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Report No: 36179

IMPLEMENTATION COMPLETION REPORT
(TF-28324)

ON A

GLOBAL ENVIRONMENT FACILITY TRUST FUND GRANT

IN THE AMOUNT OF SDR 5.2 MILLION (US$ 7.0 MILLION EQUIVALENT)

TO THE

REPUBLIC OF COSTA RICA

FOR THE

BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

June 29, 2006

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

CURRENCY EQUIVALENTS

(Exchange Rate Effective June 16, 2006)

Currency Unit	=	Colones
511.85 Colones	=	US$ 1.00
US$ 1	=	1

FISCAL YEAR

January 1 December 31

ABBREVIATIONS AND ACRONYMS

CAS	Country Assistance Strategy
CBD	Convention on Biological Diversity
GEF	Global Environment Facility
GBIF	Global Biodiversity Information Facility
IABIN	Inter-American Biodiversity Information Network
INBio	National Institute of Biodiversity (*Instituto Nacional de Biodiversidad)*
MINAE	Ministry of Environment and Energy (*Ministerio del Ambiente y de Energía)*
NGO	Nongovernmental Organization
NORAD	Norwegian Agency for Development Cooperation
PAD	Project Appraisal Document
PCU	Project Coordination Unit
SINAC	National System of Conservation Areas (*Sistema Nacional de Áreas de Conservación*)
UBI	Basic Unit of Information (*Unidad Básica de Información*)

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Country Director	Jane Armitage
Sector Director	Laura Tuck
Task Team Leader:	Douglas J. Graham

COSTA RICA
BIODIVERSITY RESOURCES DEVELOPMENT PROJECT

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Project ID: P039876	*Project Name:* BIODIVERSITY RESOURCE DEVELOPMENT (GEF)
Team Leader: Douglas J. Graham	*TL Unit:* LCSEN
ICR Type: Core ICR	*Report Date: June 29, 2006*

1. Project Data

Name: BIODIVERSITY RESOURCE DEVELOPMENT (GEF) *L/C/TF Number:* TF-28324

Country/Department: COSTA RICA *Region:* Latin America and the Caribbean Region

Sector/subsector: General agriculture, fishing and forestry sector (87%); Central government administration (13%)

Theme: Biodiversity (P); Environmental policies and institutions (P); Rural non-farm income generation (S)

KEY DATES		*Original*	*Revised/Actual*
PCD:	05/03/1995	*Effective:* 07/14/1998	07/14/1998
Appraisal:	05/01/1997	*MTR:* 06/18/2001	06/18/2001
Approval:	03/03/1998	*Closing:* 06/30/2005	12/31/2005

Borrower/Implementing Agency: INBIO/INBIO

Other Partners:

STAFF	Current	At Appraisal
Vice President:	Pamela Cox	Shaheed Javed Burki
Country Director:	Jane Armitage	D-M Dowsett-Coirolo
Sector Director:	Laura Tuck	Marita Koch-Weser
Team Leader at ICR:	Douglas J. Graham	Thomas B. Wiens
ICR Primary Author:	Gunars Platais; Douglas J. Graham; Teresa M. Roncal	

2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

Outcome:	S
Sustainability:	HL
Institutional Development Impact:	H
Bank Performance:	S
Borrower Performance:	S

	QAG (if available)	ICR
Quality at Entry:		S
Project at Risk at Any Time:	No	

3. Assessment of Development Objective and Design, and of Quality at Entry

3.1 Original Objective:

The global environmental objective of the Biodiversity Resources Development Project was to demonstrate that increased species knowledge benefits conservation and the sustainable use of globally important biodiversity. Benefits would be achieved by enabling more sustainable use and by raising awareness of biodiversity.

Costa Rica is at the forefront of biodiversity conservation and management. Recognizing that its biological resources are an important national asset, Costa Rica has pursued a policy of conservation and protection, and has encouraged innovation in environmental financing and administration. In 1992, with the signing of the first National Biodiversity Institute (INBio) and National Conservation Area System (SINAC) Cooperation Agreement, an official alliance was established between the Ministry of Environment and Energy (MINAE) and INBio.[1] SINAC is the regulatory agency that implements natural resource management decisions in the country's conservation areas. SINAC receives technical input from INBio (e.g., preparation of joint projects, consultancies, technical assistance, capacity building, and information exchange) that culminated in the elaboration of the National Strategy on Conservation and Sustainable Use of Biodiversity.

The GEF-financed project was designed to be a central part of the INBio-managed Integrated Development of Biodiversity Resources Program (hereafter the "Integrated Program"). This program originated as a result of the above-mentioned National Strategy and through the integration of three inventory initiatives financed by the governments of Norway (through NORAD, the Norwegian Agency for Development Cooperation), the Netherlands, and by the GEF. The government of Costa Rica was represented in the program through SINAC. The Integrated Program develops and promotes mechanisms that integrate conservation in development through enhancing knowledge of sustainable use of biodiversity. It contributes to the fulfillment of the National Strategy by supporting the latter's main lines of action: (i) establish large areas for conservation, (ii) improve knowledge about the biodiversity of those areas, and (iii) integrate sustainable use of biodiversity into the intellectual and economic fabric of society.

[1] The National Biodiversity Institute (INBio) of Costa Rica is a private research and biodiversity management institution established in 1989 to support efforts to gather knowledge on the country's biological diversity and promote its sustainable use. INBio collaborates closely with government institutions, universities, the private sector and other public and private organizations inside and outside Costa Rica. The government of Costa Rica has divided the entire country into "conservation areas", constituting a decentralized structure through which protected areas are managed.

3.2 Revised Objective:

The objectives were not revised.

3.3 Original Components:

The project financed the following four components:

3.3.1 Inventory Framework (US$0.7 million, 6.4% of total project cost). This component financed consultants; transportation, travel-related expenditures and materials for consultations with scientists; consultations with representatives of different user groups, communities, and other stakeholders; and the work of the Commission on the Use of Indigenous Knowledge and Sharing of Benefits.

3.3.2 Biodiversity Inventory (US$8.0 million, 73.4% of total project cost). This component financed the collection of specimens for priority subgroups of the then-estimated 144,000 species of Hymenoptera,

Coleoptera, Diptera, and Fungi in the Conservation Areas of Tempisque, Arenal-Tilaran, Osa, Amistad Pacifico, and Amistad Caribe; cataloging of the specimens collected; and information management activities such as specimen databases. The two subcomponents were:

(i) *Collection activities*.This subcomponent financed incremental costs of salaries for new parataxonomists and research coordinators in the three conservation areas that did not have research coordinators; equipment; maintenance; supplies; transportation and training programs for local parataxonomists and technicians; collection of specimens of 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) *Cataloging activities*.This subcomponent financed 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 cataloging and information management; and travel and per diem for international and national taxonomists working in Costa Rica who volunteered their time. The work of the taxonomists enabled the processing and storage of the millions of specimens that the collection activities generated, identification and cataloging of each specimen, and recording relevant data in a computerized information management system.

3.3.3 Sustainable Uses of Biodiversity (US$0.9 million, 8.3% of total project cost). This component financed consultants, studies, equipment, materials, publications, seminars, and other expenses to develop applications based on the inventory. Its intention was to demonstrate which knowledge-based applications were the most feasible for generation or revenue or other benefits.

3.3.4 Institutional Strengthening (US$1.3 million, 11.9% of total project cost). This component financed incremental costs of additional personnel, equipment, and recurrent costs on a declining basis for the Project Coordination Unit (PCU). Given the special handling and storage needs of Fungi, this component also financed the infrastructure, equipment, and maintenance costs of a Fungi laboratory.

Project design was consistent with ongoing activities of the implementing agency and other donors involved in conservation in Costa Rica. The government of Norway funded activities through a US$0.4 million grant in April 1995 and a follow-up grant of US$1.4 million in October 1997, which laid the foundation for the project. This support enabled a series of participatory workshops with scientific Taxonomic Working Groups and potential clients and users to determine the methodologies and protocols that should be used for collection and cataloging. The Norwegian funding also permitted limited collecting and cataloging activities, piloted the development of products, and developed INBio's institutional capacity. In 1996, the government of Canada provided a US$3.4 million grant to strengthen management capacity at INBio, finance infrastructure for the bio-prospecting laboratory, and finance meetings with indigenous communities.

While these donor-funded activities were being undertaken, the government formed several working groups, in which INBio and SINAC participated, to discuss the role of biodiversity in Costa Rica's sustainable development. As a result of these discussions and the donor-funded project work, it became apparent that the sustainability of the protected areas depends on the benefits they generate for society and the local communities. As a result, SINAC focused on developing a decentralized system of conservation areas that takes an ecosystem approach to conservation (see Map A9.1, Appendix 9) and involves local communities in the development of strategies for sustainable development. INBio and SINAC agreed that inventory activities should be based on community demand-driven criteria and should cover a range of ecosystems and geographic locations.

Based on this approach, in December 1997 the government of the Netherlands approved a four-year grant of US$8.2 million, to finance: (i) the collection and cataloging of five taxonomic groups including plants, mollusks, nematodes, Lepidoptera, and vertebrates; (ii) ecosystem mapping of the Conservation Areas; (iii) further development of the biodiversity information management system; (iv) projects based on sustainable uses and applications of the inventory; and (v) infrastructure, training, and institutional strengthening of the Conservation Areas and INBio. These Dutch-funded activities strongly complemented the GEF-financed project, complementarities which were ensured by both falling under the Integrated Program. The latter was further strengthened with a second Dutch donation of US$5.38 million which started in July 2002 and ran until October 2005.

