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GLOBAL ENVIRONMENT FACILITY

MEMORANDUM AND RECOMMENDATION

OF THE DIRECTOR

LAC COUNTRY DEPARTMENT IV

OF THE

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

TO THE

REGIONAL VICE PRESIDENT

ON A PROPOSED GRANT

FROM THE GLOBAL ENVIRONMENT TRUST FUND

IN AN AMOUNT EQUIVALENT TO SDR 6.01 MILLION

TO THE

REPUBLIC OF ECUADOR

FOR A

BIODIVERSITY PROTECTION PROJECT

November**, 1993

Agriculture Division
Country Department IV
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

(As of August 1993)
Currency Unit = Sucre (S/-)
US$1.00 = 2,000 Sucres

FISCAL YEAR

January 1 - December 31

UNITS OF WEIGHTS AND MEASURES

The metric system is used throughout this document.

ACRONYMS

INEFAN	Ecuadorean Institute of Forestry, Natural Areas and Wildlife
DANP	Natural Areas Division of SUFOREN
GEF	Global Environment Facility
GET	Global Environment Trust Fund
GNP	Galapagos National Park
MAG	Ministry of Agriculture
NGO	Non-Governmental Organization
NSPA	National System of Protected Areas
PPA	Project Preparation Advance
SUFOREN	Sub-Secretariat of Forestry and Natural Resources
UNDP	United Nations Development Program

ECUADOR

BIODIVERSITY PROTECTION PROJECT

Grant and Project Summary

Source of Grant:	Global Environment Facility
Grant Recipient:	Republic of Ecuador
Beneficiary:	Ecuadorean Institute of Forestry, Natural Areas and Wildlife
Amount:	SDR 6.01 million (US$8.35 million equivalent)
Terms:	Government will pass on funds to INEFAN on a grant basis
Financing Plan:	(US$ million)

	Local	Foreign	Total
Republic of Ecuador	1.50	—	1.50
GEF	4.15	4.20	8.35
TOTAL	**5.65**	**4.20**	**9.85**

Economic Rate of Return:	Not applicable
Map:	IBRD 25125

MEMORANDUM AND RECOMMENDATION OF THE DIRECTOR OF THE LAC COUNTRY DEPARTMENT IV TO THE REGIONAL VICE PRESIDENT ON A GRANT FROM THE GLOBAL ENVIRONMENT TRUST FUND TO THE REPUBLIC OF ECUADOR FOR A BIODIVERSITY PROTECTION PROJECT

1. I submit for your approval the following memorandum and recommendation on a proposed Global Environment Trust Fund (GET) grant to The Republic of Ecuador in an amount equivalent to SDR 6.01 million (US$8.35), to help finance a project to protect biodiversity through Strengthening of the National System of Protected Areas (NSPA). The Ecuatorean Institute of Forestry, Natural Areas and Wildlife (INEFAN), would be responsible for implementing the project.

2. Country/Sector Background. Ecuador is endowed with a great variety of habitats ranging from arid islands to high altitude peaks to tropical lowland rainforest. Within its relatively small land area, it possesses one of the highest concentrations of species per unit area in South America. A two square kilometer tract of lowland rainforest can harbor over 1,200 species of plants from 136 families. The variety of habitats and ecosystems and the high levels of endemism, form the basis of unparalleled levels of biodiversity, with considerable global significance.

3. While key public policy makers in the country have been preoccupied with achievement of economic recovery following severe economic setbacks, scant attention has been paid to the wide range of critical resource management and environmental protection issues. The inadequate management of agricultural lands and forests, problems of water pollution and waste disposal, environmental damage caused from oil and gas contamination during exploration and and the negative impact of development activities on indigenous peoples, all pose significant challenges.

4. The realization that sustained economic growth and social development would inevitably require improved management of Ecuador's natural resources, combined with increasing pressure from national and international conservation organizations have led the Government to initiate measures aimed at improving environmental management in the country.

5. To protect its vast biological heritage the government has established a National System of Protected Areas which includes 15 conservation units of global importance due to their extremely high levels of biodiversity, multiplicity of life zones, and their importance as centers of endemism. Fourteen are located on the continental territory of Ecuador, while Galapagos National Park (GNP) is in the Galápagos Archipelago situated about 1,000 km off the coast.

6. The protected areas vary in designation from National Parks to Ecological Reserves to Wildlife Management and National Recreation Areas, and vary in size from 1,000 to 655,000 ha. World recognition has already been accorded to the biodiversity value of some of the national parks by being designated as World Heritage Sites (Galápagos and Sangay) and as Biosphere Reserves (Galápagos and Yasuni). The Cotacachi-Cayapas Reserve is one of the ten most diverse "hot spots" at the world level, with an estimated 40-60 percent of its plant species and 25 percent of its tree species being endemic. Yasuni National Park contains a major area of the Amazon basin Pleistocene refuge and is a key center for endemism. It holds a record number of fish species in a watershed and harbors over 500 species of birds. The GNP is the largest protected area in Ecuador at 727,000 ha, and covers almost 97 percent of the archipelago's land area. The inner seas of the Gálapagos are the second largest marine reserve in the world at 70,000 square kilometers. The isolation of the Gálapagos has resulted in

evolutionary processes and habitats being preserved in unaltered condition. The strong selection pressure exerted under the conditions prevalent in the Galápagos results in an accelerated pace of evolution, which in itself holds vital importance for world biodiversity conservation. Approximately 42 percent of the native flora is endemic, as are 80 percent of the breeding species of land birds, 90 percent of the native mammals, 95 percent of the reptiles, 66 percent of the beetles, and almost 30 percent of marine species of all types.

7. These conservation units are being threatened by rapid economic development and subjected to increasingly severe pressures from State-run economic enterprises, the private sector, and population growth. Particularly notable are the impacts of petroleum extraction, mining, tourism and illegal settlements. Virtually all of the protected areas are surrounded by populations of rural poor, in most cases with settlements inside and/or on their immediate borders. The protected areas are often also the home to indigenous groups. In the GNP, poorly managed eco-tourism threatens the very biodiversity on which its economy is dependent. In addition an 8.5 percent annual population growth rate there, due to immigration, has led to increasing pressures on services and scarce natural resources. Growing rates of introduction of non-native species along with increasing marine and urban pollution, are fast endangering levels of biodiversity in the protected areas of the Galápagos. Recent analysis indicates that the six most threatened mainland conservation units (Machalilla, Podocarpus, Sangay and Yasuni National Parks, and Cotacachi-Cayapas and Cayambe-Coca Ecological Reserves) and the Galápagos are precisely those with the highest intrinsic value in terms of biodiversity and ecological services.

8. The major constraints towards effective protection and appropriate and sustainable use of and management of biodiversity, have been lack of definition of national policy on protected areas, an inadequate institutional framework, lack of compliance with existing laws and regulations and insufficient budgetary allocation.

9. The policy and legal framework relating to biodiversity and renewable natural resources protection is principally contained in the "Forestry, Conservation of Protected Natural Areas and Wildlife Law" and its regulations. In addition to this law, there are some 90 sectoral legal instruments relating to natural resource use and management. A number of the sectoral laws (e.g. Mining, Agrarian Reform and Hydrocarbons) have ignored and/or contradicted the regulations dealing with protected areas. Moreover, in the absence of an encompassing environmental law, each sector considers its legal instruments to prevail over others. The inadequacy of this disparate set of policies and laws has been a major problem. In general the legislative and policy framework has been rigid, contradictory, and inoperable in terms of ownership and use of natural resources in protected areas. Consequently it has left protected areas vulnerable to inappropriate interventions.

10. The institutional and administrative organization for managing biodiversity is extremely weak. An effective system of checks and balances among key actors such as those in the public and private sectors, NGOs and local communities has not evolved sufficiently. Planning and decision making is centralized and does not consider the views of all actors in the public and private sectors. Mechanisms to promote and facilitate collaboration through dynamic planning, conflict resolution and consensus building have been non-existent.

11. Until recently, the management of reserve areas has been the responsibility of the Natural Areas Division (DANP) within the Sub-Secretariat of Forestry and Natural Resources (SUFOREN) of the Ministry of Agriculture (MAG). DANP was accorded little importance within MAG, and had virtually no power to interact and negotiate with other Government Agencies or involved parties. Its weak institutional position was exacerbated by MAG's cumbersome internal administrative and financial management structure. This centralized and

highly bureaucratic institutional structure, did not allow for any degree of NGO, community or private sector participation in the planning and decision-making process. Moreover, the institutions involved did not have the capacity to deal with multi-sectoral issues affecting protected areas, such as oil extraction, mining, tourism and colonization. The lack of input from those directly affected has led to considerable conflict over the management of protected areas. At present conservation units are managed according to annual operational plans prepared by each unit's Director and his staff, with little or no consultation with local communities, private resource exploitation interests or other public and private agencies. These rigid, long-term management plans have been developed in a typically "top-down" manner. The repercussion of this approach has been that none of the plans has ever been truly applied, and all are now obsolete and/or impracticable.

12. In addition to policy, legal and institutional factors, budgetary and human resource constraints have also contributed to the problem of loss of biodiversity. With no defined financial strategy for support of the NSPA, funding sources consist of allocations from the National Budget and revenues collected from park entrance fees and donations. However, the only park generating any significant revenues from entrance fees is GNP. Ecotourism in the other areas is still incipient thus the amount of revenues generated is marginal. Activities within protected areas (e.g. mining, petroleum extraction) have not been subject to user-fees despite their negative impacts. The current legal system does not provide an effective means by which compensation could be obtained for mitigating measures for these activities. Inefficient fee-collection and record-keeping systems, combined with significant undervaluation of the resource, have seriously limited the revenues generated. Moreover, revenues were used to cover the overall operational costs of SUFOREN, instead of being reinvested in the protection and maintenance of reserve areas. In the case of the Gálapagos, only 20 percent of the revenues it generates are reverted to it for its operation and maintenance.

13. Financial constraints restrict staffing levels and training procedures, which in turn is critical in constraining effective management of the reserve areas system. This is further enhanced by Government's hiring freeze and non-replacement policy which has resulted in drastic staffing reductions. In addition, it is very difficult to retain qualified staff due to low salaries and poor benefits. In the case of GNP, potential local recruits do not have access to training in nature tourism activities since this is not in the school system curriculum.

14. The Ecuadorean Government (GOE) has initiated actions to clarify its policy and promote efforts to enforce improved management practices. As a first step it established in June 1990 a Presidential Commission to prepare a "Global Plan for Tourism Management and Ecological Conservation of the Galápagos National Park". The plan was completed in June 1991, and is the first stage of an ongoing process of **Strategic Situational Planning** which relies on dialogue and consensus-building among relevant interest groups. In addition the draft of a proposed new environmental law has been prepared by the Environmental Commission of the Congress with the active participation of NGOs. This is bolstered by a new mining law drafted with Bank support and containing stringent environmental regulations which would be instrumental in limiting mining activities in reserve areas. Government activities have been supplemented by numerous national and bilateral organizations providing support to specific reserve areas or for particular activities within conservation units. Overall, however, these activities lack coordination which results in duplication of efforts and inefficient use of scarce resources.

15. As a further demonstration of its firm commitment, the Government has recently created the Ecuadorean Institute of Forestry, Natural Areas and Wildlife (Instituto Ecuatoriano Forestal y de Areas Naturales y de Vida Silvestre, INEFAN) which assumes the responsibilities

of the former SUFOREN. The Government has recently approved INEFAN's organizational structure comprised of two distinct directorates for forestry matters and NSPA management. INEFAN's creation is a move in the right direction for biodiversity protection and for development of forestry resources. An important feature of INEFAN is its financial autonomy. For budgetary purposes it will be allowed to establish and retain revenues generated from park fees, tariffs on logging operations and fines for misuse of resources, and use them for the operation and maintenance of the NSPA.

16. Project Objectives. The main objective would be to enhance biodiversity protection by supporting the restructuring and strengthening of the institutional capacity and overall policy and legal framework for adequate management of the NSPA. Special emphasis would be placed on GNP and six of the most biologically rich conservation units on continental Ecuador selected for their contribution to protection of globally important biodiversity. The project would seek to develop further and strengthen an innovative model for strategic planning and management of biodiversity, as initiated in GNP.

