
49	P.N. Volcan Irazu	National Park
50	M.N. Guayabo	National Monument
52	P.N. Volcan Turrialba	National Park
53	Z.P. Acuiferos Guacimo	Buffer Zone
54	Z.P. Cerro Atenas	Buffer Zone
56	R.V.S. Barra del Colorado	Wildlife Refuge
57	Z.P. Tortuguero	Buffer Zone
58	P.N. Tortuguero	National Park
60	P.I. La Amistad	National Park
61	R.B. Hitoy Cere	Biological Reserve

Number	Name	Category
62	Z.P. Rio Banano	Buffer Zone
63	Z.P. Pacuare	Buffer Zone
64	R.B. Barbilla	Biological Reserve
66	R.F. Pacuare-Matina	Forest Reserve
67	H.P. Limoncito	Marsh (Palustrino Wetland)
68	P.N. Cahuita	National Park
69	R.V.S. Gandoca-Manzanillo	Wildlife Refuge
70	Z.P. Rio Navarro y Sombrero	Buffer Zone
71	P.N. Tapanti	National Park
72	R.F. Río Macho	Forest Reserve
73	Z.P. Río Tuís	Buffer Zone
74	P.N. Chirripó	National Park
75	Z.P. Las Tablas	Buffer Zone
76	H. San Vito	Wetland
78	P.N. Marino Ballena	National Park
80	R.V.S. Golfito	Wildlife Refuge
81	P.N. Corcovado	National Park
82	R.B. Isla del Caño	Biological Reserve
86	Z.P. Río Tiveves	Buffer Zone
87	Z.P. El Rodeo	Buffer Zone
88	Z.P. Cerros Escazú	Buffer Zone
89	Z.P. Caraigres	Buffer Zone
90	Z.P. Cerro de Turrubares	Buffer Zone
92	R.B. Carara	Biological Reserve
93	Z.P. La Cangreja	Buffer Zone
95	P.N. Manuel Antonio	National Park
96	Z.P. Cerro Nara	Buffer Zone
97	R.F. Los Santos	Forest Reserve
98	R.V.S. Montes de Oro	Wildlife Refuge
100	R.N. Tenorio	National Park
101	Z.P. Miravalles	Buffer Zone
102	R.N.V.S. Caño Negro	National Refuge
103	Z.P. Enmbalse Arenal	Buffer Zone
104	R.F. Arenal	Forest Reserve
105	P.N. Arenal	National Park
106	Z.P. Arenal-Monteverde	Buffer Zone
107	R.B. Alberto Brenes	Biological Reserve
108	P.N. Juan Castro Blanco	National Park
109	R.F. Cerro El Jardín	Forest Reserve
110	R.N.V.S. Corredor Fronterizo C	National Refuge
111	R.F. Cureña-Cureñita	Forest Reserve
112	H.P. Laguna Maquenque	Marsh (Palustrino Wetland
113	H.L. Tamborcito	Wetland
114	R.N.V.S. Corredor Fronterizo C	National Refuge
115	P.N. Isla del Coco	National Park
116	R.I. Matambú	Indigenous Reserve
117	R.B. Bosque Eterno de los Niños	Biological Reserve
118	R.B. Monteverde	Biological Reserve
119	R.N.F.S. Peñas Blancas	National Wildlife Refuge

Number	Name	Category
120	R.I. Quitirrisí	Indigenous Reserve
121	Finca La Marta	Private Biological Reserve
122	R.I. Chirripó	Indigenous Reserve
123	R.I. Barbilla-Dantas	Indigenous Reserve
124	R.I. Tayni	Indigenous Reserve
125	R.I. Telire	Indigenous Reserve
126	R.I. Talamanca	Indigenous Reserve
127	R.I. Ujarrás-Salitre-Cabagra	Indigenous Reserve
128	R.I. Cocles	Indigenous Reserve
129	R.I. Boruca-Térraba	Indigenous Reserve
130	R.I. Guaymi-Coto Brus	Indigenous Reserve
131	J.B. Robert and Katherine Wilson	Botanical Garden
132	R.I. Guaymi-Abrojos	Indigenous Reserve
133	R.I. Guaymi de Conte Burica	Indigenous Reserve
134	R.I. Zapatón	Indigenous Reserve
135	R.I. Guaymi - Osa	Indigenous Reserve
85	R.V.S. Golfito	Wildlife Refuge
83	P.N. Piedras Blancas	National Park
79	H. Térraba - Sierpe	Wetland



COSTA RICA
PHYSICAL FEATURES AND TRANSPORTATION

ELEVATION:
- 9,000 FEET (2,744 METERS)
- 6,000 FEET (1,829 METERS)
- 3,000 FEET (915 METERS)
- 0

- SELECTED TOWNS
- PROVINCE CAPITALS
- NATIONAL CAPITAL
- PAN-AMERICAN HIGHWAY
- OTHER MAIN ROADS
- SECONDARY ROADS
- RAILROADS
- PROVINCE BOUNDARIES
- CONSERVATION AREAS
- RIVERS
- INTERNATIONAL BOUNDARIES

Because of scale constraints and for the convenience of the reader, the conservation area boundaries have been generalized.

FEBRUARY 1998