3.4 Revised Components:

Following a recommendation made by the donors, in November 2001 the Integrated Program was redesigned to have four components based on the original components of the GEF-financed project, incorporating the eight components of the Dutch-financed project and NORAD-financed activities. Comparing the Integrated Program structure to the original structure of the GEF-financed project, only the name of the first component changed from Inventory Framework to Planning and Participation.

There were no major formal revisions of any component. However, during the mid-term review, INBio proposed that the Lepidoptera (moths and butterflies) be included in Component 2 of the GEF-financed project. This revision was justified due to the end of direct Dutch financing for Lepidoptera and the availability of Dutch financing to cover parataxonomist costs that the GEF-financed project would have otherwise covered. The World Bank accepted this reassignation of project funds in November 2001.

3.5 Quality at Entry:

The rating for this aspect is considered **Satisfactory**. Before approval, the project met accepted quality at entry standards in applying World Bank procedures, policies, and safeguards. The project objectives were consistent with the CAS, donor program, and government priorities.

Six project risks were appropriately identified:

1. The resource base could be depleted through over-sampling.
2. Knowledge gained during the project might not be disseminated or used globally.
3. INBio's absorptive capacity could be overwhelmed due to the projected 25 percent increase in the resources and activities that INBio would manage annually.
4. The project objectives might not be met due to financial and human resource constraints in the selected project areas.
5. Coordination between INBio and SINAC might be inadequate.
6. INBio might not be able to negotiate binding agreements with international taxonomists.

These risks were taken into account during project implementation. Depletion of the resource base through over-sampling was determined not to be a concern given the minimal sampling effort and dispersed geographic locations of sampling areas. The risk of inadequate dissemination of knowledge gained during the project was not realized given the emphasis accorded to scientific and practical biodiversity use publications. Regarding INBio’s capacity to absorb the 25 percent increase in the amount of resources and activities, the institution was able to adjust and accommodate this increased demand on staff time. In close collaboration with SINAC, the project was able to address the potential and real financial and human resource constraints in the five Conservation Areas. Finally, the risk that INBio would not be able to negotiate binding agreements with taxonomists was unfounded as the number of participating international taxonomists eventually exceeded all expectations.

4. Achievement of Objective and Outputs

4.1 Outcome/achievement of objective:

The project's outcome is rated as **Satisfactory**. INBio hosts an extraordinary archive of biological information for biodiversity conservation and sustainable use as one result of the project. The project focused on five taxonomic groups (Hymenoptera, Coleoptera, Diptera, Lepidoptera, and Fungi) and indirectly supported inventories of three other groups (plants, nematodes, and mollusks) as a part of INBio's broader Integrated Program. The project promoted and improved biodiversity conservation and sustainable use by: (i) contributing and generating information used for decision-making in the conservation areas of the country (e.g., basic inventory information, specialized technical reports, and ecological studies); (ii) supporting the organization and administration of biodiversity information and making it fully accessible via the Internet; (iii) publicizing and transferring biodiversity information to the public at large through electronic and printed materials and training; and (iv) supporting the negotiations of new projects in sustainable biodiversity use through INBio's bioprospecting program.

The most salient project benefits of global significance are: (i) practical methodologies for biodiversity inventories that have been recognized by global initiatives such as the Global Biodiversity Information Facility (GBIF) and by regional efforts such as IABIN; (ii) contribution to scientific knowledge of five taxonomic groups in the Neotropics, as indicated by the identification of on average one new species every day for the last three years; (iii) public access to all inventory information accessible on an acclaimed easy-to-use website (http://atta.inbio.ac.cr); (iv) legal, contractual, and financial models for the use of the information from biodiversity inventories; (v) new successful working modalities between the public sector and NGOs to promote the sustainable management of biodiversity; and (vi) facilitation of the contributions of 350 taxonomists from research centers, museums, and universities worldwide.

No one project indicator unambigously links the biological inventories and research with improved biodiversity conservation, a key objective of the project. However, the qualitative and quantitative indicators taken together, high performance of the executing agency, its success in reaching and influencing the public and policymakers, and qualitative feedback from officials of the National System of Conservation Areas (SINAC), support the conclusion that this objective was satisfactorily achieved. SINAC representatives were emphatic in defending the value of the project-generated information in having influenced a variety of important national conservation decisions. Additonally, by more clearly establishing these links, the project made an important contribution to addressing the "taxonomic impediment"—the widely recognized global lack of basic taxonomic expertise that limits many efforts to find applied uses for biodiversity.

4.2 Outputs by components:

4.2.1 Inventory Framework

This component is rated **Highly Satisfactory.** The project was successful in establishing the methodologies and protocols for taxonomic work and involving the international scientific community in these endeavors. INBio has established itself as a worldwide leader in taxonomic inventories and far exceeded the original goals in terms of the number of taxonomists trained in the use of the methodologies, participation in workshops, visits to INBio, and requests for inventory information.

The mixed results of the consultative efforts with local communities and indigenous groups are attributable to project design, which overestimated the degree to which local communities and stakeholders would be interested in, and could define their biodiversity needs. Adapting to this reality, INBio supported a dialogue with local communities that would stand to benefit from the information being generated. The project supported the National Indigenous Conference (*Mesa Nacional Indígena)* in a participatory process with indigenous groups and local communities on generating information and capacity building. The consultations helped generate the ideas and general principles on the nature, scope, and requirements of communal intellectual property rights that would comply with that stipulated in Costa Rica's Biodiversity Law, the Convention on Biological Diversity, and the International Treaty on Plant Genetic Resources for Food and Agriculture.

Based on extensive local outreach and workshops, the project crafted a constructive approach to address the needs of local and indigenous communities that focused on cooperation and consultation with the National System of Conservation Areas (SINAC). This approach included strong community representation and partnerships with the National Indigenous Conference that provided input on the specific needs and rights of indigenous communities. Toward the end of the project, INBio also conducted a greater number of ecological studies targeted at narrowly defined local issues. These studies were supplemental to the original taxonomic focus of the project but were considered highly relevant and useful by local communities and conservation area managers.

4.2.2 Biodiversity Inventory

This component is rated **Highly Satisfactory**. INBio's taxonomic collection is one of the best in the Neotropics and is of such high quality and scientific interest that international scientists contributed more than five times the anticipated amount of voluntary taxonomic work for analyzing and classifying specimens. By the end of the project, more than 40,000 volunteer taxonomist-days had been contributed, an astonishing global contribution. In collaboration with other donors and INBio programs, this information has been made accessible through inclusion in the online biodiversity information database, Atta, as well as through the growing number of in-depth species pages (UBIs).[2] Atta receives an average of 20,000 hits a day and has received four international prizes in the last three years.[3] It has been a model for other systems being installed in Central American herbaria and others across the world. The inventory work is critical to support INBio's scientific research and bioprospecting efforts, institutional credibility and authority, and educational and public outreach missions.

The initial targets for numbers of specimens identified and new species described were recognized early in project implementation to be unrealistic. Although even revised targets were not fully achieved, by any other objective measure the results of the component were exceptional, given the discovery of more than 2,000 new species for science, and the cataloging of approximately 3 million specimens (of which approximately one third at the species level). An internationally recognized expert from the Museum of Natural History in London, contracted during the mid-term review to evaluate the Inventory Component, reported that: “the inventory process at INBio is efficient and effective. Specimens are collected in the protected areas by highly trained parataxonomists, and are further sorted by technicians and curators at INBio. Specimens are sent to international experts, not only those working directly with the project, but increasingly to a wide variety of experts all over the world.”[4] INBio has been the first institution in the world to fully implement a barcoding system in its collection. Barcoding has expedited data entry and reduced errors, thus significantly reducing collecting costs. INBio also has developed and is implementing a sustainability plan for continuing taxonomic activities and maintaining the inventory.

INBio is the largest provider of vouchered specimen data to the Global Biodiversity Information Facility

(GBIF) and is the official representative of GBIF in Costa Rica. INBio also was chosen by GBIF to lead mentoring programs with Argentina, Nicaragua, and Peru. INBio is also a founding member of the Smithsonian-led Encyclopedia of Life initiative, and INBio staff sit on the Steering Committee. At a hemispheric level, INBio has recently been chosen to be the coordinating institution for the Species and Specimens Thematic Network of the Inter-American Biodiversity Information Network (IABIN).

4.2.3 Sustainable Uses of Biodiversity

This component is rated **Satisfactory** based on the increased use of information from the project to support conservation management plans and measures; the number of pilot agreements with companies, research institutions, and NGOs to develop and implement applied uses for biodiversity; the prolific output of publications and scientific articles using information from the project (see Section 10); and qualitative assessments of the conservation value of project activities by officials of the Conservation Areas System.

From the beginning of the project, it was anticipated that most "real world" applications based on the inventory likely would not be realized during the duration of the project. However, pilot agreements to develop applied uses of biodiversity exceeded proposed targets. A sample of project-supported initiatives, in some cases pursued in conjunction with other donor resources, include:

- Discovery of a new species of fungus that could fight pathogens in the vanilla plant
- Identification of 60 edible mushrooms with cultivation and marketing potential
- Improved management practices for butterfly breeders and diversification of commercially available species
- Ongoing research into vector control for dengue fever
- Inventory of pests affecting forest health
- Greater understanding of both the positive and negative roles of insects in coffee plantations.

In addition, responding to demand for activities from SINAC and communities, the project supported investments, not strictly speaking related to the inventory, in management of other species such as the White-winged Dove. Project activities supported INBio's role in public outreach and education, raising conservation awareness, and influencing conservation policy. By raising awareness of the value of biodiversity among decision-makers, tourists, educators, students, and the general public, changes were introduced in their perceptions and behavior that will benefit biodiversity conservation.