17. Project Description. To support these objectives the project would focus on activities grouped in the following four components:

a) **Institutional Strengthening** (US$ 3.1 million). This component would support strengthening of INEFAN's capacity to manage the NSPA and execute the project by financing: (i) training for INEFAN's staff and other public officials on technical issues related to park management and on the implementation of proposed new laws and regulations; (ii) review and execution of management plans for protected areas with the participation of local communities and NGOs; (iii) studies to determine economic values for goods and services generated through resource use in the protected areas; (iv) analysis of the relationship between local populations and the protected areas, focusing on their use of resources and ways to maximize the benefits accruing to communities; (v) design of a new system for the collection and allocation of revenues from resource use activities; (vi) review of the role and responsibilities of tour operators in promoting conservation while allowing for sustainable revenue generation; (vii) design and establishment of a quarantine system in the GNP to control the influx of non-native species; and (viii) the design and establishment of a monitoring and evaluation system to follow up on the implementation of activities proposed under the project;

b) **Legal Regulatory Framework** (US$0.6 million). The following activities would be financed: (i) a comparative review of current legislation affecting reserve areas; (ii) identification and establishment of legal reforms needed for the protection and management of biodiversity and natural resources; (iii) drafting and promulgation of new regulations for granting operating permits to official and private users of the NSPA and for limiting extraction activities within reserve areas; (iv) development and establishment of regulations that encompass both public and private property within a management regime, and allow private property owners to participate in the management of the area. These regulations would allow for the creation of privately protected areas; (v) development of regulations and a strategy to allow community participation in the administration of the protected areas and their buffer zones; and (vi) analysis of the institutional, legal and social problems related to landholding within protected areas, which undermine the successful implementation of strategies related to protection of biodiversity so as to determine effective legislation to solve these problems;

c) **Outreach Activities** (US$2.0 million). Outreach activities would focus on conflict resolution through a process of consultation and public awareness raising. Specific

activities would include: (i) Conflict resolution amongst key target groups through a national forum to promote project activities and to obtain the support of all interest groups; (ii) creation of Regional Coordination Committees to overlook the implementation of the Management Plans and Conflict Resolution Process; (iii)) a study for the solution of problems of tenancy and resource use within the protected areas; (iv) public awareness campaigns at the national and regional levels to promote biodiversity conservation and the new legal system concerning protected areas; and (v) development of a strategy at the national and regional levels to educate the public on the NSPA; and

d) **Investment Activities** (US$1.7 million). This component would provide financing for civil works and infrastructure in the seven critical reserve areas selected. This would include border delimitation, establishment of trails for visitors, and the construction of visitor information centers. In addition the project would finance logistic support for INEFAN's field staff in the units of the NSPA, such as motorcycles, mobile communication systems, survival equipment and first-aid kits.

18. Project Cost and Financing. The total cost of the project is estimated at US$9.85 million, which represents incremental expenditures. The GET grant would finance about US$ 8.35 million, while INEFAN would contribute US$1.5 million.

19. Project Implementation. The Government assigned INEFAN the responsibility for overall project implementation including coordination with other Government entities, NGOs, local communities and the private sector. For this purpose, a Project Coordinating Unit (PCU) would be established in the office of the Executive Director. For project monitoring and evaluation the PCU would enlist the assistance of the Planning Directorate which would be strengthened with computer equipment and staff training. INEFAN would contract NGOs to carry out studies envisaged under the project. Members of local communities would be consulted during the preparation of terms of reference and review of final reports. A Project preparation Advance (PPA), additional to the proposed grant, would finance consultants for INEFAN to establish an effective and modern management information system. It would also finance technical assistance to help INEFAN select and recruit qualified staff for the Planning, Financial, and Protected Areas Directorates. These activities would be fully operational before grant effectiveness. UNDP would assist INEFAN in the selection and recruitment of consultants for the technical assistance activities.

20. Project Sustainability. To insure project sustainability financial autonomy of the NSPA is a core component of project design. Furthermore, since long term viability of the protection program requires staff with the appropriate skills, the project would support a comprehensive staff training program. The sustainability of the project would be further enhanced by the strategic situational planning process, which allows for the early resolution of conflicts, and incorporates the perspectives of all interest groups.

21. Rationale for GEF Funding. The Government of Ecuador wishes to enhance biodiversity protection in its reserve system areas. It is clear that solutions to the constraints to biodiversity conservation are not to be found entirely by increased budgets, provision of more equipment and vehicles, enhanced training, or even improvements to the administration and management of the reserve areas system. The real crux of the matter lies in effective actions to establish clear policies, enforceable legislation, and a sound institutional structure and organization that would allow efficient use of scarce resources to protect biodiversity effectively. To this end, the Government wishes to expedite the process of policy formulation and establishment of an institutional framework to manage biodiversity protection. However, it lacks the expertise and the funding to map out and implement a protection and development strategy

with a holistic approach. The proposed project would address the issue of providing an institutional and legal framework for environmental protection and natural resources management. It would promote protection and seek further deterioration of seven critical conservation units. The institutional and legal framework developed would benefit the entire system of protected areas.

22. In addition, the project would be on the forefront of the experimental development of models for conserving and effectively managing protected areas and their biodiversity while allowing major economic benefits through nature-tourism and appropriate use of other resources. It would provide a major impetus for institutionalization and strengthening of the unique process already initiated by Government in GNP to correct previous negative trends and break out of the circle of non-sustainable use and undervaluation of resources.

23. Agreed Actions . During appraisal the following aspects were reviewed and agreements reached: i) availability of US$1.5 m offered by INEFAN as counterpart funding, and mechanisms to ensure allocation in INEFAN's annual budgets. These funds would come from revenues INEFAN collects from entrance fees and tourist tariffs to the GNP. INEFAN would deposit on a quaterly basis an amount equal to one fourth of the approved annual budget in an special account with UNDP; ii) staffing arrangements and financial plans for the Natural Areas and Wildlife Management Directorate of INEFAN. With PPA funding INEFAN recruited a consulting firm to assist it select the staff for the Natural Areas Division and for each of the conservation units. Staffing is expected to be completed as condition of effectiveness; iii) annual operational budgets for the Wildlife Directorate and for the conservation units. It was agreed annual work plans and budgets would be completed and agree each October for the following fiscal year; iv) confirmation of activities that would be financed either with GEF or with INEFAN resources. INEFAN resources would be used for finacing project project activities in the GNP, while GEF funding would finance the rest of all incremental project costs; v) timing for preparation and presentation of terms of reference for the studies proposed. TORs for the first year of actvities are being prepared by INEFAN with the assistance on a local NGO and financed by the PPA, and are expected to be ready prior to negotiations; vi) key indicators for the monitoring and evaluation system, and project annual and mid-term review arrangements. These have been prepared already. Project progress reviews would take place in May and October of each year; vii) training plan for staff of the NSPA. This would be formulated during the first year of project implementation using the results of the skills analysis done during the process of staff recruitment; and ix) administrative procedures for project execution such as procurement, disbursements and auditing. During negotiations, assurances would be sought that the Government will; i) provide the necessary counterpart funding to INEFAN; ii) implement the project according to the mutually agreed timetable; and iii) carry out key recommendations of completed studies approved by INEFAN. Conditions of effectiveness would be: i) that staff responsible for project implementation has been designated within INEFAN's Financial Planning, and Reserve Areas Directorates; ii) that INEFAN has begun to implement the accounting system developed through the PPA; and iii) that an operational service agreement has been signed with UNDP.

24. Environmental Aspects. The project has a "B" classification. Proposed management plans to be developed for each conservation unit would include an impact assessment to ensure the protection of the area's biodiversity and environment as a whole. These plans would also incorporate adequate environmental assessment of any activities to be permitted in the buffer zones of the protected area. Negative environmental impacts are not expected.

25. Benefits. The main benefit of the project would be the protection of biodiversity in areas of global ecological importance. The project would build up an innovative model for

strategic situational planning, illustrating methods for consensus building through conflict resolution during the planning process. A significant benefit would be the demonstration of a sustainable model for reconciling conservation and economic needs. The project would strengthen the institutional and financial capacity of the Government for protecting areas of ecological significance.

26. Risks. The main risks envisaged are: (i) budget constraints which might impede project sustainability; (ii) delays to reform of legal regulatory framework to support biodiversity conservation; (iii) inadequate administrative and managerial capability to implement the project and; (iv) multiplicity of project activities may strain INEFAN's implementation capacity. The first risk is mitigated by INEFAN's financial autonomy which allows it to retain revenues generated from park fees, fines and tariffs and to use them for operation and maintenance of the NSPA. To ascertain efficient allocation of funds operational budgets would be agreed during annual project progress reviews. In addition, several project sub-components focus on strengthening the system for the management of protected areas, while allowing economic benefits. The project design takes into account that the more complex legal reforms will be drafted and discussed but may not be implemented during the life of the project. The risks of inadequate managerial capacity would be mitigated by specific actions to strengthen INEFAN's staffing, managerial and technical decision making, and administrative procedures. Finally, INEFAN's implementation capacity would be enhanced by enlisting the expertise of local NGOs in the execution of most project activities and by the support of UNDP with whom INEFAN would sign an operational service agreement to speed up project implementation efficiently and effectively.

27. Recommendation. I am satisfied that the proposed grant would comply with the provisions of the Resolution No. IBRD 91-5 of the Executive Directors relating to the establishment of the Global Environment Facility, and recommend that the Regional Vice President, LAC Region, approve it.

Ping-Cheung Loh
Director
Country Department IV
Latin America and the Caribbean Region

Washington D.C.
November**, 1993

Attachments: Schedules and Technical Annexes

Schedule A

ECUADOR

BIODIVERSITY PROTECTION PROJECT

COST ESTIMATES

	Local	Foreign	Total
	(US$ million)		
Institutional Strengthening Component	1.36	1.76	3.12
Legal Regulatory Framework	0.34	0.30	0.64
Outreach Activities	1.05	0.98	2.03
Investment Activities	1.43	0.36	1.79
Total Baseline Costs	4.18	3.40	7.58
UNDP Adm. Costs	0.42	0.34	0.76
Price Contingency	0.63	0.12	0.75
Physical Contingency	0.42	0.34	0.76
Total Project Cost	5.65	4.20	9.85

Project Financing Plan:

	US$ million	(%)
GET	8.35	85
Government of Ecuador	1.50	15

Schedule B

PROCUREMENT METHODS
(US$ Thousand)

Category	ICB	LCB	Other[1]	Total
Civil Works	-	1000	-	1000
Goods & Equipment	-	1700	150	1850
Technical Assistance	-	-	4500	4500
Training	-	-	1000	1000
		2700	5650	8350

DISBURSEMENTS BY CATEGORY

Category	Amount (US$ million)	% Financing
Civil Works	1.00	100%
Goods & Equipment	1.85	100%
Technical Assistance	4.50	100%
Training	1.00	100%

ESTIMATED DISBURSEMENTS BY YEAR

	FY94	FY95	FY96	FY97	FY98
Annual	1.0	2.0	2.0	2.0	1.35
Cumulative	1.0	3.0	5.0	7.0	8.35

1 Consulting services to be procured following the August 1981 Bank Guidelines for the Use of Consultants by World Bank Borrowers and by the Bank as Executing Agency.

Schedule C

ECUADOR

BIODIVERSITY PROTECTION PROJECT

Timetable of Key Project Processing Events

Time taken to prepare:	24 months
Prepared by:	Government of Ecuador (through the Presidential Commission for the Galápagos and NGOs) with Bank and UNDP assistance
First IBRD Mission:	February 1991
First Technical Review	September 1991
Second Technical Review	January 1992
Approval by the GEF Scientific and Technical Advisory Panel	February 1992
Presented to and Endorsed by the GEF Participants as part of the Third Tranche of the GEF	May 1992
Pre-Appraissal	March 1993
Appraisal Mission Departure[2]	July 1993
Negotiations (est)	December 1993
Planned Date of Effectiveness (est)	February 1994

WP51\GEF\ECUMODDR.093

2. Change of Government in August 1992 and creation of INEFAN in September delayed project appraisal.

GLOBAL ENVIRONMENTAL FACILITY

ECUADOR

BIODIVERSITY PROTECTION PROJECT

TECHNICAL ANNEXES

Annex 1

Ecuador
Biodiversity Protection Project

Project Implementation Plan

The Project

1. Project Objectives. The main objective would be to support the restructuring and strengthening of the institutional capacity and overall policy and legal framework for adequate management of the National System of Protected Areas (SPA). While most of the project activities would benefit the entire system, proposed investments would be made in the Galápagos National Park (GNP) and six of the most biologically rich conservation units on continental Ecuador selected for their contribution to protection of globally important biodiversity. Proposed actions are designed to complement on-going Government and NGO activities on the NSPA. The costs of these actions represent incremental operational expenditures to INEFAN. The project would seek to develop further and strengthen an innovative model for strategic planning and management of biodiversity, as initiated in the GNP.

2. Project Summary Description. To reach the proposed objectives the project comprises 35 activities grouped into the following four main elements: institutional strengthening; legal and regulatory framework; outreach activities; and investments. These are summarized below. More detailed discussion of each activity is included in Attachment 2 to this Annex and in Annex 3 dealing with monitoring and evaluation.

(i) **Institutional Strengthening** (US$ 3.1 million). This component would support strengthening of INEFAN's capacity to manage the NSPA and execute the project by financing: (i) training for INEFAN's staff and other public officials on technical issues related to park management and on the implementation of proposed new laws and regulations; (ii) review and execution of management plans for protected areas with the participation of local communities and NGOs; (iii) studies to determine economic values for goods and services generated through resource use in the protected areas; (iv) analysis of the relationship between local populations and the protected areas, focusing on their use of resources and ways to maximize the benefits accruing to communities; (v) design of a new system for the collection and allocation of revenues from resource use activities; (vi) review of the role and responsibilities of tour operators in promoting conservation while allowing for sustainable revenue generation; (vii) design and establishment of a quarantine system in the GNP to control the influx of non-native species; and (viii) the design and establishment of a monitoring and evaluation system to follow up on the implementation of activities proposed under the project.

(ii) **Legal Regulatory Framework** (US$0.6 million). The following activities would be financed: (i) a comparative review of current legislation affecting reserve areas; (ii) identification and establishment of legal reforms needed for the protection and management of biodiversity and natural resources; (iii) drafting and promulgation of new regulations for granting operating permits to official and private users of the NSPA and for limiting extraction activities within reserve areas; (iv) development and establishment of regulations that encompass both public and private property within a management regime, and allow private property owners to participate in the management of the area. These regulations would allow for the creation of privately protected areas; (v) development of regulations and a strategy to allow community participation in the administration of the protected areas and their buffer zones; and (vi) analysis of the

institutional, legal and social problems related to landholding within protected areas, which undermine the successful implementation of strategies related to protection of biodiversity so as to determine effective legislation to solve these problems.

(iii) **Outreach Activities** (US$2.0 million). Outreach activities will focus on conflict resolution through a process of consultation and public awareness raising. Specifically activities will include: (i) Conflict resolution amongst key target groups through a national forum to promote project activities and to obtain the support of all interest groups; (ii) creation of Regional Coordination Committees to overlook the implementation of the Management Plans and Conflict Resolution Process; (iii)) a study for the solution of problems of tenancy and resource use within the protected areas; (iv) public awareness campaigns at the national and regional levels to promote biodiversity conservation and the new legal system concerning protected areas; and (v) development of a strategy at the national and regional levels to educate the public on the NSPA.

(iv) **Investment Activities** (US$1.79 million). This component would provide financing for civil works and infrastructure in the seven critical reserve areas selected. This would include border delimitation, establishment of trails for visitors, and the construction of visitor information centers. In addition the project would finance logistic support for INEFAN's field staff in the units of the NSPA, such as motorcycles, mobile communication systems, survival equipment and first-aid kits.

Project Management

3. GOE has assigned INEFAN the responsibility for implementing the proposed project (Attachment 1 describes the organizational structure and legal status of INEFAN). INEFAN would be responsible for overall project implementation including coordination with other Government entities, NGOs, local communities and the private sector. INEFAN would contract with UNDP for procurement of goods and hiring of technical assistance. A number of additional local/external organizations would be sub contracted to carry out specific activities under the supervision of the pertinent unit within INEFAN. Within INEFAN, the following units would have specific implementation responsibilities:

Project Coordinating Unit (PCU). This unit would be established under the umbrella of the Executive Director's Office prior to grant effectiveness. It would have overall responsibility for project implementation. A full time Project Coordinator acceptable to the Bank would be recruited by INEFAN and would be responsible for coordinating project execution and expenditures and for submitting semi-annual progress reports to the Bank. In addition, a full time Assistant Coordinator and a support staff would be recruited for the duration of the project. Two part-time scientific advisers would be recruited to assist the unit's coordinator in the review of proposed studies and their recommendations, and to provide technical assistance in matters dealing with biodiversity protection and park management. The operating costs of the PCU would be supported under the project during its execution period.

The Planning Directorate (PD) of INEFAN would be strengthened with computer equipment and staff training to establish and carry out monitoring and evaluation (M&E) of the project. It is foreseen that PD, in close liason with the PCU, would contract with local NGOs the carrying surveys and analysis of socio cultural profiles. In addition, PD would provide input during the preparation of annual work programs.

The Directorate of Wildlife and Protected Areas (DWPA) would play a key role in providing technical assistance in the preparation of terms of reference for proposed studies and in the preparation/update and review of management plans for protected areas.

Specific Protected Areas. Managers and technical staff of the seven protected areas to be supported under the project would be responsible for carrying out specific project activities designed for each area.

The Directorate of Training and Research would be responsible for the design and implementation of staff training activities and for the design and execution of public information campaigns.

Project Costs and Financing

4. Cost estimates amount to approximately US$9.85 million which represent all incremental expenditures and excludes recurrents costs associated with INEFAN's permanent personnel, maintenance of facilities, and operating expenses of managing the network of protected areas.

5. Base costs were estimated at August 1993 prices using the prevailing rate of exchange of S/.2,000 to 1 US dollar estimated by the Central Bank for commercial operations. Physical contingencies (10 per cent of base costs) were allowed on investment costs except for long-term technical assistance. Price contingencies based on Bank projections for international price increases (3.5 per cent) were applied to base costs over the estimated implementation period of five years (1994-1999). Price contingencies on local costs were based on GOE estimates of 15 per cent per annum over the next five years.

6. Core financing for the activities of this project would come from the Global Environmental Facility Trust Fund (GET) (US$8.35 million) and US$1.5 million as counterpart funding from the Government.

7. Project Preparation Advance (PPA) A PPA of SDR 227,000 (US$326,025) was granted to assist INEFAN finance expenditures related to the preparation and start-up phase of the project. Specifically, the following activities are being financed: i) preparation of software and operating manuals for INEFAN's accounting, administration and management information system; ii) acquisition and use of computers and office equipment in support of the above systems; iii) training of INEFAN staff, with the assistance of consultants, in project procedures and implementation; iv) contracting a procurement agent; and v) assistance to INEFAN's management in selecting and hiring technical staff.

8. Procurement For the procurement of goods and services, INEFAN would enter into a operational service agreement with UNDP which would act as procurement agent. Local competitive bidding would be carried out under procedures acceptable to the Bank. Bidding documents would be reviewed to ensure they are satisfactory to the Bank. Where required specialized goods and equipment would be carried out through international shopping with a minimum of three quotations from at least two different countries.

9. Civil works to be constructed under the project consist of small buildings, fencing and trails scattered in the seven priority conservation units of the project. Because of the remoteness of most units, works would be awarded though direct contracting with local firms, individuals, or NGOs who have demonstrated technical expertise and capacity to undertake them.

Contracts will require prior submission of budgets to determine least evaluated cost, the project's staff would verify work completion before final payment is authorized. In other units, civil works would be carried out on the basis of LCB. The following table shows proposed procurement arrangements:

PROCUREMENT METHODS
(US$ Thousand)

Category	ICB	LCB	Other[3]	Total
1) Civil Works		1000		1000
2) Goods & Equipment		1700	150	1850
3) Technical Assistance			4500	4500
4) Training			1000	1000
Total		2700	5650	8350

10. Vehicles, Goods and Equipment. Vehicles (2) would be procured on the basis of LCB. The category of goods and equipment includes technical and scientific equipment of various types, computer office equipment and furniture. These will be procured as needed through grouped bidding packages to allow for LCB. Several packages would be prepared for a total amount of about US$500,000.

11. Consultancy Services and Training. Long term consultants would be recruited for INEFAN by UNDP following Bank guidelines on the basis of short lists of qualified firms or individuals. Short term consultants of a very specialized nature would be recruited individually according to the expertise required. These would be hired directly based on the implementation of activities plan for each annual work program. Technical assistance for training activities would be procured following the same procedures as short term consultants.

12. Operating Costs. GEF funding would finance incremental operating costs such as travel, per diem, and communications. Salaries of permament staff, operation and maintenance of vehicles and equipment and office supplies would be financed by INEFAN's budget. Recurrent costs financed by INEFAN's budget have not been considered in the calculation of project costs.

13. Disbursement. GEF funds would be disbursed thorough: i) UNDP's account in New York where an initial deposit would be made by the Bank for an amount (US$500,000) corresponding to six months of estimated expenditures. All categories of expenditures (listed in

3. Consulting services to be procured following the August 1981 Bank Guidelines for the Use of Consultants by World Bank Borrowers and by the Bank as Executing Agency.

the table below) would be eligible for disbursement from this account. For each payment made out of the account UNDP would furnish the Bank and INEFAN documentation showing that such payment was made exclusively for eligible expenditures; and ii) through the normal disbursement procedures of the Bank to the beneficiary. In this case INEFAN would furnish the Bank statement of expenditures and support documentation showing that payments were made for eligible expenditures. Since INEFAN's contract with UNDP would include expenditures for the activities to be financed with counterpart funding, INEFAN would also deposit its share of estimated expenditures into UNDP's account.

DISBURSEMENTS BY CATEGORY

Category	Amount (US$ million)	% Financing
1. Civil Works	1.00	100%
2. Goods & Equipment	1.85	100%
3. Technical Assistance	4.50	100%
4. Training	1.00	100%

14. Accounting, Reporting and Auditing. Project accounts would be audited anually in accordance with internationally accepted auditing standards by a qualified independent audit firm acceptable to the Bank. Audited accounts and the audit report (the Special Report on the use of the GEF grant) would be submitted to the Bank within six months of the end of each fiscal year. Assurances to this effect would be re-confirmed at negotiations.

15. Reporting. The project's coordinator would be responsible for monitoring and reporting progress according to the agreed implementation timetable (Annex 2) and key indicators of the M&E system (Annex 3). Semi annual reports would be submitted to the Bank showing progress assessment of all activities against agreed annual work programs and targets and would include a review of procurement activities. These reports would serve as a basis for Bank supervision missions and for preparation of the next year's work program and budget. The proposed implementation schedule would be re-confirmed at negotiations.

16. Monitoring and Evaluation. The Project Coordinating Unit in cooperation with the Planning Directorate will have primary responsibility for monitoring and evaluation of the project. Annex 3 discusses in detail the monitoring and evaluation system and lists the key indicators for each project activity.

17. Mid-term Review. An annual mid term review would be carried out in the Bank and INEFAN in September to coincide with the preparation of the next year's work program and budget. The review's main objective would be to confirm or adjust the scope and content of proposed project activities. It would review progress in the implementation of policy, regulatory and institutional changes or improvements; the status of preparation/execution of management plans and other activities in the protected areas; the degree of integration and participation of local communities into the management of reserve areas and other activities in the surrounding areas; proposals of alternative activities for local populations; construction of facilities and adquisition of goods and equipment; and overall project performance including provision of counterpart funding and performance of consultants.

18. **Project Supervision.** Given the number of innovative activities to be implemented under this project a more intensive supervision schedule is proposed than is normally applied in Bank lending operations. Moreover, the proposed schedule takes into account the fact that INEFAN is a newly created institution and that project activities differ somewhat from the normal concerns prescribed in its functions.

19. A supervision frequency of three times per year is proposed to coincide and respond to project milestones. In addition, supervision would be more scientifically oriented with the staffing skills mix selected to reflect the project's multidisciplinary content. Estimated mission duration would be two weeks in the field with one week of report writing. Proposed staffing for each supervision would include: the project's task manager, a parks management specialist, a wildlife specialist, a social scientist, a forest ecologist, and an environmental lawyer/institutional specialist. The core team would consist of the task manager, parks management specialist, and social scientist supplemented by the other specialists mentioned as required. The first supervision is proposed for May 1994 (assuming grant effectiveness in February 1994), the second supervision would be in July when activities for the first year are expected to be underway, and the third supervision would be in October to coincide with the Mid-Term Review and preparation of the work plan and budget for the following year. Similar timing would be used in each of the subsequent years of implementation.

20. **Major Loan Covenants Requiring Special Attention.** This section would be completed after grant negotiations.

Attachment 2

Organizational Structure and Legal Status of the Ecuadorean Institute of Forestry, Natural Areas and Wild Life (INEFAN)

1. INEFAN is a recently created institution (August 17, 1992) for the management of forests, wildlife and protected areas of Ecuador. Previous to INEFAN's creation, a department inside the former Forestry Secretariat (SUFOREN) of the Ministry of Agriculture was in charge of the protection and management of the protected areas system. The creation of INEFAN reflects an evolution in the country's commitment for biodiversity protection and for sustainable management of the country's forest resources.