Information gathered by the project has been disseminated through many scientific and educational publications produced by their in-house publishing group, Editorial INBio; through their public educational facility, INBioparque;[8] and through the frequent presence of INBio on television, radio, and in print media. The project made a special contribution through printing books and children's games, as well as teaching materials (posters, compact disks, and a video) for children and adults (see Section 10 for a list of project-sponsored material). In addition to its frequent presence in the media—including a weekly one-hour program on Radio Nacional—INBio has become an authority for journalists on environmental issues, which ensures significant newspaper, radio, and television coverage.

INBio is widely known and respected in public, political, and scientific circles. Politicians, environmental specialists, media, educators, students, religious leaders, and NGOs were interviewed in a recent study commissioned by INBio. Those interviewed concurred that INBio was influential in promoting and implementing environmental conservation efforts. This influence was due to INBio's scientific and technical strength, to which the project contributed substantially. The study also identified a perception that INBio had not liaised sufficiently with local communities nor with the direct users of biodiversity resources. INBio is addressing these concerns by readjusting and strengthening its outreach program.

Interviews in December 2005 and April 2006 with SINAC officials elicited a very favorable assessment of the project's contribution to conservation measures and policy, both the inventory activities and targeted ecological studies.

4.2.4 Institutional Strengthening

This component is rated as **Highly Satisfactory**. Facing challenges in financial sustainability and a need to transition to a new management team, the institution took important strides in restructuring, instituted new administrative and financial systems and procedures, and developed a serious strategy for institutional sustainability. Only a few years ago, given that Dutch and World Bank financing constituted half of INBio's revenue stream, the end of the project loomed ominously. However, INBio's well-articulated plan to continue project activities, which are now fully integrated into INBio's institutional activities, is being implemented. Because of very aggressive fundraising and diversification, at the end of the project, INBio's post-project annual revenues are expected to decline only from $6.4 million to approximately $6.2 million. INBio's staff, particularly its managers and procurement/financial personnel, explicitly recognize that having to satisfy stringent World Bank policies and procedures considerably strengthened their capacity.

[2] The UBI, or Basic Information Unit (*Unidad Básica de Información*), provides general data on a species such as taxonomy, distribution, life history, conservation status, plus a picture or drawing.

[3] These awards include: (i) Tech Museum of Innovation Award in the Conservation category, 2003; (ii) Augusto González de Linares environmental prize of the Universidad de Cantabria, Spain, 2004; and (iii) the best website prize of Costa Rica, given by the Ministry of Science and Technology.

[4] Knappp, Susan. June 2002. Detailed Comments on INBio Inventory Component, Document Associated with World Bank Mid-Term Review Mission, 18-24 June 2002.

[5] Not directly financed by the project, INBioparque is a tourism- and education-oriented facility that introduces visitors to a range of Costa Rican ecosystems and biodiversity. A key conclusion of a recent analysis of the facility is that a greater depth and breadth of public interest could be generated by bringing more of INBio's scientific work into INBioparque.

4.3 Net Present Value/Economic rate of return:

N/A

4.4 Financial rate of return:

N/A

4.5 Institutional development impact:

The project's institutional development impact is considered to be **Substantial**.

The project played a significant role in improving INBio's ability to make effective use of its human and financial resources to manage natural resources and conserve biodiversity. Project-generated information influenced a variety of important conservation decisions and was an important factor in INBio's contribution to the fulfillment of the National Conservation Strategy. The NGO's partnership with SINAC enabled the use of information to support park management.

Recognizing that its biological resources are an important national asset, Costa Rica has pursued a policy of conservation and protection and has encouraged innovation in financing and administration. Through its contribution to the Integrated Development of Biodiversity Resources Program, the project supported INBio in assessing its sustainability as an institution. Funded by the Dutch government, INBio produced two documents. The first, "The Essence of the Institution," was inward looking. It asked probing questions about the institution and produced a vision statement. The second document, "Towards Sustainability:

Experiences of the *Instituto Nacional de Biodiversidad*", enabled INBio to define a strategic action framework on how to implement its vision.

5. Major Factors Affecting Implementation and Outcome

5.1 Factors outside the control of government or implementing agency:

There were no major factors outside the control of the government and of INBio that negatively affected achievement of the project outcome and objectives/outputs.

5.2 Factors generally subject to government control:

Key decisions taken over the last years by the government enhanced the positive impact of the project. The 1998 Biodiversity Law confirmed Costa Rica's commitment to the Convention on Biological Diversity (CBD) and provided the legal framework for future work related to biodiversity in the country. The delegation of the National Biodiversity Inventory to INBio was a positive contribution to the success of the project and to the success of the broader Integrated Program.

5.3 Factors generally subject to implementing agency control:

INBio arguably is one of the best run nongovernmental organizations in Central America, if not Latin America. With its visionary leaders, efficient administration, and motivated staff, which experienced almost no turnover during the lifetime of the project, INBio has produced lasting results for biodiversity conservation in Costa Rica. Its contributions are felt across the region and the world. Over a decade, the project, with those of other donors, contributed more than US$11 million to raise knowledge on biodiversity and its uses. This project enabled the institution to test itself and to discover how far it could progress in innovative areas.

A positive outcome in the development of the project was INBio's initiative to integrate three major donor initiatives (of the Netherlands, Norway, and the GEF) under the umbrella Integrated Program. This integration enabled synergies to be exploited more efficiently so that each partner was able to leverage mroe impact per dollar invested.

5.4 Costs and financing:

There were no significant cost changes or in financing of the project. INBio has an efficient administration that delivered on its procurement and fiduciary responsibilities with no changes to the costs.

6. Sustainability

6.1 Rationale for sustainability rating:

The project's overall sustainability is rated as **Highly Likely**.

The main project activities have been incorporated into INBio's institutional programming, which provides for other future sources of financing. This additional funding will enable the continuation of knowledge generation and processing and transferring information on biodiversity in the five taxonomic groups (Diptera, Hymenoptera, Coleoptera, Lepidoptera, and Fungi) financed by the project. INBio will be able to continue with the specialized collection of biological material; managing collections (nearly three million specimens); working with international taxonomists; managing the database; preparing and disseminating scientific publications; providing identification and technical assistance services; and identifying and developing new data applications.

Half-way through completion of the 1997 Dutch-funded grant, a review suggested the importance of focusing on the sustainability of INBio. This suggestion originated from the realization that external

funding was anticipated to decline and successors to INBIo's founding members and senior management would soon need to be identified. This suggestion galvanized INBio to look inward and ask fundamental questions: “Who are we? What do we do? Where do we come from? Where do we want to go?” This effort resulted in two strategic documents. The first, entitled “The Essence of the Institution” was inward looking, while the second, “Towards Sustainability: Experiences of the *Instituto Nacional de Biodiversidad* (Costa Rica)” was forward looking. These efforts have laid the groundwork for an institutional plan that defines targets by strategic objective, through which project objectives are integrated in institutional planning. This strategic plan, with scientific and technical capacity generated in part through the GEF-financed project, has served as the basis for the institution to seek new sources of financing and cooperation. This process has been complemented by a significant increase in its own-generated funds from goods and services.

6.2 Transition arrangement to regular operations:

The strategic planning initiatives mentioned above have permitted INBio to transition to regular operations without the major external donations that the institution received over the lifetime of the project. For example, the Arthropod and Fungus units have the staffing to maintain the biological collections and handle projects in different areas that respond to the institution’s mission. The Arthropod team is composed of 20 people (6 technicians, 5 curators, 2 artists, and 7 parataxonomists) with a budget of over US$200,000. The Fungus team will be composed of 6 people (3 technicians, 2 curators, and 1 parataxonomist) with a budget of approximately US$50,000.

7. Bank and Borrower Performance

Bank

7.1 Lending:

The Bank’s overall performance in project identification, preparation, and appraisal is rated **Satisfactory**. The project was consistent with the World Bank's Country Assistance Strategy (CAS). The Bank team included recognized specialists in key technical subject areas. The project followed applicable Bank safeguard policies and met financial management and procurement requirements.

7.2 Supervision:

Bank supervision is rated **Satisfactory**. The Bank carried out close supervision with an average of two missions per year. The supervision mission teams were a mix of international and local professionals. Although task management changed three times during the lifetime of the project, the Bank’s supervision was technically and administratively consistent through the lifetime of the project.

7.3 Overall Bank performance:

Overall Bank performance is considered **Satisfactory**. The Bank complied satisfactorily with its role as GEF implementing agency.

Borrower

7.4 Preparation:

Preparation performance was **Satisfactory** with excellent participation of INBio staff from the outset. Being a private research and biodiversity management organization with seven years’ experience implementing agreements with national and international organizations, INBio had sufficient administrative flexibility to adjust to the Bank’s requirements. While the grantee correctly analyzed the issues and challenges for each component, some indicators were poorly or unclearly formulated, which could however be just as easily attributable to the Bank project team.

The project was consistent with the National Strategy on Conservation and Sustainable Use of Biodiversity. The INBio-SINAC Cooperation Agreement built on complementarities between the two

institutions. However, during project preparation, some differences needed to be resolved that were caused by coordination and communication problems. It is worth noting that both institutions had recently gone through restructuring. Although these differences eventually were resolved, they impeded SINAC playing a more active role in project preparation.

7.5 Government implementation performance:

The government's implementation performance is considered **Satisfactory**. The government's early decision to make INBio the technical and scientific arm of SINAC set the stage for a very successful outcome. While SINAC was the regulatory agency, INBio provideed technical input to SINAC's natural resources management decisions.