2. INEFAN is an autonomous institution linked to the Ministry of Agriculture. Its sources of funding are the national treasury and revenues it receives from park entrance fees, tariffs from tourism operators, and fines for illegal logging and hunting. The law that established INEFAN allows it to keep these revenues and to use the in the operation and management of reserve areas system. INEFAN's use of its revenues is not affected from the more recent budgetary regulation that prohibit earmarking of funds. As an autonomous entity, INEFAN has the faculty to sign contracts with other entities and/or individuals to carry out its mandate.

3. INEFAN's staffing was largely inherited from former SUFOREN, however, in line with the GOE's effort to reduce the size of government, about 450 positions dealing mostly with forestry activities, have been eliminated. The current staffing about 642. INEFAN is in the process of reviewing the skills mix of its staff to establish a recruitment program based on the institutional needs. Approximately 77% of the current staff is located in regional offices and protected areas, while the remaining 23% are located in the headquarters in Quito. Staff in headquarters include the Executive Directorate, administrative support departments and three technical directorates: (1) Forestry, (2) Wildlife and Protected Areas, and (3) Training and Research. Chart 1 shows INEFAN's organizational structure. The following paragraphs describes the units within INEFAN that deal with the protected area system. It does not include discussion of internal units that deal with forestry activities specifically.

Board of Directors

4. The Board of Directors is composed of four ministers (Agriculture, Energy and Mines, Tourism, and Defense) and two private sector representatives (from wood industry and NGOs). An Advisory Board to the Board of Directors is made up of representatives from indigenous communities, small industries, and national biology and forestry associations. These boards are coordinating mechanisms for institutions whose actions impact protected areas. Chart 2 shows the interinstitutional links INEFAN has established with other entities for managing protected areas.

National Directorate of Wildlife and Protected Areas (NDWPA)

5. At the national level the NDWPA is responsible for providing technical assistance to the protected areas system. Its Director and four support staff members are responsible for prioritizing research studies, controlling wildlife trade, setting standards for development of ecotourism, and establishing mechanisms for implementing of international treaties.

6. The NDWPA has two departments: Protected Areas and Wildlife. The Department of Wildlife regulates wildlife and endangered species collection, production and trade. This department also determines hunting zones, seasons and fees outside protected areas, and identifies territories in which wildlife should be protected.

7. The Department of Natural Areas coordinates the design and implementation of management plans for protected areas, develops and implements monitoring systems, determines standards for using resources in protected areas and oversees the collection of entrance and users fees in those areas.

8. There are six land management categories under the jurisdiction of the Department of Protected Areas: National Parks, ecological reserves, biological reserves, geobotanic reserves, fauna production reserves and recreational areas. The Ecuadorian law[4], as well as international conventions to which Ecuador has subscribed, define these categories as follows:

a) National Parks Comprise protected areas of land or water of at least 10,000 hectares that maintain natural processes in a highly undisturbed state, to have ecologically representative samples of natural environment available for scientific study, environmental monitoring, education, and maintenance of genetic resources in a dynamic and evolutionary state. Although the legal definition requires the government to own the land of national parks, there are still some private properties within these areas. Furthermore, oil exploration and exploitation concessions have been granted within these areas.

b) Ecological Reserves These are also areas of land or water of at least 10,000 hectares established to protect significant species, or group of species, allowing sustainable management of wildlife by local communities and citizens.

c) Biological Reserves These are preserved areas of land or water big enough to assure natural conditions necessary to protect scientifically significant species or group of species, for research and education.

d) Geobotanic Reserves are created with similar goals than biological reserves These reserves, however, have significant geological and botanic relevance.

e) Fauna Production Reserves These are partially altered areas big enough to allow sustainable use of wild fauna. Local communities have priority in using resources of these reserves.

f) Recreational Areas The objective of these areas is to maintain landscape representative of the harmonious interaction between humans and nature, while providing opportunities for public enjoyment through recreation and tourism.

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4. Based on the *Estrategia para el Sistema Nacional de Areas Protegidas del Ecuador, II Fase* (1989) by the Department of Natural Areas and Wildlife and Natura Foundation, and the *Ley Forestal de Conservación de Areas Naturales y Vida Silvestre* (1981).

National Directorate for Training and Research

9. With its own infrastructure and room facilities, this Directorate formulates and implements training courses for INEFAN's officials and the public. This Directorate also promotes and coordinates national campaigns and training programs with private and public entities, designs, produces and provides training materials for regional educators, and supports research programs.

10. There are 20 officials in this directorate, including four researchers, two biologists, five chiefs of research and support staff. Three research stations under this directorate currently work on forestry projects.

Regional Districts

11. Regional districts are decentralized units allowed to make every day decisions. Each district coordinates the management of forestry activities and of protected areas within its jurisdiction. It also oversees, identifies and implements conservation, development and recuperation programs for natural resources within its boundaries (particularly for watersheds and wildlife). Districts also provide technical assistance to local communities, collect monitoring data for projects within its jurisdiction and periodically report to INEFAN's Executive Director.

12. Seven districts, reporting directly with to the Executive Director, provide administrative and technical support to the protected areas at the regional level. Each district may include two or more provinces and protected areas. The following table shows the distribution of provinces and protected areas within INEFAN's district system.

TABLE 1
Regional Districts
for the Management of Protected Areas

District	Provinces Included	Protected Areas[5]
1	Carchi, Imbabura, Esmeraldas	Cotacachi-Cayapas ER El Angel ER
2	Pichincha, Napo, Sucumbios	Pululahua GB, Cayambe Coca ER, Limoncocha BR, Cotopaxi NP, Cuyabeno FP
3	Cotopaxi, Tungurahua, Chimborazo, Bolívar, Pastaza	Yasuní NP, Cajas RA
4	Azuay, Cañar, Morona	Sangay NP, Chimborazo FP, Boliche RA
5	Loja, Zamora, [illegible]	Podocarpus NP
6	Manabí	Machalilla NP
7	Guayas, Los Ríos	Manglares Churute ER

5. ER=Ecological Reserve, BR=Biological Reserve, NP=National Park, GB=Geobotanic Reserve, FP=Fauna Production Reserve, RA=Recreational Areas

13. The organizational structure of each district includes: a district chief, an advisory board, a technical coordination board, a projects' technical unit, and a legal and administrative support unit. The district chief approves hunting and logging permits, decides and enforces sanctions for misuse of natural resources, evaluates management plans, and promotes and coordinates participation in managing natural resources. The advisory board is a coordination unit which includes representatives from provinces' governors, indigenous communities, army, education directorates, agriculture centers and wood industry.

14. The district technical coordination board oversees the implementation of management plans and use permits, while the projects' technical unit designs and implements land use plans, training programs and community participation mechanisms for all the projects of the area.

15. The number and technincal specialty of the staff for each district varies according to its needs, which in turn depend on the size and fragility of territory destined for protection or for forestry management. At the national level, of the 404 officials assigned to regional offices (excluding Galápagos National Park) 28% (114) are park rangers, 33% (135) are forestry experts and the remaining 38% (155) are administrative and support staff (including eleven lawyers and five biologists).

16. The Galápagos National Park has a different skills mix of expertise in its staff. Of the 92 officials 45% (41) are park rangers, 13% (12) are coast-guards, 7% (6) are forestry experts, and the remaining 48% (45) are administrative and support staff (including three biologists and two legal experts).

Protected Areas

17. The typical structure of a protected area includes a park chief, park rangers and two or three support staff. Traditionally protected areas have faced lack of training, infrastructure and equipment, insufficient staff and budget, and operational problems. The GEF project will tackle these problems.

18. Under the GEF project, selected areas will receive investment funds for infrastructure and equipment. The GEF project will also fund a trainning program for INEFAN officials, and updating of management plans for areas that need it.

19. The new budget system established by INEFAN allows chiefs of protected areas to prepare their budget and submit it for approval, as opposed to the former Forestry Secretariat, which prepared the budgets without any input from field officials.

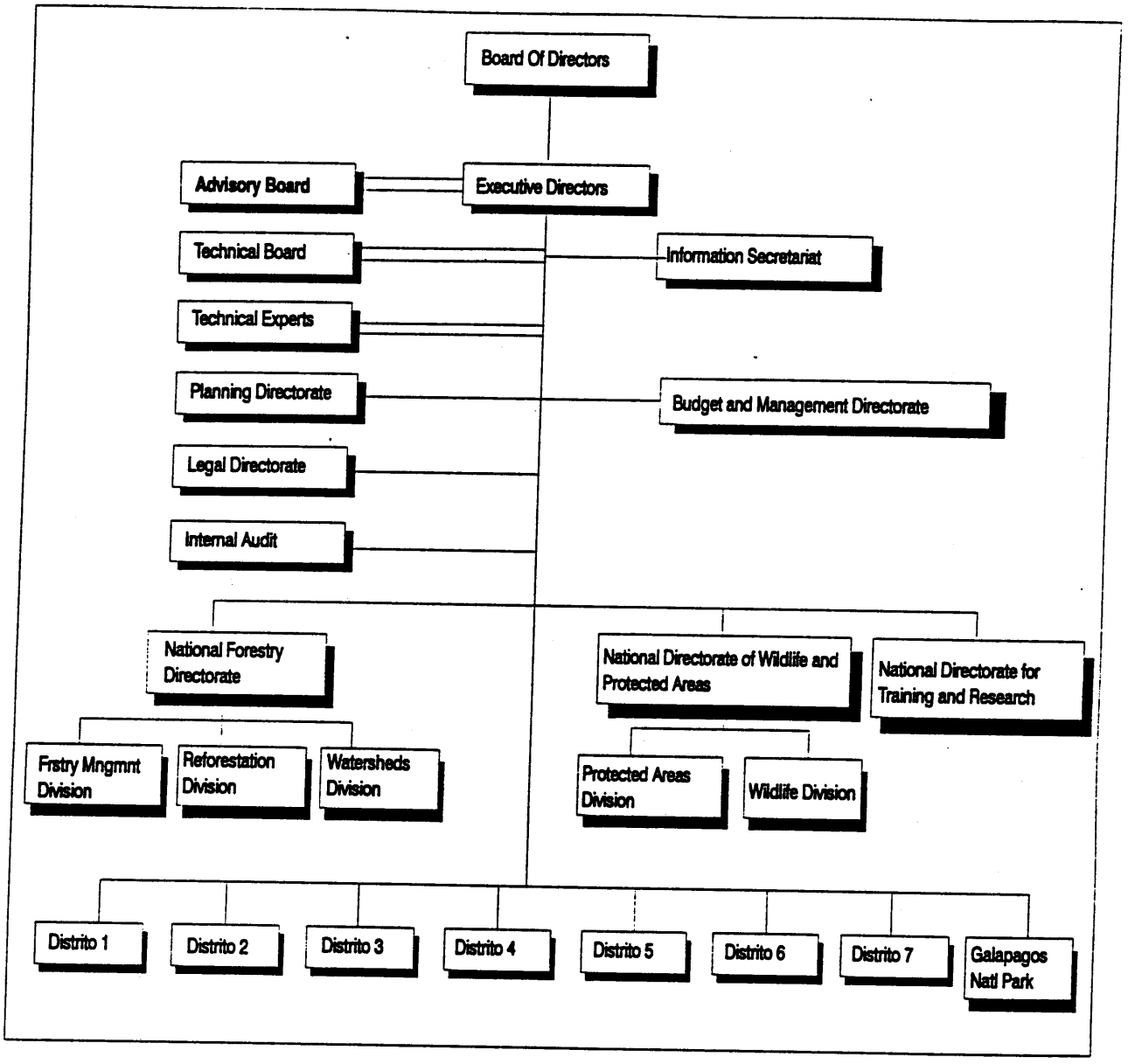
20. The current austerity policy of Ecuadorian government includes a hiring freeze and an action plan to dismiss redundant staff. Because of this policy INEFAN faces difficulties in recruting additional needed park rangers for protected areas. To overcome this problem INEFAN is working in two proposals. Under the first proposal, INEFAN would delegate administration of a protected area to an NGO with which it would share operational expenses. The mandate of this delegation would be in accordance with the requirements specified in the management plan for each protected area, and would necessarily include participation of local communities.

21. The second proposal would be financed by the GEF project, and would consist in utilizing an institutionalized volunteer program for maintenance and protection of the natural areas system. Little operational expenditures would be required since each volunteer would

provide his or her own equipment and clothing. INEFAN's responsibility would be to provide housing and meals and, with support of an NGO, set up basic training for volunteers and rangers. The NGO would provide administrative and logistical support to the program. This program would be aimed at Ecuadorean youth, and eventually international volunteer groups. The support that a well structured volunteer program can provide is considered extremely valuable, especially during seasons of high visitation, spawning of endangered species, or for collection of information for monitoring activities.

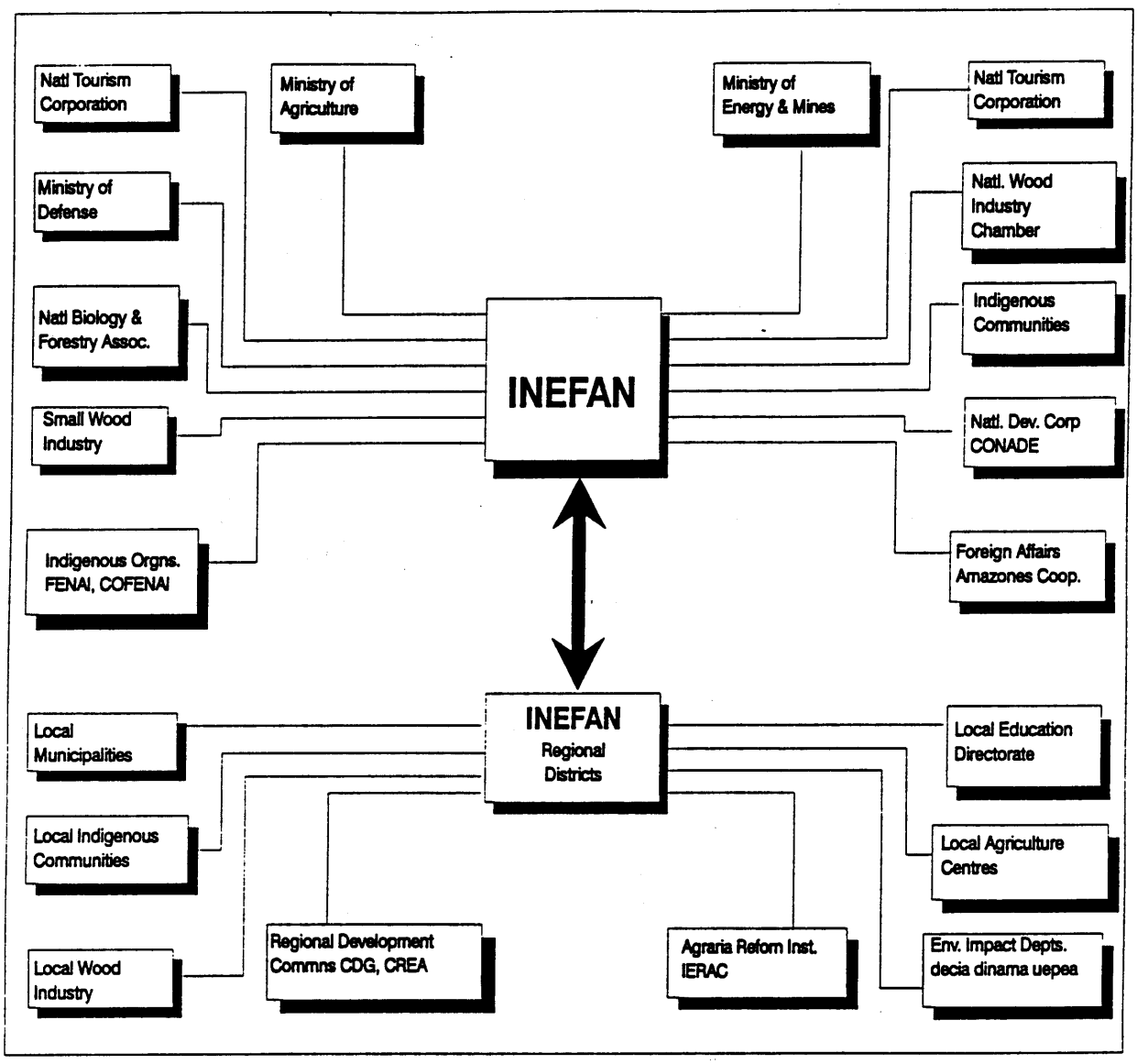
Annex 1
Chart 1

INEFAN'S ORGANIZATIONAL STRUCTURE



Annex 1
Chart 2

INEFAN'S INTER INSTITUTIONAL RELATIONSHIPS



Project Implementation Timetable

Annex 2

Activity No.	Description	Year 1		Year 2		Year 3		Year 4		Year 5		Activity Pre Required
1	Organization INEFAN	X										
2	Formulation policies		X	X	X							1
3	Strategic Planning		X	X	X							
4	Analysis land holding			X		X	X					2
5	Drfating regulations			X	X	X	X	X				4-15
6	Management Plans											3-4
7	C. Works, equipment				X	X	X	X	X	X		5-6
8	Establish M&E system		X	X	X	X	X	X	X	X	X	1
9	Regional Dev. Plans		X	X	X							3-6
10	Six Regional Committees		X	X								1-3
11	Valuation biodiversity		X	X	X	X	X	X				
12	Design nature tourism				X	X	X	X	X	X	X	2-3
13	Design concessionary system				X	X	X					2-3-6
14	Revenue collection system				X	X	X	X	X	X	X	2
15	Analysis PA resources				X	X						
16	Biodiversity Information system			X	X							
17	INEFAN staff training program			X	X	X	X	X		X	X	2-5-20
18	Training program public officials					X	X	X	X	X	X	2-5
19	National/regional campaigns					X	X	X	X	X		2-5-20
20	Strategy biodiversity protection		X	X	X	X						
21	National Public awareness campaign				X	X	X					2-20
22	Regional Public awareness campaign					X	X	X				2-20-21
23	Campaign about legal regulations							X	X	X	X	2-5-20
24	Same as above for regional & local						X	X				2-5-20
25	Strategic Planning for Galápagos		X	X	X							2
26	Strategic Planning for Marine Reserve			X	X	X						2-25
27	Quarantine system for Galápagos			X	X							
28	Redesign nature tourism scheme				X	X	X					2-25-26
29	Management Information System for GNP		X	X	X							
30	Improve Galápagos urban planning			X	X	X	X					3-6
31	Management Plan for Marine Reserve			X	X							3-6
32	Improve Ranger Service for GNP			X	X	X						25
33	Management training for GNP staff			X	X	X	X	X				11-25-12-13-14
34	Reform of Galápagos educational curriculum					X	X	X				25-30-31
35	Technical assistance for Chachi communities		X	X	X	X		X	X	X	X	

Annex 3

Ecuador
Biodiversity Protection Project
Monitoring and Evaluation System

Objective of the Monitoring and Evaluation System

1. The main purpose of the system is to provide to INEFAN with information to measure progress of the project and to assess if it is achieving its objectives. The M & E activities will focus on the activities of the four elements of the project:

(a) **Institutional Strengthening;**

(b) **Legal, Regulatory Framework;**

(c) **Outreach Activities;** and

(d) **Investment Activities.**

2. M & E activities will be an integral part of the project's implementation process. The pilot and innovative nature of some project activities, including those dealing with legal and institutional strengthening, requires of effective M & E capability to guarantee reliable and timely measurement of expected project impact. Moreover, since one important objective of the system will be to assess changes taking place inside and outside the protected areas as a result of project initiatives, this would be initiated by conducting household surveys and socio cultural profiles of local communities as part of the preparation/updating of management plans for individual protected areas. Such surveys and profiles would be necessary to establish baseline data on the population number, land tenure, economic and production activities, and standard of living against which project impacts could be measured.

3. M&E will be the responsibility of the PCU staff with the assistance of the Planning Directorate. Certain tasks, such as surveys, would be contracted to experienced local NGOs or individuals. The project would provide about ten staff months of specialized short term consultants to assist in the planning and implementation of proposed M&E activities. In addition the project would finance one vehicle at the central level and operating expenditures of the system during the implementation period.

4. Key indicators and performance criteria for each have been identified already and will be refined during the first six months of project execution. Given the pilot nature of the biodiversity protection activities, biological monitoring through remote sensing would be an essential element of the system. This would be carried out at the level of the protected area system with the support of CLIRSEN (Centro de Levantamientos Integrados de Recursos Naturales Por Sensores Remotos). On ground monitoring would be combined with remote sensing activities. The identification of specific biological elements to monitor would be determined as part of the preparation /updating of management plans of the protected areas and based on a national strategy which would take into consideration aspects such as: sustainability of the program, technical capacity of the institution to maintain monitoring after project

completion, and cost. Key aspects to monitor to track progres would include: assessment of status and distribution of target flora and fauna, identfication of fragile ecosystems, preparation/completion of fauna and flora inventory, and measurement of hydrological cycles and climatic parameters as these relate to ecological stability of each site.

5. Cost. Establishment and development of the proposed M & E system would cost about US$ 776,500 over a five-year implementation period. The following table shows the cost breakdown.

Monitoring and Evaluation System
Cost Estimate (US$)

	Year					
	1	2	3	4	5	Total
Staff (2)	14,530	14,530	14,530	14,530	14,530	72,650
Consultant a/ Services						
Fees	6,000	6,000	6,000	6,000	6,000	30,000
Per diem	3,500	3,500	3,500	3,500	3,500	17,500
Administrative Expenses	270	270	270	270	270	1,350
Transportation	2,000	2,000	2,000	2,000	2,000	10,000
Subtotal	11,770	11,770	11,770	11,770	11,770	58,850
Surveys and SCPs	25,000 70,000	25,000 140,000	25,000	25,000	25,000	125,000 210,000
Equipment	10,000					10,000
Remote Sensing Services	60,000	60,000	60,000	60,000	60,000	300,000
TOTAL	191,300	251,300	111,300	111,300	111,300	776,500

a/ Two staff-months per year calculated at US$3,000 per staff month.

6. Key Indicators. The following pages show key indicators and expected impact and performance of each project activity.

Ecuador-GEF Biodiversity Protection Project

Monitoring and Evaluation System

Activity N.1: Organization and Strengthening of INEFAN and Establishment of the GEF Project Unit.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Elaboration of administrative, financial and technical manuals.	Adm. laws & regulations.	Manuals.	INEFAN	A set of administrative, financial and technical manuals.			X	X	X	X	X
B. Based on the mentioned manuals, organize INEFAN's financial system.	Manuals.	A report which includes the design of the financial system.	INEFAN	Design and implementation of an efficient financial system.			X	X	X	X	X
C. Based on the mentioned manuals, organize INEFAN's administrative system.	Manuals.	A report which includes the design of the administrative system.	INEFAN	Design and implementation of an efficient financial system.			X	X	X	X	X
D. Organization and implementation of the GEF unit.	Manuals GEF Project M & E annex.	A report which includes the design of the GEF project unit.	INEFAN	Organization and implementation of the GEF Unit.			X	X	X	X	X

Ecuador-GEF Biodiversity Protection Project

Monitoring and Evaluation System

Activity N.2: Formulation of National Policies for the Protection of Biodiversity

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT	COST US$		YEAR OF EXECUTION				
					Planned	ACTUAl	1	2	3	4	5
A. Examine current natl policies for the BP to propose biodiversity policies.	Current natl policies.	A Report which includes recommendations for the formulation of natl BP.	INEFAN	Proposal of set of natl BP to allow group discussion & seek consensus among the parties involved.			X				
B. Based on the mentioned proposal, organize workshops & interviews with all parties involved & affected by natl policy to discuss proposed formula of natl BP policy.	Proposal.	A report which includes the result of the workshops & interviews.	INEFAN	Reach consensus on policy proposal for BP to be submitted to the government for approval.			X				
C. Definition of required legal framework based on existent instruments.	Existing legal instruments.	A report which includes required legal recommendations.	INEFAN	Recommendations to reform laws & regulations to reflect policies agreed.			X				

Ecuador-GEF Biodiversity Protection Project
Monitoring and Evaluation System

Activity N. 3: Strategic Planning Process for NSPA of Protected Areas.