7.6 Implementing Agency:

The performance of INBio as the implementing agency is considered **Satisfactory**. INBio was able to adjust to the Bank's procedures in a timely manner, and the Project Coordination Unit was well organized and accountable. Annual implementation reports and operational plans were of high quality and submitted on time. The suggestions from the supervision missions were taken into consideration, with the exception of addressing problems with indicators, which were only addressed near the end of the project.

7.7 Overall Borrower performance:

The overall rating for Borrower performance is considered **Satisfactory**. This rating reflects the flexibility that INBio demonstrated in adjusting to multiple donor requirements. INBio also demonstrated a mature commitment to finding long-term solutions to its financial future and investing in preparing a cadre of future managers.

8. Lessons Learned

- **Select a mature institution as the project executing agency.** INBio had years of experience in biodiversity research and management, as well as in working with other international organizations and donors. Financially, it was sufficiently sound to have attracted a good depth of human resources.
- **Socialize scientific information**. The world-class collections held at INBio represent the results of 10 years of hard work and have a high scientific value. It was important however to also translate this scientific information into practical information for the nonscientist and general public.
- **Do not overestimate local communities' abilities to know their biodiversity needs.** The project overestimated the degree to which local communities and stakeholders would be able to understand or define their needs for biodiversity information.
- **Create an enabling environment for science to work with local and international communities.** Breaking barriers for communities (national or international) to work with INBio opened important doors. Many times, breaking down simple logistical barriers (for example, paying for airfare) went a long way to generate a willing attitude to cooperate.
- **Prioritize.** Biodiversity information is so vast that no one institution can specialize in all groups or all areas. Prioritizing the areas of focus was fundamental for INBio to show important results not only to donors but also to the scientific community.
- **Product-based thinking is important for the sustainability of knowledge-based institutions.** Marketable biodiversity products (e.g., books, magazines, and educational materials) are important to generate revenue.
- **Publicize benefits of conservation to local communities and society.** The discussions and donor-funded work revealed that the sustainability of the conservation areas depends on the benefits generated for society and the local communities. These benefits must be communicated to the public.

- **Involve staff.** INBio staff are motivated and committed to the success of the institution. Their involvement through participatory discussions is an important element in the future success of the institution.
- **Foster parataxonomists**. Training local individuals, such as park rangers and hunters, to become parataxonomists empowered them to become one of the most successful elements of the biodiversity development program.

9. Partner Comments

(a) Borrower/implementing agency:

The President of INBio conveyed to the World Bank the Institute's comments on the ICR in a letter dated June 2, 2006 to the ESSD Sector Leader of the Central America Country Management Unit for Central America. The following is a summary of the translated version of the section of the comments pertaining to their review of the evaluation.

"We have received the Implementation Completion Report (ICR No. 36179) of the Biodiversity Resources Development Project financed through a GEF grant of US$ 7 million to the National Biodiversity Institute (INBio). The World Bank was the executing agency for the GEF.

Having reviewed the evaluation, INBio as the organization responsible for executing the project, expressed its total agreement with the results of the evaluation of the project's performance."

INBio
Instituto Nacional
de Biodiversidad

P-050-2006
2 de junio del 2006

Señor
John Kellenberg
Sector Leader
Environmentally and Socially Sustainable Development
Central America Country Management Unit
Latin America and the Carribbean Region
World Bank
Washington D.C.

Ref: TF-28324: Proyecto Desarrollo de Recursos de Biodiversidad

Estimado señor Kellenberg:

Hemos recibido el documento "Informe de Cumplimiento de Implementación" (ICR No: 36179) del proyecto Desarrollo de Recursos de Biodiversidad(TF-28324), financiado mediante una donación de US$ 7 millones del Fondo Mundial para el Medio Ambiente (GEF) al Instituto Nacional de Biodiversidad (INBio), en la que actuó como agencia implementadora del GEF, el Banco Mundial (BM).

Una vez analizado el citado documento, el Instituto Nacional de Biodiversidad como organización ejecutora del proyecto, expresa su total conformidad con los resultados de la evaluación realizada sobre el desempeño del proyecto.

Reconocemos que la donación recibida del GEF, la asistencia técnica brindada por los especialistas del Banco Mundial, así como la cooperación recibida de los gobiernos del Reino de los Países Bajos y de Noruega, han sido fundamentales en desarrollo del INBio y en la gestión sostenible de la riqueza biológica de Costa Rica. Esto se ve reflejado en los resultados obtenidos en el ámbito institucional, generación de conocimiento y transferencia de información para el apoyo en la toma de decisiones y valorización de la biodiversidad. Esta experiencia la hemos podido compartir con diversas instancias regionales e internacionales, lo que esperamos haya redundado en beneficios globales para la conservación y uso sostenible de la biodiversidad.

/ / /

Teléfono: (506) 507-8100 • Fax: (506) 507-8101
Correo electrónico: rgamez@inbio.ac.cr • Apartado postal: 22-3100, Santo Domingo, Heredia, Costa Rica

INBio
Instituto Nacional
de Biodiversidad

Sr. John Kellenberg
P-050-2006
Página nº2

Nuestro compromiso es continuar con nuestra misión de promover una mayor conciencia del valor de la biodiversidad, como medio para lograr su conservación y mejorar la calidad de vida del ser humano.

Atentamente,

Dr. Rodrigo Gámez L.
Presidente

Fc *Sr. Douglas Graham, Banco Mundial*
Sr. Gunars Platais, Banco Mundial
Sr. Alonso Matamoros, INBio

Teléfono: (506) 507-8103 • Fax: (506) 507-8270
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(b) Cofinanciers:

(c) Other partners (NGOs/private sector):

10. Additional Information

Books published by INBio produced through the Biodiversity Resources Development Project

Title	Source	State
Abejas de orquídeas de la América tropical Orchid Bees of Tropical America	INBio – BM/GEF	For Sale
Dípteros de Costa Rica 2da edición Dípteros of Costa Rica. 2nd Edition	INBio – BM/GEF	For Sale
Escarabajos de Costa Rica, 2da edición Beetles of Costa Rica 2nd Edition	INBio – BM/GEF	For Sale
Escarabajos fruteros de Costa Rica Fruit Beetles of Costa Rica	INBio – BM/GEF	For Sale
Libélulas de Mesoamérica y el Caribe Mesoamericna and Caribbean Dragonflies	INBio – BM/GEF	For Sale
Líquenes de Costa Rica Costa Rican Lichens	INBio – BM/GEF	For Sale
Macrohongos de Costa Rica, Vol. I, 2da edición Mushrooms of Costa Rica, Vol I, 2nd Ed.	INBio – BM/GEF	For Sale
Macrohongos de Costa Rica, Vol. II Mushrooms of Costa Rica, Vol II, 2nd Ed.	INBio – BM/GEF	For Sale
Mariposas diurnas y nocturnas de Costa Rica Moths and Butterflies of Costa Rica	INBio – BM/GEF	For Sale
Membrácidos de la América tropical Membracids of Tropical America	INBio – BM/GEF	For Sale

Educational Material Published by INBio Editorial through the Biodiversity Resources Development Project

Title	Source	State
Afiche Insectos de Costa Rica / Avispas, abejas y hormigas (Poster Wasps, bees and ants)	INBio – BM-GEF	For Sale
Afiche Insectos de Costa Rica / Ciclos de vida de las mariposas diurnas y nocturas (Poster Butterfly and moth life cycles)	INBio – BM-GEF	For Sale
Afiche Insectos de Costa Rica / Mariposas diurnas y nocturnas (Poster Butterflies and moths)	INBio – BM-GEF	For Sale
Afiche Insectos de Costa Rica / Moscas, mosquitos, tábanos y afines (Poster Flies, mosquitoes, deer flies and allies)	INBio – BM-GEF	For Sale
CDR Bosque tropical seco (español) CDR Dry Tropical Forest (Spanish)	INBio – BM/GEF – España/AECI	For Sale
CDR Bosque tropical húmedo de Centroamérica (español inglés) – Tropical Humid Forest of Central América (Spanish-English)	INBio – BM/GEF – Holanda - NORAD	
Coloreando la naturaleza Nature Coloring Book	INBio – BM/GEF	For Sale
Juego Trivia Trivia Game (biodiversity theme)	INBio – BM/GEF	For Sale
Serie de guías didácticas Rostros de la Naturaleza (1 Guía) Series of Educational guides – Nature's Face	INBio – BM/GEF	For Sale

Annex 1. Key Performance Indicators/Log Frame Matrix

Outcome / Impact Indicators:

Indicator/Matrix	Projected in last PSR[1]	Actual/Latest Estimate
Number of management measures applied to biodiversity conservation inside official protected areas that use information generated by the project	30	78
Number of new legal, contractual, and financing models created to support the generation of knowledge about and sustainable use of biodiversity	47	57

Output Indicators:

Indicator/Matrix	Projected in last PSR[1]	Actual/Latest Estimate
Number of international scientists familiar with the methodologies and protocols developed by the project, and who are capable of adapting and applying them to other national or local biodiversity inventories	80	329
Number of specimens in the target taxa identified at the species level and entered into the Biodiversity Information Management System	Original target 1,191,270 Revised target 614,000 Hymenoptera 55,000 Coleoptera 215,000 Diptera 290,000 Lepidoptera 45,000 Fungi 9,000	Total 700,000 Hymenoptera 60,769 Coleoptera 250,858 Diptera 50,883 Lepidoptera 327,095 Fungi 10,018
Number of parataxonomists, technicians, and curators trained	55	50
Number of agreements with companies, research centers, small and medium enterprises, NGOs, and grassroots organizations that incorporate or use information (generated by the project) in activities aimed at sustainable use of biodiversity	47	57
Number of new applications of the biodiversity database generated by the project that are available on the web (new indicator)	15	16
Copies of information products (field guides, educational material) sold or donated that were created using information from the project (new indicator)	100,000	142,109
Number of media pieces or citations using information generated by the project (new indicator)	1200	1,581
Number of hits on web sites featuring information generated by the project (new indicator)	16000/day	15,946/day