					COST US$		YEAR OF EXECUTION				
PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	PLANNED	ACTUAL	1	2	3	4	5
A. Evaluate the NSPA Phase II.	NSPA Phase II.	Report evaluating the NSPA II	INEFAN	Establishment of a program for BP (NSPA Phase III).				X	X		
B. Restructure government institutional framework & strengthening NGOs, communities & private sector involved in BP.	Approaches of institutional & situational planning, conflict resolution. Proposal of NSPA Phase III.	Report which includes identification & analysis of institutional framework at the natl, regional & PAs level & local leaders included. Definition of criteria for personnel & equipment requirements at the natl, regional & PAs level. Design a M & E methodology to evaluate the NSPA Phase III.	INEFAN	Establishment of a participatory process to find solutions to conflicts. Establishment of a process of strategy planning.				X	X		
C. Identify mechanisms to develop regional cooperation, to resolve conflicts among the involved parties & to generate consensus toward policies & strategies.	Approaches of institutional & situational planning, conflict resolution and a matrix identifying the actors & their roles activities & projects.	Manual(s) explaining institutional coordination, channels of communication & regulations.	INEFAN	The resolution of conflicts involving all the actors & defining mechanism oriented to seek consensus.				X	X		

Ecuador-GEF Biodiversity Protection Project
Monitoring and Evaluation System

Activity N.4: Analysis of the Institutional, Legal and Social Problems Related to Land Tenure Within the PA & its Relation with the Preparation of the Strategy for the NSPA.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Visits to the PA with great indexes of human occupation to collect information on landholding in PA.	Interviews with the head of the PA, local communities & NGOs working in the selected PA.	Report which includes the results of the interviews, maps and, property registers.	INEFAN	Overall perspective of the landholding & human occupation in PA.			X	X			
B. Evaluation of the influx of human occupation in selected PA.	Meetings & interviews with the head of the PA & members of local communities. Land tenure & property registry information.	Report on the evaluation of the influx of human occupation in selected PA.	INEFAN	Establishment of a participatory process to find solutions to the landholding conflicts.			X	X			
C. Legal & sociological analysis of current situation of human occupation in PA.	Legal & land tenure information. Demographic & socio-economic data.	Report on the legal & sociological analysis of current situation.	INEFAN	Overall understanding of the legal & socio-economic problematic of human settlements in PAs.			X	X			
D. Organization of workshops inviting: members and/or leaders of local communities (living in the PA & surrounding towns) & human settlements, INEFAN & IERAC staff & other actors such as oil Co. The purpose is to elaborate an in-depth study of landholding problem & find solutions.	Approaches of institutional & situational planning & conflict resolution. Approaches of workshop organization & group dynamics.	Report which includes a description & analysis of the major landholding problems & its relation with BP.	INEFAN	Elaborate a conflict resolution proposal for landholding problem & ensure BP in PAs.			X	X			

Ecuador-GEF. Biodiversity Protection Project
Monitoring and Evaluation System

Activity N. 5: Drafting and Promulgation of Regulations to Allow the Creation of PA that Combine Public and Private Property Under a Management System of Conservation

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Revision of legal codes, laws and regulations.	Legal codes, laws and regulations.	A report which examines the Ecuadorian legal codes.	INEFAN	Recommendations to reform the legal codes.			X	X			
B. Preparation of a draft of regulations.	The report examining the Ecuadorian legal codes and the report analyzing the field visits to the PA.	A draft which includes recommendations to the existing regulations.	INEFAN	Definition of an efficient participatory legal mechanism to allow landowners to participate in the management of PA.			X	X			
C. Organization of workshops inviting public official and private owners within the PA to discuss and examine the proposed regulations.	Proposed regulations.	A report including the conclusions of the workshops.	INEFAN	Reach consensus on the resolution of private property conflicts and management of selected PA.			X	X			
D. Preparation of the final version of the regulations and start with the process of approval and promulgation.	Proposed regulations and the report including the outcome of the workshops.	Final version of the regulations.	INEFAN	Approval and promulgation of the proposed regulations.			X	X			

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Activity N. 6: Reformulation of Management Plans of PA.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Design a strategy to elaborate and implement management plans for all the selected PA.	Current management plans when available.	A report which includes the strategy to draft management plans and its further implementation within the selected PA.	INEFAN	Recommendations to reform, elaborate and implement management plans for the PA.				X	X		
B. Organize research projects (biological, social, etc) to prepare the management plans in those areas that do not have one.	Approaches and methodology to develop biological, BP, social and strategic situational research. Approaches and methodology to ensure management and institutional strengthening.	A report which includes the research results.	INEFAN	Overall understanding of the biodiversity and social situation of the selected PA.				X	X		
C. Preparation and publication of the final version of management plans.	The strategy report that includes the draft of management plans. The report including the research results.	Final version of the management plans.	INEFAN	Preparation, publication and implementation of the management plans that are dynamic instruments for the BP, management and that allow conflict resolution.				X	X		

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Activity N. 7: Construction of Basic Infrastructure/ Purchase of Equipment

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Border delimitation and marking of the land area of the PA	Topographic and geographic information.	Completed maps. Actual establishment of markers.	INEFAN	Improved protection activities. Prevent unauthorized entry and resource usage within			X	X	X		
B. Design and construction of about 1,000 km of trails.	Topograghic maps. Building contracts.	Completed blue prints. Actual number of trails built.	INEFAN	Improved management of protected area. Facilitate controlled acces to visitors. Prevent incursion of visitors into fragile areas.			X	X	X		
C. Purchase of radio equipment, mules, motorcycles, survival gear, first aid kits.	Interviews with heads of PA. Procurement documents.	List of actual purchases.	INEFAN	Facilitate overall management and maintenance activities. Facilitate work of park rangers and speed up response to critical situations.			X	X	X		

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Activity N. 8: Establishment of Monitoring and Evaluation System and Socio Cultural Profiles

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Establishment of the M & E system. Issues to be incorporated are: biodiversity, institutional strengthening, training and socio-economic conditions of local communities living in and by PA. Identification and Agreement on Key Indicators.	GEF project. GEF Annex. GEF guidelines for M & E biodiversity project. NGOs guidelines and M & E systems. Socio Cultural Profile Guidelines. List of project activities.	Data center. Design specific indicators. A computer network functions. An existing mechanism to feed the source of info. from the field. Preparation of SCPs. Execution of project activities.	INEFAN	Establishment of M & E system to follow up progress of implementation Enhancement of project management. Ability to make corrections and fine tuning during project execution. Monitoring of project costs and grant disbursements. Monitoring of project impact and adequacy in reaching project objectives.			X	X	X	X	X

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Activity N. 9: Evaluation of Regional Development Plans and Their Impact on Biodiversity Protection and reserve areas management.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$		YEAR OF EXECUTION				
					PLANNED	ACTUAL	1	2	3	4	5
A. Preparation of a study to integrate planning development strategy and conservation plans for each of the selected PA.	Socio-economic approaches. Conservation and protection strategy.	A report that includes the socio-economic and protection strategies.	INEFAN	Overall BP and socio-economic program for the selected PA.			X	X	X		

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Activity N. 10: Design, implementation and training of Six Regional Coordination Committees for the PA and of Local Organizations for the Management of PA.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Restructure and strengthen regional committees to work in coordination with regional strategic planning process and management of selected PA.	Strategic planning activities developed by GOs, NGOs and local communities.	A report describing the organization and structure of six regional committees and its role and coordination with regional strategic planning.	INEFAN	National and regional strategic plan to promote sustainable socio-economic development within the concept of BP and management of PA.				X	X		
B. Preparation of material and establishment of operational procedures for Regional Committees.	National and regional strategic plan. Approaches of management, institutional and human resources planning. Methodology to identify development objectives, design, formulation, control and evaluation of development projects.	Manual(s) explaining the operational, institutional and technical function of the committees.	INEFAN	Establishment of a set activities of coordination and technical support for the PA.				X	X		
C. Implementation of a training program for public and private staff and committee members.	Committees operational manual(s). Interviews and surveys to heads of PA to define training capabilities. Approaches of financial, human resources and institutional management. Methodology to identify development objectives, design, formulation, control and evaluation of development projects.	Training proposal.	INEFAN	Establishment of a national and regional training program.				X	X		

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Activity N. 11: Preparation of Studies for Economic Valuation of Biodiversity and Ecological Services Provide by PA.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Organize a natl meeting to discuss and train staff from different national institutions on economic valuation of biodiversity and ecological services and their incorporation into national accounts.	Document explaining current financial accounts. Approaches to define valuation of biodiversity and ecological services.	Report on economic valuation of biodiversity and ecological services and their incorporation into national accounts.	INEFAN	Reach consensus on economic valuation of biodiversity and its impact into national accounts. Train a wide group of people on economic valuation of BP.			X				
B. Built the basis of a natl process to define a general strategy for obtaining resources for the establishment of a new system based on the economic valuation of biodiversity.	Approaches to built up consensus and organize public opinion formation. Approach to define economic valuation of biodiversity and ecological services.	A report which explains the general strategy for obtaining resources for the establishment of a new system based on the economic valuation of biodiversity.	INEFAN	The establishment of a new system based on the economic valuation of biodiversity.			X				

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Activity N. 12: Planning, Design and Establishment of Nature Tourism System for Ecuador.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Analysis of the legal and economic aspects of existing private and public experiences of nature tourism in the country. Preparation of recommendations for policy changes necessary to improve and update current practices.	Public and private sector entities with experiences in nature tourism. Current laws and regulations. Revenue reports about Galapagos and similar protected areas in other countries.	Report analyzing the legal and economic aspects of existing private and public experiences of ecotourism in the country. Implementation of recommendations to introduce improved method of resource valuation while protecting biodiversity concerns.	INEFAN	Policy change to establish coherent guidelines regarding determination of entrance fees, tariffs for tourism operators, and number of visitors per yearfor each conservation unit.				X	X		
B. Analysis of supply/demand for nature tourism and its relationship to biodiversity protection within the reserve area system.	Inventory of potential nature tourism activities in the reserve area system. Surveys from local and international visitiors. Sawyer and Miller reports.	A report with recommendations for developing nature tourism while preserving biodiversity.. Manual(s) defining operational regulations and management parameters for each conservation unit. Zoning maps indicating potencial for tourism activities.	INEFAN	Enhanced revenue to improve management and operation and maintenance of the reserve area system.				X	X		

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Activity N. 13: Drafting and Promulgation of Regulations for establishing: (a) a Concessionaire System and Procedures to Grant Operating Permits to Users; (b) Controls and Regulations for Extracting Activities within PA; and (c) a mechanism to redistribute PA revenues among them.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Preparation of concessionary system and procedures to grant operating permits to commercial tourism enterprises.	Legal instruments. Current concessionaire system.	Draft of the regulations.	INEFAN	Establishment of a concessionaire system, procedures and regulations to grant operating permits.				X			
B. Drafting of a control and regulation system of extracting activities within PA.	Legal instruments. Current extracting system	Draft of the existing technical & administrative mechanism to evaluate & monitor the impact of extracting activities.	INEFAN	Establishment of a system to control and regulate the extracting activities within the PA.				X			
C. Establishment of a mechanism to redistribute the revenues of PA among the parties involved.	Legal instruments. Financial instruments. Current redistribution system.	Proposed draft. Actual implementation.	INEFAN	Establishment of a redistribution system.				X			

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Activity N. 14: Design and Implementation of a New System to Collect Revenues for Ecological Services.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Study and evaluate the existing national financial system.	Current financial system. Approaches to develop an efficient financial system. Approaches of management and institutional strengthening.	A report which analyzes and evaluates national current financial system.	INEFAN	Increased revenues. Enhanced resources for operation and management. Diminished reliance on official budgetary resources.				X			
B. Study and evaluate the existing financial condition and financial system of PA.	Current financial system. Approaches to develop an efficient financial system. Approaches of management and institutional strengthening.	A report which analyzes and evaluates regional and PA current financial system.	INEFAN	Establishment of a new and more efficient regional financial system (at the PA level).				X			
C. Design a new financing structure for management actions of the system.	Reports analyzing current national and regional financial system.	Proposed structure fully operational.	INEFAN	Establishment of a new and overall financing strategy for funding Ecuador's NSPA. Manual(s) explaining administrative and operational procedures, channels of communication, institutional coordination and illustrating the standard forms and appropriated software for accounting.				X			

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Activity N. 15: Analysis and Quantification of Uses of Reserve Areas Resources by Local Populations and the Impact on Conservation/Protection of Reserve Areas

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Carry out study on the use of resources by local populations living within or surrounding each protected area.	Household surveys. Current data from NGOs. Demographic information.	Reports with recommendations.	INEFAN	Increased understanding of the use local populations make of resorces available.			X	X			
Follow up study to quantify monetary and non monetary benefits received by local populations from tourism activities, scientific work, and employment opportunities related to protection of reserve areas.	Same as above.	Report.		More effective efforts to implement actions that would increase potential benefits to local populations while reducing adverse environmental impact and promoting conservation and protection.			X	X			
Carry out annual report on the uses and benefits local populations receive from each park. Report to include proposals to obtain new/enhanced benefits.	Same as above	Annual reports showing impact of income generating activities and implications in resource management and protection.		Same as above.			X	X	X	X	X

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Activity N. 16: Establishment of a Biodiversity Information Center.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Collect, systematize and analyze existing biological, social and physical baseline information.	Statistics. OGs, NGOs and university centers and their publications.	A report analyzing the existing biological, social and physical baseline information. A matrix showing data according to source, period of study, publication date and availability.	INEFAN	Enhanced knowledge of natural resources and existing biodiversuty, would assist in the preparation of management plans.					X		
B. Prepare detailed ecological, etnozoological, and archeological inventories.	Secondary scientific information. Field trips.	A report which includes natural and socio-economic inventories.	INEFAN	Availability of up-to-date information for the scientific community, donors, NGOs, and visitors.					X		