Amount of budget provided from INBio's own resources rather than from donors (new indicator)	$3.6 million	$3.3 million
Marginal cost of processing specimens (new indicator)	$4.25/specimen	$3.67/specimen

[1] End of project

Annex 2. Project Costs and Financing

Project Cost by Component (in US$ million equivalent)

Component	Appraisal Estimate US$ million	Actual/Latest Estimate US$ million	Percentage of Appraisal
1. Inventory Framework	0.70	0.40	52
2. Biodiversity Inventory			
a) Collection Activities	1.40	1.40	100
b) Cataloging Activities	6.70	21.00	314
3. Sustainable Use of Biodiversity	0.90	1.00	113
4. Institutional Strengthening	1.30	1.80	140
Total Baseline Cost	11.00	25.60	
Total Project Costs	11.00	25.60	
Total Financing Required	11.00	25.60	

Project Costs by Procurement Arrangements (Appraisal Estimate) (US$ million equivalent)

Expenditure Category	Procurement Method[1] ICB	NCB	Other[2]	N.B.F.	Total Cost
1. Works	0.00 (0.00)	0.00 (0.00)	0.06 (0.05)	0.00 (0.00)	0.06 (0.05)
2. Goods	0.35 (0.31)	0.17 (0.15)	0.81 (0.70)	0.00 (0.00)	1.33 (1.16)
3. Services	0.00 (0.00)	0.00 (0.00)	4.34 (4.34)	2.98 (0.00)	7.32 (4.34)
4. Training	0.00 (0.00)	0.00 (0.00)	0.96 (0.96)	0.00 (0.00)	0.96 (0.96)
5. Incremental Recurrent Costs	0.00 (0.00)	0.00 (0.00)	1.33 (0.49)	0.00 (0.00)	1.33 (0.49)
Total	0.35 (0.31)	0.17 (0.15)	7.50 (6.54)	2.98 (0.00)	11.00 (7.00)

Project Costs by Procurement Arrangements (Actual/Latest Estimate) (US$ million equivalent)

Expenditure Category	Procurement Method[1] ICB	NCB	Other[2]	N.B.F.	Total Cost
1. Works	0.00 (0.00)	0.00 (0.00)	0.10 (0.10)	0.00 (0.00)	0.10 (0.10)
2. Goods	0.20 (0.20)	0.10 (0.10)	1.30 (1.10)	0.00 (0.00)	1.60 (1.40)
3. Services	0.00 (0.00)	0.00 (0.00)	4.60 (4.40)	17.20 (0.00)	21.80 (4.40)
4. Training	0.00	0.00	0.50	0.00	0.50

	(0.00)	(0.00)	(0.50)	(0.00)	(0.50)
5. Incremental Recurrent Costs	0.00 (0.00)	0.00 (0.00)	1.60 (0.60)	0.00 (0.00)	1.60 (0.60)
Total	0.20 (0.20)	0.10 (0.10)	8.10 (6.70)	17.20 (0.00)	25.60 (7.00)

[1/] Figures in parenthesis are the amounts to be financed by the Bank Loan. All costs include contingencies.

[2/] Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

Project Financing by Component (in US$ million equivalent)

Component	Appraisal Estimate			Actual/Latest Estimate			Percentage of Appraisal		
	Bank	Govt.	CoF.	Bank	Govt.	CoF.	Bank	Govt.	CoF.
1. Inventory Framework	0.74	0.00	0.00	0.40	0.00		54.1	0.0	0.0
2. Biodiversity Inventory									
a) Collection Activities	1.20	0.16	0.00	1.30	0.10		108.3	62.5	0.0
b) Cataloging Activities	3.25	0.45	3.00	3.20	0.60	17.20	98.5	133.3	573.3
3. Sustainble Uses of Biodiversity	0.88	0.04	0.00	0.90	0.10		102.3	250.0	0.0
4. Institutional Strengthening	0.93	0.35	0.00	1.20	0.60		129.0	171.4	0.0
Total	7.00	1.00	11.00	7.00	1.40	17.20	100.0	140.0	156.4

Annex 3. Economic Costs and Benefits

Incremental Costs and Global Environmental Benefits

The global environment objective of the project was to demonstrate the benefits of investing in a collection of biological material in a small number of sites and to develop a cost-effective methodology to do this. The project was limited to an inventory of at first four and then, with the inclusion of Lepidoptera, five major taxonomic groups at various sites in five conservation areas. The project contributed to: (i) expanding the inventory by establishing a widely applicable framework; (ii) increasing human capacity; (iii) developing applications that illustrated the benefits derived from the enhanced knowledge base provided through biodiversity inventories; and (iv) establishing the direct link of collection activities to observed demand for educational, conservation, and commercial purposes. The project with GEF funding (which in the definitions used in the GEF incremental costs analysis is defined as the "GEF Alternative") permitted SINAC and INBio to undertake a ambitious program on an accelerated timetable that addressed these global biodiversity objectives.

The scope and costs of carrying out the GEF Alternative over the seven-year lifetime of the project (table A3.1) were: (i) park management costs for protection and biodiversity conservation in the 5 conservation areas (US$21.0 million - same as Baseline); (ii) planning and participation, which established and monitored a framework for collecting and cataloging species (US$0.9 million); (iii) biodiversity inventories of five taxonomic groups (US$27.9 million); (iv) sustainable use applications: tested potential revenue and non-revenue-generating applications of the emerging biodiversity knowledge (US$4.1 million); and (v) institutional strengthening: increased institutional capacity to manage the scaling up of biodiversity development (US$4.6 million). Over the seven years, these activities totaled US$58.5 million, an amount significantly larger than the original US$43.8 million. This difference is accounted for in a contribution from INBio of US$1.4 million and the US$14.2 million derived from the more than 40,000 volunteer taxonomist-days—a significant global contribution.

This increase in the final amount of the project shows the leverage that the GEF alternative had in generating other donor interest and financial support. The INBio initiative of consolidating various donor activities under the umbrella Integrated Program substantially benefited all involved. Synergies were exploited resulting in better use of donor monies. The project was able to benefit from the complementary financing of US$15 million from the Dutch and Norwegian governments. This funding was fundamental because it enabled the project to start with basic infrastructure, equipment, and information systems in place, thus complementing the project’s activities.

Table A3.1 Incremental Cost Matrix

Component	Cost Category (US$millions)							Global Benefit
	Base-line	GEF Alternative		Incremental				
		Ori-ginal	Actual	Ori-ginal	Actual			
					GEF	Other	Total	
Biodiversity Conservation at 5 Conservation Areas	21.0	21.0	21.0	0.0	0.0	0.0	0.0	Conservation of globally significant biodiversity in the five conservation areas
Planning and Participation (formerly Inventory Framework)	0.5	1.2	0.9	0.7	0.4	0.0	0.4	
Biodiversity Inventory	5.5	13.5	27.9	8.0	4.5	17.9	22.4	Practical methodologies for biodiversity inventory have been recognized and are being used in global initiatives The inventory of the 5 taxonomic groups has greatly contributed to scientific knowledge of these groups in the Neotropics. One new species for science every day (over the last three years) Public access to all inventory information accessible on an acclaimed easy-to-use website Legal, contractual and financial models for the use of the biodiversity inventory Facilitation of the contributions of 350 taxonomists from across the world
Sustainable Uses of Biodiversity	3.1	4.0	4.1	0.9	0.9	0.1	1.0	New successful working modalities between the public sector and NGOs to promote the sustainable management of biodiversity
Institutional Strengthening	2.8	4.1	4.6	1.3	1.2	0.6	1.8	
Total	32.9	43.8	58.5	11.0	7.0	18.6	25.6	

Notes:

a. Includes government and cofinanciers.

b. Differs from the original US$42.9 million in the Incremental Cost Analysis in the PAD document, reflecting INBio's contribution of US$0.9 million.

c. Reflects an actual contribution from INBio of US$1.4 million and US$14.2 million computed as international taxonomists' time.

Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating	
			Implementation	Development
Month/Year	Count	Specialty	Progress	Objective
Identification/Preparation				
1995-1996	*5*	ECONOMIST (2); PROCUREMENT ANALYST (1)		
Appraisal/Negotiation				
1997	*10*	ECONOMIST (3); AGR ECONOMIST (2); ENVT ECONOMIST (1); SOCIOLOGIST (1); PROCUREMENT ANALYST (1);		
Supervision				
11/24/1998	*2*	TASK MANAGER (1); BIOLOGIST (1)	HS	HS
11/23/1999	*4*	TASK MANAGER (1); PROCUREMENT ANALYST (1); OPERATIONS ANALYST (1); CONSULTANT (1)	HS	HS
06/23/2000	*4*	TASK TEAM LEADER (1); ASSISTANT (1); BIOSTATISTICIAN (1); PROCUREMENT (1)	HS	HS
11/21/2000	*5*	TASK TEAM LEADER (1); ASSISTANT (2); ECONOMIST (1); INDIGENOUS SPECIALIST (1)	HS	HS
11/21/2001	*4*	TASK TEAM LEADER (1); OPERATIONS ANALYST (1); PROCUREMENT (1); INDIGENOUS SPECIALIST (1)	HS	HS
05/24/2002	*3*	PROCUREMENT SPECIALIST (2); DISBURSEMENT SPECIALIS (1)	HS	HS
06/25/2002	*2*	TASK TEAM LEADER (1); OPERATIONS ANALYST (1)	S	HS
11/17/2003	*2*	TASK MANAGER (1); PROGRAM ASSISTANT (1)	HS	HS
11/12/2004	*3*	TASK MANAGER (1); PROGRAM ASSISTANT (1); PROCUREMENT ANALYST (1)	HS	S
12/16/2005	*2*	TASK MANAGER (1);	HS	S

ICR 04/07/2006	*1*	PROGRAM ASSISTANT (1); ENV ECONOMIST (1)	HS	S

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US$ ('000)
Identification/Preparation	42	114
Appraisal/Negotiation	18	51
Supervision	97	303
ICR	9	37
Total	167	505

Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	Rating
☒ *Macro policies*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☒ *Sector Policies*	○ *H* ● *SU* ○ *M* ○ *N* ○ *NA*
☒ *Physical*	● *H* ○ *SU* ○ *M* ○ *N* ○ *NA*
☒ *Financial*	● *H* ○ *SU* ○ *M* ○ *N* ○ *NA*
☒ *Institutional Development*	● *H* ○ *SU* ○ *M* ○ *N* ○ *NA*
☒ *Environmental*	○ *H* ● *SU* ○ *M* ○ *N* ○ *NA*
Social	
☒ *Poverty Reduction*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☒ *Gender*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☐ *Other (Please specify)*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*
☒ *Private sector development*	○ *H* ○ *SU* ● *M* ○ *N* ○ *NA*
☒ *Public sector management*	○ *H* ○ *SU* ● *M* ○ *N* ○ *NA*
☐ *Other (Please specify)*	○ *H* ○ *SU* ○ *M* ○ *N* ● *NA*

Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

6.1 Bank performance	*Rating*			
☒ *Lending*	○ *HS*	● *S*	○ *U*	○ *HU*
☒ *Supervision*	○ *HS*	● *S*	○ *U*	○ *HU*
☒ *Overall*	○ *HS*	● *S*	○ *U*	○ *HU*

6.2 Borrower performance	*Rating*			
☒ *Preparation*	○ *HS*	● *S*	○ *U*	○ *HU*
☒ *Government implementation performance*	○ *HS*	● *S*	○ *U*	○ *HU*
☒ *Implementation agency performance*	● *HS*	○ *S*	○ *U*	○ *HU*
☒ *Overall*	○ *HS*	● *S*	○ *U*	○ *HU*

Annex 7. List of Supporting Documents

Global Environment Facility. January 1998. Costa Rica, Biodiversity Resources Development Project (Report No. 17207-CR). Project Document. Washington, DC.

Government of Costa Rica. Estrategia Nacional de Conservación y Uso Sostenible de la Biodiversidad.

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Knapp, Susan. 2002. Detailed Comments on INBio Inventory Component. Document Associated with World Bank Mid-Term Review Mission, 18–24 June 2002.

Ugalde, Jesús, Randall García. 2002. The Essence of the Institution. Santo Domingo de Heredia, CR. Instituto Nacional de Biodiversidad.

Unimer. Research Internacional. 2004. Conocimiento, uso de información e imagen. Estudio Cuantitativo y Cualitativo para el INBio.

van de Putte, Bert, and Randall García. 2002. "Towards Sustainability: Experiences of the Instituto Nacional de Biodiversidad (Costa Rica)." Santo Domingo de Heredia, CR. Instituto Nacional de Biodiversidad.

World Bank. 1993. Costa Rica - Third Structural Adjustment Loan. Document P-5912-CR.

_____. 1998. Staff Appraisal Report

Additional Annex 8. Borrower's Summary Evaluation

Final Assessment by Project Beneficiary (Translation of Document in Spanish received from INBio)

Project Background: The National Biodiversity Institute (INBio) requested and agreed to execute the Biodiversity Resources Development Project, which was financed by the Global Environment Facility (GEF) (Grant No. 28324) and administered by the World Bank (WB) which acted as the GEF's implementation agency, in accordance with Grant Agreement TF028324 (dated March 6, 1998) between INBio and the WB.

Since its start, it was executed as part of the Integrated Biodiversity Resources Development Program whose objective was to develop and promote mechanisms that integrate conservation with development, utilizing knowledge for the sustainable use of biodiversity and thus contributing to compliance with the National Conservation Strategy's three lines of action: a) saving representative samples of forest biodiversity; b) improving knowledge of the rich biodiversity that exists; and c) seeking sustainable, intelligent uses of this biodiversity.

This program's local partner was the National System of Conservation Areas (SINAC) in Costa Rica. It also had the financial support of the Governments of Holland and Norway, and the technical collaboration of numerous international experts in the areas of taxonomy and systematics. It was concentrated in five of the ten existing Conservation Areas: Tempisque (ACT), Arenal-Tilarán (ACAT), Amistad-Caribe (ACLAC), Amistad-Pacífico (ACLAP), and Osa (ACOSA).

The project's general objective was to demonstrate that an increase in knowledge of species produces a greater impact on the conservation and sustainable use of globally important biodiversity (through the sustainable management of biodiversity resources and the promotion of environmental values).

Thus, it was divided into four specific objectives: a) generation of knowledge in select taxonomic groups (Coleoptera, Diptera, Hymenoptera, macro-fungi, micro-fungi, and lichens) to which Lepidoptera was added in 2002; b) facilitation of biodiversity management through the use of select taxonomic groups; c) encouragement to improve environmental values and awareness; and d) institutional strengthening. In turn, these objectives, in operational terms, were structured in the following four components: a) planning and participation; b) inventory of biodiversity; c) sustainable uses of biodiversity; and d) institutional strengthening.

Outstanding achievements and findings

In summary, the project has made a great contribution to the country with regard to the generation of knowledge about biodiversity, particularly in five taxonomic groups (Hymenoptera, Coleoptera, Diptera, Lepidoptera, and fungi) and support to three other groups (plants, nematodes, and mollusks) as part of the integrated biodiversity management program.

It has contributed to promoting and improving the conservation and sustainable use of

biodiversity through the contribution and generation of information to support conservation measures in conservation areas (basic information stemming from the inventory, specialized technical reports, and ecological studies). It aided in the organization and administration of Web-accessible (Atta) information on biodiversity. It allowed the dissemination and transfer of biodiversity knowledge to society, utilizing electronic and print media, training, and sharing of experiences. It also contributed to the process of negotiating new projects aimed at seeking sustainable uses of biodiversity through the Bioprospecting Program.

The globally important benefits that the project contributed include: development of practical methodologies to carry out biodiversity inventories that have been learned in global initiatives such as ALL and GBIF and at regional scale; and new species for science (an average of one species every three days). Inventory results are available online (http://atta.inbio.ac.cr) for consultation by the world scientific community and the general public. The inventory of the five taxonomic groups includes species that are widely distributed in Central and South America; opportunities for quick training in methodologies for parataxonomists, technicians, and curators; contribution of legal, contractual, and financial models for biodiversity inventory uses, whether or not they generate revenue; new modalities for joint work by the public sector and NGOs to promote the sustainable management of biodiversity; and integration of nearly 350 taxonomists from various research centers, museums, and universities around the world.

1. Contribution of increased taxonomic knowledge to the conservation and sustainable use of biodiversity

The project addressed SINAC's direct management and decisionmaking needs related to the conservation and sustainable use of biodiversity within conservation areas. This includes aspects such as: scientific-technical criteria and methodologies for the creation or expansion of areas; establishment of hunting seasons (*vedas*); determination of the ecological and genetic status of populations; estimation of volumes of resources for use by neighboring communities; payment of environmental services; definition of guidelines for ecotourism development in specific areas, etc.

Ecological studies ("monographs" on species, habitats, or ecosystems) constituted a substantial achievement of the project. These studies were carried out through external consultancies, capitalizing on the unique strengths of other institutions (UNA, UCR, ITCR, and CATIE), which made it possible to strengthen INBio's linkages with national scientists and in turn favored its image as a promoter of valuable environmental initiatives. The 42 ecological studies addressed SINAC's specific demands, classified in the following categories:

i. Sustainable management of plant populations and assessments of their populations' risks or possible use (tree species, palm trees, moss, and lianas).
ii. Population studies of endangered mammals or of species that indicate environmental status (tapir, squirrel monkey, howler, sloths, marine mammals, etc.).
iii. Population studies of endangered birds (green and red macaws, aquatic birds, songbirds, etc.).
iv. Use of habitats and resources (butterfly areas) and populational impact of hunting on bird and mammal populations.
v. Management of aquatic habitats and species (green turtles, parrot turtles, and leatherback

turtles, lobsters, crocodiles, green clams, and marine mammals).

In terms of inventory per se, the project focused on four orders of insects (Coleoptera, Diptera, and Hymenoptera, plus Lepidoptera since 2002), as well as on three "types" of fungus (macro-fungi, micro-fungi, and lichens). There is no doubt about the potential importance of the insect groups inventoried, whether as pests, of ornamental value, as indicators of the health of certain ecosystems (Coleoptera, Lepidoptera, and Diptera), or as biological control agents (Hymenoptera, as well as several Diptera and Coleoptera).

From information collected from other latitudes, the possible use of fungi was clear from a nutritional or pharmaceutical standpoint, as was the use of some lichens as bioindicators of the health of various ecosystems, as well as the use of micro-fungi as biological control agents of insects (entomopathogens) or other microorganisms (antagonists).

The project's contributions to the biodiversity inventory (1988–2005)
1,500 new species for science.
Insect Order Collection:
- 22% increase in collection
- 277% increase in identified species
- 312% increase in accepted species

Fungus Collection:
- 1,665% increase in collection
- 1,375% increase in identified species
- 367% increase in accepted species

Printed and electronic publications
- 190 scientific publications
- 10 educational publications
- 5 field guides
- 1,036 Basic Information Units
- 30 technical reports to support decision making

Over US$17 million in free support from over 300 international taxonomists

However, beyond any strictly "utilitarian" vision, the great scientific value of the information generated is undeniable. Thanks to the project, this knowledge was extended to other taxonomic groups, not only insects. In this regard, INBio has been able to respond to resolving the problem of "taxonomic impediment" (i.e., the lack of solid, reliable taxonomic knowledge in order to properly utilize biodiversity) that was presented in *The Darwin Declaration*.

INBio's scientific effort has truly been immense. It collected over 3,100,000 specimens of insects and other arthropods, mollusks, nematodes, fungi, and plants, corresponding to nearly 23,000 duly catalogued species, with some 2,300 new species for science.

Nevertheless, in addition to the use of this information in the production of original, innovative educational materials (see items 2 and 3) and—already systemized and inputted—as a resource for consultation by students and experts (especially through species pages or UBIs on the

Internet), it has been a great support for ecotourism (currently the country's principal source of foreign exchange). The latter is clear in light of the numerous field guides, but it also makes "visible" to tourists various species of insects and micro-fungi, lichens, etc. that are not "emblematic" or "charismatic" (such as certain birds or mammals). In turn, this "revelation" has made park rangers and other SINAC personnel more aware of the value of the forests they protect because, with this increased knowledge, they find their daily work of preserving the biota contained in these forests even more meaningful.

But finally, as was expected, there are various examples of a more "applied" use of the information generated by the project, in some cases made possible by other funds such as those of the IDB (FOMIN), both in the conservation (in protected areas) and practical use of biodiversity in agriculture and forestry, as well as in ecotourism. The following are some examples:

i. Change in category from Diriá Wildlife Refuge to National Park, due to the detailed documentation of the wealth and unique features of fungus, plant, insect, or vertebrate species.
ii. Definition of priority zones for payment of environmental services in ACOSA, based on biotic, abiotic, and sociocultural criteria.
iii. Contribution of biological information to justify biological corridors and payment of environmental services in ACT, ACLAP, and ACAT.
iv. Hunting seasons [*vedas*] for Band-tailed and White-winged doves in ACLAP and ACT, as well as restrictions on the extraction of various forest species (bitter cedar [*cedro amargo*], ceiba, rosewood [*cocobolo*], skeels [*espavel*], *guanacaste blanco*, *guapinol*, *ron ron*, and *tempisque*) in ACT.
v. More detailed knowledge of species, habitats, and ecosystems used by local groups dedicated to ecotourism.
vi. Discovery and promotion of a new species of the micro-fungus *Trichoderma* sp., which acts as an antagonist of various pathogens that affect vanilla; this gave rise to a project of practical value with the company La Gavilana S.A.
vii. Registry in the country of over 60 species of fungi, edible in other countries, and with the potential to be artificially cultivated by small and medium producers' organizations.
viii. Improvement of the management of butterfly sites per se—for which overseers of these sites have been trained—as well the expanded supply of pupae of a greater diversity of species with ornamental value, with a view toward a chain of production.
ix. Proper knowledge of mosquitoes (Culicidae) that are vectors of dengue, as well as of entomopathogenic fungi, which has led the Pfizer Company to finance a project focused on the use of these agents for the biological control of such vectors.
x. Improvement in the management of coffee leaf scorch [*crespera*] (caused by the *Xylella fastidiosa* bacteria), thanks to prior knowledge about leafhoppers [*chicharritas*] (Cicadellidae), which has made it possible to better pinpoint their role as vectors of this disease in Costa Rica.
xi. Identification, thanks to the support of INBio taxonomists, of the large majority of insect species that are forest pests (Coleoptera and Lepidoptera) in Costa Rica (and perhaps in other Central American countries), registered in the "*Catalogue of forest pests and diseases in Costa Rica,*" for use by forest producers and prepared by the Inter-Institutional Forest Protection Program (PIPROF).

xii. Inventory, with the support of an international taxonomist collaborating with INBio, of ant species present in Costa Rica's coffee plantations and, through additional efforts by CATIE, determination of which of these species are predators of the coffee berry borer *(Hypothenemus hampei*), a serious pest.

2. Global dissemination and utilization of knowledge generated

In reality, since its inception, it was clear that the information generated by the project should be made available in various modalities and formats so that it would be accessible to various types of users with unique characteristics.

Thus, the rich wealth of specialized taxonomic information (description of numerous new species as well as summary articles on the systematics of certain groups) has been disseminated to the world's scientific community in more than 1,000 publications in specialized journals, which represents an extraordinary achievement in the tropical arena.

Furthermore, it is important to indicate that—encouraged by the project—in the case of Diptera the publication of a specialized work focused on the tropics has been proposed (it will be completed in one year). It would be analogous to the *Manual of Nearctic Diptera* (the latter is in two volumes), and would be a joint effort of some 60 collaborating taxonomists. In addition, there is a commitment (for 2007) by about 10 specialists to produce a book on lichens in Costa Rica, with a mixed focus (with codes, color photos, and information on natural history), for use by specialists and by a broader public.

Moreover, it should be noted that formal scientific information is added to other types of publications stemming from the project, aimed at various, less specialized users such as experts and students of biological and environmental sciences, tourists, secondary teachers and students, primary school teachers and students, and the general public.

Since it began, the project has financed the process of editing all published materials and has also financed numerous publications and guidebooks. Moreover, it clearly enabled the initially modest publishing activity that was initially in place (with fewer than 10 titles) to expand and consolidate, giving rise to a formal and robust agency, Editorial INBio, which is economically self-sustaining. This consolidation has generated enough trust that other entities have become involved in joint editorial efforts with INBio; this in turn has strengthened editorial activity. Some 106 titles have been published (including books, children's games, teaching materials, and compact disks).

Added to these efforts is electronic dissemination whose coverage and scope have been unusual. The taxonomic data generated by the project, instead of being stored statically in internal databases, have been "mobilized" through their transformation and structuring into very affordable formats for various types of users, freely accessible and flexible enough to be updated at any time.

As part of the Integrated Program, the project facilitated numerous innovations in the content and design of a new biodiversity data management system. This process culminated in the

implementation of the Atta system.

Thus, making use of multimedia and Internet technologies, Atta represented a qualitative leap by surpassing the initial scheme of keeping long lists of specimens (always duly georeferenced) and placing them in a broader, more comprehensive biological and ecological context. Using the "systemic" data generated by ecomaps, it was possible to achieve a more holistic view and understanding by integrating in a single system three levels of complexity: specimens, species, and ecosystems. Today Atta is one of the largest data providers for the international initiatives in which INBio participates, such as the GBIF and the World Biodiversity Information Network (REMIB).

However, it should also be noted that Atta does not limit its view and relevance to the scientific community. Its aim is to meet the demands of other types of users through various modules. For example, these include the 3,670 pages of plant, fungus, mammal, bird, reptile, amphibian, insect, spider, mollusk, and nematode species (formerly called UBI or basic information units), each of which refers to one species and contains photographs or sketches of each species and a map of its distribution, as well as information on its biology and natural history, its uses, and its conservation status.

Finally, although both INBio and the project had a mandate or national coverage—limited to Costa Rica—the program enabled the development of numerous regionwide activities, especially training and exchanges in Central America (and other Latin American countries), which included workshops with technicians and specialists, training courses, and the distribution of thousands of copies of educational materials. This not only projected INBio beyond the country's borders but also generated a valuable network of relationships and collaborators that was very useful in developing regional initiatives, some of which have already become a reality (such as support to national herbariums) and others that are on the horizon.

3. Improvement in environmental values and awareness

The improvement of environmental values and awareness is such a broad and complex task that it far exceeds INBio's scope, because numerous national and international entities participate in it. However, since its mission is *"to promote greater awareness of the value of biodiversity to achieve its conservation and improve the quality of human life,"* in this area the project contributed to help INBio carry out this mission.

Besides increasing taxonomic knowledge and its uses, arising from the inventory, and disseminating and utilizing the knowledge generated (see items 1 and 2), the project made it possible to significantly expand popularization or bio-literacy efforts. These efforts are aimed at sharing information and knowledge so that by raising awareness of the value of biodiversity (among decision makers, tourists, educators, students, and the general public), changes can be introduced in their perceptions and behavior that will benefit the conservation of biodiversity.

In this regard, the project made a special contribution through the printing of various books and children's games, as well as teaching materials (posters, compact disks, and a video) for children

and adults.

It should be noted that in addition to its constant presence in the media—it even has a weekly one-hour program on Radio Nacional (SINART)—INBio has become an almost obligatory authority for journalists on environmental issues, which assures significant newspaper, radio, and television coverage. For example, the term "biodiversity" is now commonly used and is not thought of by the general public as something that is esoteric. The description of new species is often a relevant news item.

Finally, beyond the existing internal perceptions—which could generate risks of self-complacency—through the *Knowledge, use of information and image* survey assigned to UNIMER, an effort was made to capture these perceptions from a broad group of information users (politicians, biodiversity managers, resource users, the media, and educators, students, religious leaders, and conservation NGOs).