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Activity N. 17: Establishment of Training Program INEFAN's Staff.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Preparation of training curriculum, and materials.	Training Center of Conocoto, the Boliche National Recreation Area and the Agro-forestry Training Center at Guaslan, NGOs. Primary information: PA's staff.	Training curriculum.	INEFAN	Enhanced technical knowledge of staff.				X	X		
B. Organization of intensive training program for technical and professional leve staff.	Above mentioned sources of information.	Number of training courses/seminars held. Number of staff trained.	INEFAN	Improved management of conservation units. More effective protection of biodiversity. Increased participation of local communities.				X	X		

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Activity N. 18: Design and Implementation of Training Program on Legal System for Public Officials of Institutions Dealing with Issues Related to the Protected Areas System

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Design of a manual for public officials to assist them determine their competence, jurisdiction and legal instruments available to them in their dealings with environmental and biodiversity protection.	Natl & intl environmental law. Local NGOs experience in training activities	Guidelines Manual.	INEFAN	Increased awarness among pertinent public officilas about biodiversity protection and reserve area management.				X			
B. Organization of a workshop to evaluate the manual.	Manual.	Report evaluating the manual.	INEFAN	Revised version of the manual.				X			
C. Preparation of a revised version of the manual.	Proposal.	Report with recommendations for final version of the manual.	INEFAN	Same as above				X			
D. Organization of workshops to train technical and professional staff in the use of the manual.	Revised version of the manual.	Number of workshops.	INEFAN	Same as above.				X			

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Activity N. 19: Formulation of National and Regional Educational Campaigns in Biodiversity Protection for Rural Communities Living Near/Around Protected Areas.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Develop an environmental education program in selected PAs.	OGs and ONGs such as Fundación Natura Centro de Educación y Promoción Popular. Cultural change approaches.	A report which details the environmental program at the PA level. The program must includes the formal education system (primary and secondary schools, adult centers) and the non-formal education system.	INEFAN	Establishment of a preliminary regional (PA) environmental education program. It purpose is to establish a wide knowledge of environmental issues and change public opinion toward BP and NSPA.				X	X	X	X
B. Preparation, printing and reproduction of educational materials.	Educational institutions and public and private printing offices.	Preparation of educational materials.	INEFAN	A packet of educational materials specifically designed to fulfill the educational and training needs of the staff in charge of BP and management of PA.				X	X	X	X
C. Develop an experimental public opinion education process in selected PA.	Packet of educational materials.	A report which evaluates the use and impact of the prepared materials.	INEFAN	Establishment of a comprehensive strategy to educate public opinion about NSPA and BP.				X	X		

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Activity N. 20: Preparation of Strategy for Biodiversity Protection

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Assessment of current international and national mechanisms and approaches used for management of protected areas and biodiversity protection. Use findings for drafting and proposing strategy for Ecuador.	Strategies used in other countries. Previous studies and proposals prepared locally.	Report with recommendations for new strategy. Steps taken to obtain consensus and approval. Actual implementation.	INEFAN	Enhance enforcement of current laws and regulations by pertinent sectors such as energy, mining, forestry and agriculture. Amendment of certain laws to be in accord with approved strategy. Consideration of strategy in the national development planning process.			X	X			

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Activity N. 21: Design and Establishment of National Campaigns to Foster Public Awareness and Support for Biodiversity Protection.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Design of a communication strategy, and selection on themes and targets to conduct a public awareness campaign.	Public communication specialists. NGOs.	Report describing proposed strategy and recommendations for executing campaign. Actual campaign.	INEFAN	Increased awarness of the public on the importance for biodiversity and reserve areas. Public support for enforcement of environmental laws and regulatios pertinent to biodiversity.			X	X	X	X	X
B. Preparation of communication materials.	Ministry of Education. Publication specialists. Experienced NGOs.	A set of education audio visual materials such as: videos, audio programs, leaflets, and posters.	INEFAN	Same as above.			X	X	X	X	X
C. Organization of three annual workshops at the regional level to inform and train journalists and the media about biodiversity. NSPA.	Same as above	Number of workshops organized, number of people attending.	INEFAN	Increased awarness about biodiversity issues among news media representatives. Support to INEFAN in the enforcement of protection regulations. Public information about negative impacts caused activities of public or private entities.			X	X	X	X	X
D. Dissemination of communication materials through mass media.	Same as above.	Materials prepared.	INEFAN	Same as above.			X	X	X	X	X
E. Design system to evaluate results.	Existing systems used by various entities for similar activities. guidelines and approaches.	Designed system. Analysis and results of evaluation.	NEFAN	More effective divulgation of information. Would assist in assessing knowledge of public at large regarding biodiversity issues.			X	X	X	X	X

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Activity N. 22: Regional Public Awareness Campaign for Biodiversity Protection.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Design a specific campaign for each of INEFAN's regions.	Activity 21.	A report for each of the selected regions detailing the strategy.	INEFAN	Increased awarness and understanding of protected areas and biodiversity protection. Increase support to INEFAN's efforts to prevent incursion by would be colonists in protected areas. Support enforcement of regulations prohibiting hunting.			X	X	X	X	X
B. Preparation and distribution of communication materials.	Above mentioned sources.	A set of specific communication and education materials (see activity 21) A report detailing the strategy to distribute the materials and deliver the message.	INEFAN	Same as above.			X	X	X	X	X

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Activity N. 23: Public National Level Campaign to Inform About New Legal Regulations Regarding the Protected Area System.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Design a national campaign and prepare materials to be used in the mass media.	New laws/ regulations. Written, visual and radio communication techniques.	A report proposing themes, audience and scope of campaign. Actual campaign and evaluation of its impact and effectiveness.	INEFAN	Enhanced awarness and understanding of biodiversity protection issues. Increased public support of INEFAN's efforts to protect the reserve area system and biodiversity				X	X	X	

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Activity N. 24: Public Campaign Aimed at the Regional and Local Level to Inform About the New Legal Regulations Regarding the Protected Area System

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$		YEAR OF EXECUTION				
					PLANNED	ACTUAL	1	2	3	4	5
A. Design a regional and local campaign and prepare materials to be used in the mass media.	New laws and regulations. Written, visual and radio communication techniques.	A report proposing themes, audience, and scope of campaign. Actual campaign and evaluation of its impact and effectiveness	INEFAN	Enhance awarness and understanding of biodiversity protection issues. Public support of INEFAN's efforts to manage and protect the reserve area system and biodiversity.				X	X	X	

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Activity N. 25: Galapagos National Park. Continuation of the Strategic and Situational Planning Process.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Organization of workshops and seminars to discuss the impact of the Global Plan of Tourism and Conservation in selective development.	Previous status reports on situational planning accomplishments. Evaluation reports on previous conflict resolution activities . National strategy proposal on nature tourism, and Global Protection Plan for Galapagos. Information from INGALA, Charles Darwin Foundation and Municipalities of GALAPAGOS.	A report presenting results, resolutions and proposals from the workshops and seminars, for the continued implementation of the Global Plan.	INEFAN	Consensus and resolution of conflicts for the implementation of the Global Plan of Tourism and Conservation. Use of this approach as model of selective development for all the system of reserved areas.			X	x			

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Activity N. 26: Galapagos Marine Reserve. Strategic and Situational Planning Process.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Organization of workshop and seminars to discuss the impact of the Global Plan of Tourism and Conservation in selective development.	International technical assistance. Conflict resolution approaches. Eco-tourism, naturism and selective development approaches. Information from INGALA, Charles Darwin Foundation and Municipalities of GALAPAGOS.	A report evaluating the Global Plan and presenting the result of workshops and seminars.	INEFAN	Reach consensus and resolve conflicts about the concept and implementation of the selective development and consolidate the new Global Plan of Tourism and Conservation.			X	X			

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Activity N. 27: Galapagos National Park. Implementation of Inspection and Quarantine System to Control the Influx of Biological Organisms to the Islands.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Revision of the functions and objectives of the "Dirección Provincial Agropecuaria de Galápagos" regarding inspection and quarantine to control the influx of exotic organisms.	Manual of functions and objectives of the "Dirección Provincial Agropecuaria de Galápagos." Systems of inspection and control used in other countries under similar circumstances. Information from INGALA, Charles Darwin Foundation and Municipalities of GALAPAGOS.	Revised manual for the "Dirección Provincial Agropecuaria de Galápagos." Monthly inspection summary Diminishing evidence of foreign plants and fauna.	INEFAN	Reduction of incidentes of unauthorized entry of plants and animals. More effective biodiversity protection.			X	X	X	X	X
B. Organization of workshops and seminars to train staff in inspection, and control plants and animals at ports of entry and in the park.	Revised version of the Manual. Management and institutional strengthening approaches. Scientific methodologies to inspect and control the influx of exotic organisms in PAs.	Number of workshops. Number of staff trained. Report evaluating effectivenss of seminars and workshops.	INEFAN	Implementation of a structured system of inspection and quarantine to control the influx of organisms.			X	X	X	X	X
C. Public awareness campaign.	Same as above.	A report establishing strategy for a public opinion campaign.	INEFAN	Public support in preventing introduction of plants and animals foreign to the islands. Public support in enforcing quarantine regulations.			X	X	X	X	X
D. Installation of a M & E inspection system to control the influx of exotic organisms.	Methodogies and guidelines to define and install a M & E system. Scientific methodologies to inspect and control the influx of exotic organisms in PAs.	A report which indicates the M & E system and the selected indicators.	INEFAN	Establishment of a M & E system to evaluate the inspection and quarantine system to control the influx of exotic organisms.			X	X	X	X	X

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Activity N. 23: Galapagos National Park. Redesign and Strengtening of Nature Tourism System.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Review actions and priorities proposed in the "Global Plan for Galapagos" such as definition of park areas that would be accesible to visitors, maximun number of annual visitors per area, maximun number of commercial permitsto be issued, training of park guides, and assessment of services available on the the main island.	Global Plan for Galapagos Report. Presidential Commission Papers.	Implementation of recommendations prepared by consultants and approved by Presiodntial Commission and INEFAN.	Presidential Commission and INEFAN.	Establishment of sustainable nature tourism guidelines.			X				
B. Organization of workshops and seminars to train staff and officials of other pertinent public sector entities in updated guidelines of the Global Plan.	Approved consultant's report. Recommendations of Presidential Commission.	Number of workshops and public officials trained.	Permanent Commission and INEFAN.	Support for compliance of approved guidelines would result in sustainable development of nature tourism.			X				

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Activity N. 29: Establishment of Management Information System for Galapagos.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Design and implementation of technical training programs for INFAN's staff of the Protected Area System.	Biology, ecology, inventories approaches.	Proposal for training. Number of training sessions. Number of staff trained.	INEFAN	Enhanced technical skills of staff. Better and more efficient management of conservation units and more effective protection of biodiversity.			X	X	X	X	X
B. Design and implementation of a management training program for the PA's staff.	Management and human resources approaches. Financial and accounting approaches. Cultural change approaches.	Same as above.	INEFAN	Same as above. Plus better administrative and financial management of conservation units.			X	X	X	X	X

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Activity N. 30: Galápagos National Park. Improve and Strengthen Galapagos' Urban Planning and Management.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. To Actualize and make effective the proposed Land Use Plan for the islands.	Proposed Lan Use Plan Global Plan	Document establishing municipal ordenances for urban growth, tariffs for services such as electricity, water and solid waste removal. Set of zoning maps.	INEFAN/Municipaliti es.	Regularization of urban growth. Efficient environmental control and biodiversity protection. Decrease influx of new residents from the continent.			X				
B. Strengthen the capacity of municipalities to design and enforce proposed plan for land use, including modernizing cadaster system and designing and enforcing system of property taxes and urban services. In addition, design mechanisms to promote community participation.	INGALA, Darwin Foundation, Global Plan.	Fully operational cadaster. Number of staff trained. Establishment of ordenances, tax codes and tariffs.	INEFAN/Municipaliti es.	Same as above plus increased revenues from property taxes and municipal services. Enhanced community participation in dealing with urban issues, and increased support to municipal authorities in actions to restrict urban growth.			X				