In reality, the balance was highly positive in terms of influencing politicians, biodiversity managers, and the general public to contribute to the promotion and implementation of environmental conservation efforts, thanks to INBio's scientific and technical strength, to which the project contributed substantially. However, the perception remains that INBio has not liaised sufficiently with local communities—to respond to their environmental needs—or with the direct users of biodiversity resources, whether or not they generate economic income.

4. Correlation of the project's objectives with those of the institutions involved

The project was a joint initiative by INBio and SINAC, and was presented as such to the Global Environment Facility (GEF). Thus, from the start there was a correlation between the objectives of both institutions.

In historical terms, it should be remembered that the embryo of what later became INBio arose within the former MIRENEM (now MINAE). Although INBio would later acquire the legal status of a private, nonprofit, public-interest association, its promoters visualized and conceived it as the scientific-technical agency or "arm" of what is now SINAC. In other words, although SINAC acts a regulatory agency, INBio complements it by contributing technical inputs for SINAC's natural resource management activities.

This alliance was formed in 1992 through the signing of the first INBio–SINAC Cooperation Agreement, and was expanded in 1997 with the establishment of the Conservation Program for Development which initially received support from Holland. Thus, SINAC began to receive technical inputs from INBio (joint project preparation, advisory services, technical assistance, staff training, and information sharing) for its activities, culminating in the preparation of the *National Strategy for the Conservation and Sustainable Use of Biodiversity*.

However, the relevance and magnitude of this collaboration increased in an exceptional manner since 1998 when, under the framework of this Strategy, it became possible to align and integrate the three inventory initiatives (financed by Holland, Norway, and the GEF) in the integrated

Biodiversity Resources Development Program. A decision was made to expand its scope to five of the conservation areas. Moreover, besides contributing a substantial amount of funds to enable this, the program arose during a most timely period for SINAC because, besides constituting a focal point as part of the Biodiversity Agreement initiative (for which it had to carry out taxonomic research), in those years it was undergoing a process of institutional restructuring that required strengthening.

In terms of the World Bank's objectives, as a financial entity it fulfilled its agreed role as the implementing agency of the GEF, whose objective is to contribute to protecting the global environment and to promote environmentally and economically sustainable development. More specifically, consistent with the guidelines of the Third Conference of Parties (COP3), by supporting the project the GEF contributed to increase taxonomic capacity (information, human resources training, and institutional strengthening), prioritizing species important in pollinization (Hymenoptera and Coleoptera) or in soil fertility (Coleoptera and fungi).

5. Recipient's (INBio) response capacity during project evolution and execution

Since its inception, and due to its organizational nature (nongovernmental, but of public interest), its management intended for INBio to have enough administrative flexibility to sign agreements with national, foreign, and international entities, which it did even in its first years.

Thus, the practice acquired in the first seven years of the institution's life made it possible to confidently propose the project to the GEF and then to assimilate it in organizational terms. In other words, the project did not require that drastic changes be made to the institution's organization, although there certainly was a learning cost to be paid (see item 6). However, this was adapted and properly absorbed as the project evolved, and it was complemented by the two similar projects financed by the Governments of Holland and Norway (see item 7), thus achieving a high level of synergy that resulted in considerable institutional strengthening.

In terms of relationships with donor agencies, it is acknowledged that there were some difficulties at first with the World Bank due to procedural issues, but these were detected and corrected in a timely manner (see items 6 and 7).

For its part, in its relationship with SINAC there is consensus on the full complementarity of both institutions' activities, although at the beginning of the project some problems arose stemming from a lack of timing and communications, partly because both were undergoing a major and nearly simultaneous restructuring. But it is acknowledged that there was a lack of involvement and participation by SINAC in the project's inception, resulting in large part from the dynamics of both entities: INBio is an agency specializing in research, in attracting funds from international donors, and with a streamlined management, while SINAC must respond to multiple, varied demands on a daily basis and is less flexible in administrative and organizational terms.

However, following several "catharsis" workshops facilitated by a psychologist, which helped identify bottlenecks, firm progress was made in joint planning as well as in a new collaboration mechanism, based on more open, ongoing dialogue. Two concrete outcomes of this collaboration,

which are also evidence of mutual evolution in terms of scientific-technical and operational concepts, are the numerous ecological studies carried out (see item 1) and the fact that parataxonomists later had the same prerogatives as SINAC personnel (even wearing their uniform), although they were paid with project funds.

In addition, with regard to INBio's attractiveness as a partner for international taxonomists, the latter perceive it as an excellent ally (see item 7) and express their complete satisfaction with the strong commitment of its staff and with the quality of its infrastructure (buildings, collections, availability of modern technologies, etc.), logistics (collection permits, transportation, organization of field trips, support by parataxonomists, etc.), and other services, all of which were strengthened and expanded under the project.

6. Response capacity of the implementing agency (WB) during project evolution and execution

There is gratitude toward the GEF for financing INBio in a manner that was both unusual—it normally gave direct support to state entities—and generous; INBio was one of world's first NGOs to receive this type of contribution. There no doubt as to the project's significance with regard to the strengthening of institutional capacity, not only in terms of valuable infrastructure but also in the construction and equipping of the fungus laboratory (which in turn has made it possible to now undertake several of the activities listed in item 1) and as indicated in the above pages.

Furthermore, in its role as implementing agency, the World Bank collaborated in numerous ways to ensure that the project never deviated from its originally planned objectives and activities, while understanding that a good amount of adaptability was required to adjust to changing situations stemming from the dynamics of the project's evolution. It also cooperated with other donors in the program's supervision; it accepted the inclusion of a taxon (Lepidoptera) that was not originally considered; it allowed a reasonable redistribution among budget line items; it agreed to extend the project completion period in order to meet INBio's various institutional and financial needs; it facilitated the presence of specialists to help consolidate the project's technical basis; and it promoted efforts to improve the project's administrative and financial management, institutional sustainability, and indicators.

As previously indicated (see item 5), at the beginning INBio faced various difficulties in its relationship with the WB due to procedures (procurement, disbursements, hiring, etc.) that differed markedly from those it had worked with in the past. Moreover, due to the Bank's complex structure, different departments are in charge of specific tasks (budgets, contracts, technical aspects, etc.) which affect the flow of various processes and created some tensions within INBio.

However, it should be noted that in negotiations there was always great respect and trust for INBio. It is acknowledged that INBio kept careful disbursement records, followed procurement procedures, updated its administrative and financial management systems to achieve greater efficiency and response capacity, developed a plan for its institutional sustainability, was able to integrate the reporting and supervision activities of the three project that composed the program

in order to achieve greater collaboration and efficiency, modified work processes and responsibilities as circumstances warranted, and responded immediately and efficiently to World Bank requests.

It may be concluded that the experience gained by INBio under this project helped to significantly improve its capacity to negotiate and manage future projects.

7. Contribution of other donors (Governments of Holland and Norway) and technical partners (international taxonomists) to compliance with project objectives

There is no doubt that in many aspects the projects financed by the Governments of Holland and Norway created the foundation for the successful development of the new GEF/WB project, Biodiversity Resources Development. These were *Development of knowledge and sustainable use of biodiversity* (1997–2002) and *Toward a Sustainable INBio* (2002–2005), financed by Holland, and *Contribution to knowledge and sustainable use of biodiversity in Costa Rica* (1998–2001) and *Biodiversity as an instrument for the development of Central America* (2002–2004), financed by Norway.

Furthermore, although the particular approaches of each donor were somewhat different, they served to achieve complementarity and synergy, which led to the creation of a joint initiative, represented by the *Integrated Biodiversity Resources Development Program*. Thus, from the start activities were planned jointly and joint missions were held to evaluate the program, to the point that since 2003 the program's operational plan became INBio's operational plan as a whole.

This had definite repercussions on INBio's institutional strengthening, not only in terms of its managerial-administrative capacity and efficiency but also with regard to the quality of its scientific-technical contributions. In fact, since the first half of 2002 an institutional reformulation was carried out, as described in the document, *Toward a Sustainable INBio*, establishing targets to achieve institutional sustainability by 2006 and currently being executed.

In turn, with regard to the contribution of international taxonomists, the inventory represented a unique initiative. The project made it possible to capitalize on INBio's prior experience with its many contacts to achieve a truly surprising taxonomic effort: over 350 experts from about 170 entities (museums, universities, etc.) contributed their specialized knowledge and broad experience, and in many cases their resources. But this multi-institutional and multinational effort—which will be remembered as a milestone in tropical biological research, together with the monumental initiative *Biologia Centrali-Americana* from 1879 to 1915—was also carried out at a relatively low cost because, thanks to the generosity of these specialists and/or institutions, INBio saves several million dollars each year.

Furthermore, in addition to the amount of valuable and original knowledge generated, it was possible to strengthen, in an unusual manner, the national capacity in terms of the taxonomy and natural history of various groups of agencies. In reality, a joint, properly structured, and well-linked effort was made by parataxonomists, technicians, curators, and taxonomists. It was also characterized by the fluid, ongoing, and smooth interaction among all those involved in this

process. This led to a high level of self-confidence or empowerment among members of the first links in this chain.

Finally, one highly relevant achievement was to successfully address the initial challenge of developing practical methodologies to carry out large-scale biodiversity inventories whose protocols and specific methods could be tested and adjusted continuously for seven years. Highly valuable lessons were learned for future biodiversity inventories in other countries or macroregions, as part of local or global initiatives.

Additional Annex 9. Maps

Map A9.1 - Costa Rican Ecosystems and Conservation Areas