Ecuador-GEF. Biodiversity Protection Project
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Activity N. 31: Galápagos National Park: Development of Management Plan, Including the Design and Establishment of Zoning Proposal for the Marine Reserve.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Organization of workshops to establish methodology for the development phase of the proposal.	Existing studies. Global Plan.	Report with recomendations. Recommendation under implementation.	INEFAN	Agreement among pertinent actors to carry out and enforce recomendations. Increased control of tourism and unauthorize resource extracting activities in area of reserve.			X	X			
B. Carry out inventory and evaluation studies to determine nature tourism potential. C. Carry out inventory and assessment of resource potential to allow artisanal fisheries.	Same as above. Current records. Charles Darwin Foundation.	Completed inventories and assessments.	INEFAN	Increased overall understanding of fisheries potential of the Reserve and establishment of clear cut guidelines for issuing permits for artisanal extractive activities.			X	X			

Ecuador-GEF Biodiversity Protection Project
Monitoring and Evaluation System

Activity N. 32. Galápagos National Park. Modernization of the Ranger Service for the GNP and Marine Reserve.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Carry out feasibility study to determine technical and financial requirements.	Global Plan. INEFAN, the Darwin Foundation.	Approved plan.	INEFAN	Improved park and marine reserve management and protection.			X	X	X		
B. Select and train Personnel. C. Purchase equipment D. Sign operational agreements and service contract with the Navy and others.	Same as above.	Selected staff trained and in place. Equipment ordered/fully operational. Agreements signed.	INEFAN	Same as above.			X	X	X		

Ecuador-GEF.: Biodiversity Protection Project
Monitoring and Evaluation System

Activity N. 33. Galápagos National Park. Training Program for Professionals and Technicians to Enforce Management Activities.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Work assessment to be carry out by a consulting firm to determine adecuacy and effectiveness of technical and managerial capacity.	Global Plan. GNP Progress Reports. Interviews with technical staff.	Consulting firm report and recommendations on training needs.	INEFAN	Improved staffing and skills mix leading to more efficients and effectiove management of the park.			X	X			
B. Updating of operational and administrative and training manuals.	Current manuals. Staff interviews.	Updated Manuals.	INEFAN	Establishment of clear guidelines for job evaluation. Improved job performance.			X	X			
C. Review of existing job descriptions and of staff skills and skills mix.	Current organization chart and job descriptions. Staff interviews.	Updated job descriptions. Enhanced skills mix.	INEFAN	Saff assignment and recruitment according to skills required. Establishment of reviewed organizational structure.			X	X			
D. Design and implementation of a comprehensive training program in technical, managerial and financial aspects.	Current training program. Staff interviews.	Report about proposed training program.	INEFAN	Better trained staff, improved park management and biodiversity protection.			X	X			

Ecuador-GEF Biodiversity Protection Project
Monitoring and Evaluation System

Activity N. 34. Galápagos National Park. Restructuring and Reforming of Galapagos's Educational System

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Evaluation of infrastructure needs. B. Evaluation of current curriculum and administrative system, including proposals prepared by INGALA, the GNP, and the Darwin Foundation.	Inventory of existing infrastructure. Current curriculum. Ministry of Education. Manuals and organizational chart of current administrative structure.	Evaluation report. Rehabilitation of existing infrastructure/construction of new facilities.	INEFAN/Municipalities.	Improved teaching approach regarding needs of islands' development, and greater understanding biological importance of islands, of their protection and potential opportunities for inhabitants.			X	X			
C. Elaboration and publication of educational materials. D. Training of teachers.	Current teaching materials. Proposed curriculum and new teaching materials.	Education materials. Number of teachers trained.	INEFAN/Ministry of Education.	Same as above.			X	X			
E. Signing of agreement with Ministry of Education and Municipalities.	Draft agreement.	Agreements signed.	INEFAN/Ministry of Education/Municipalities.	Establishment of an education program based on the unique characteristics of the islands' environment			X	X			

Ecuador-GEF Biodiversity Protection Project
Monitoring and Evaluation System

Activity N. 35. Technical Assistance and Pilot Studies for Chachi indians and other communities located in the buffer zone and surrounding areas of the Cotacachi-Cayapas Ecological Reserve.

PLANNED ACTIONS	SOURCES INFORMATION	INDICATORS	ENTITY RESPONSIBLE	EXPECTED IMPACT.	COST US$ PLANNED	COST US$ ACTUAL	YEAR OF EXECUTION 1	2	3	4	5
A. Preparation of biological and forestry inventory in representative areas of community lands and in adjacent buffer zone of the reserve (about 100,000 ha).	Local NGOs, universities, INEFAN.	Inventory report, maps.	INEFAN.	Information would assist in strategic situational planning, in preparation of management plans for the reserve area, and in technical assistance to Chachi communities to improve management of their lands. Prevent incursion in reserve area for illegal logging and hunting.			X	X			
B. Preparation of study to determine effects of selective logging on biodiversity in tropical forests.	INEFAN	Report and recommendations.					X				
C. Preparation of guidelines on land use planning.	Universities, MAG INEFAN.	Guidelines. Seminars to discuss them. Individulas applying them.	INEFANn.	Same as above.			X	X	X		
E. Design and establishment of workshops to provide technical assistance to native communities in aspects such as sustainable forest management, biodiversity protection, and legal land righs.	NGOs, Ministry of Education. Chachi Communities.	Number of events and of participants.	INEFAN	Same as above			X	X	X	X	X

ANNEX 4

SOCIO-CULTURAL PROFILES OF BIODIVERSITY PROTECTION PROJECTS TERMS OF REFERENCE

A. Objectives

1. The objectives of conducting socio-cultural profiles (SCPs) of biodiversity conservation projects are to: (1) provide information for the continuing process of participatory planning and management of biodiversity projects; and (2) help in the evaluation of biodiversity conservation policies and investment decision-making. There are three stages to the conduct of SCPs: (a) data gathering; (b) analysis and diagnosis; and (c) report writing and presentation. Cooperation between SCP contractors and project implementing agency, and participation of the local community are vital to the success of each stage and outcome of the SCP process.

B. SCP Contractors

2. The project implementing agency, with assistance from the Bank task manager and team, conducts a review of possible SCP contractors. This review includes an assessment of the contractors' ability to engage in social science field work, and to conduct primary data gathering in the local language (especially in the case of indigenous peoples who may not speak the national language nor follow the dominant culture). The SCP contractor may be a research institution, NGO, or private contractor. Once the contractor has been selected, the SCP process, from data gathering, analysis, and report preparation and presentation, should be completed in five to six months. The SCP contract will be signed by representatives of the local SCP contractor and project implementing agency. The total cost of SCPs will vary by site, and may range from $40,000 to $70,000 per project site, depending upon quality of available social data and costs of local labor.

C. Community Participation

3. The SCP process (data gathering and analysis) should be participatory (see Annex 2 for examples of participatory data gathering and analysis techniques). Prior to data collection, local communities and affected populations should be informed, through public dissemination, meetings, and consultations about SCPs and the proposed biodiversity project. Similarly, local people should be involved as interviewers or enumerators. Compensation schemes for such activities may include additional community support through provision of input supplies or construction of community health centers).

D. Data Gathering

4. SCPs should gather the following information on people and communities in the area of influence of biodiversity projects (see Annex 1 for categories of SCP indicators).

a) biodiversity conservation project description, which may include people and communities in surrounding buffer zones, towns and cities (*area of influence* or *affected populations*) through use of nature zoning and community mapping, and resource management zones and historical mapping of land use changes; modes of access to resources; project coverage and major biological features with significant human interventions;

b) type of community and settlements in *area of influence or affected populations*;

c) population, its distribution throughout *area of influence* and composition (age and gender); growth rates; migration patterns; fertility and mortality rates; health conditions;

d) tenure and natural resource control including legal definitions; inheritance patterns, and customary social practices; laws, political and administrative controls over resources;

e) economic livelihood and production systems, including dominant livelihood; forms of income earning; marketing; labor sharing; labor profile by gender and age; labor availability;

f) social and political organization; traditional socio-political groups; municipal and national groups; decision-making systems; resource allocation and sharing systems; role of women in production and conservation;

g) conflict resolution mechanisms, including formal and informal structures, agrarian conflicts and dispute resolution; mechanisms for dealing with expropriation and resettlement (if applicable); mechanisms for dealing with population encroachment;

h) household characteristics, including household formation, size, composition, livelihood, tenure and inheritance patterns; family settlement history; impacts on household of outside interventions; women-headed households;

i) participation procedures; legal basis for community participation; consultation methods; perceptions of participation in conservation; attitudes towards conservation and the environment.

5. The focus of SCP data gathering and analysis is natural resource control (within project boundaries as defined by government). However, there may be processes that extend beyond biodiversity project boundaries and these should be integrated (e.g., impacts of national land tenure laws; effects of marketing systems; changes in land values in surrounding sites).

E. Diagnosis and Analysis

6. Upon completion of data gathering, a *diagnostic* analysis should be performed on the following problem areas: (a) current sustainable resource management practices and potentially destructive human uses of natural resources; (b) uncontrolled encroachment of human populations into biodiversity project sites; (c) insecure resource use rights; (d) poverty in *area of influence* of biodiversity project; and (e) observed and potential conflicts between biodiversity project authorities and *affected groups and communities*. Community representatives should be encouraged to participate in diagnostic analysis.

F. Report Writing and Presentation

7. The SCP report should include analyses and recommendations for dealing with problems cited in (6) above, including alternative solutions (e.g., if resettlement is an option, SCPs should contain suggestions on preferred relocation sites, manner of compensation) and a formal resettlement plan (following Bank guidelines on resettlement, see OD 4.30). Priority livelihood and participatory conservation programs should be identified according to scope, costs, and

timing for implementation (often as perceived by local residents; e.g., preferred tenure and use-rights). Annex 3 contains a sample SCP Report outline. All SCP reports should contain a summary of essential findings and recommendations.

8. The SCP report should be discussed with government, local communities, and other NGOs. A separate presentation may be organized for the project implementing agency and Bank where more detailed analyses may be done. During presentations for the local communities, stakeholders, and NGOs, simple formats, such as vernacular translations, audio visuals, videos, large illustrations, may be used to emphasize the importance of maintaining biodiversity. The presentations should also stress the roles and obligations of project authorities and *affected populations* by giving examples of how project implementing agencies and project beneficiaries can be made accountable for sustaining conservation.

9. Prior to presentation of the SCP results, two copies of the written SCP Report should be submitted to the project implementing agency. A copy of this Report will be sent to the Bank. Another copy of the SCP Report or a summary of its findings and recommendations, written in the local vernacular, should also be submitted to the community organization.

Annex 3
Attachment 1

CATEGORIES OF SCP INDICATORS AND RELEVANCE TO PROJECT DESIGN AND MONITORING AND EVALUATION

Description	Indicator	Relevance to Project Design and Monitoring and Evaluation[6]
1. Nature of Biodiversity Project		
Habitat/Vegetation	biodiversity functions/project classification	identify biodiversity conservation functions; assess degree of human intervention allowed in biodiversity project site
Modes of Access to Project Site	location; accessibility	evaluate if accessibility contributes to population encroachments[7]
2. Type of Community		
No. of Human Settlements in Site/Buffers	legal classifications; settlement types	describe settlements and land use shifts in biodiversity project site; history of settlements in biodiversity project site and surrounding communities
3. Demographics		
Population Growth and Distribution	population density; annual growth rate	estimate population density and population growth rates and impacts on carrying capacity
Age and Gender Distribution	population by age and sex; dependency ratio	estimate age and gender distribution; population dependency burden (young and old-age); women-headed households; shifts in role of women and elderly
Type of People[8]	indigenous and migrant groups	show population composition relative to settlement location and livelihood dependence on natural resources by different types of resource users
Migration	net migration rate; migration patterns	determine if net inflows increased; trace origin locations and destination points within biodiversity project site; evaluate off- and on-site determinants of in-migration
4. Tenure		

6. These are the same indicators used in *Guidelines for Monitoring and Evaluation of GEF Biodiversity Projects*.

7. Population encroachments can be classified into seasonal (sport hunting, tourism, labor migration) or permanent. These are reflected in changes in fertility, population growth, and migration.

8. Some possible classifications include: (1) historic occupants (aboriginal or indigenous inhabitants; (2) persons settled in region prior to protected area designation but not original occumapts; (3) recent migrants (persons who entered the area since establishment of biodiversity project); and (4) non-resident users of resources. Other classifications include seasonal migrants, residents but non-users in surrounding villages/buffers.

Forms of Tenure	classifications;[9] laws; titling; inheritance patterns	evaluate tenure and access to resources; describe legislation, inheritance patterns, and effectiveness of biodiversity project authority controls (fines, penalties, arrests) in controlling access to natural resources
Customary Social Controls	cultural and social regulations and practices	describe community rules on resource allocation, access, controls for encroachment (including community sanctions and social acceptance and rewards)
5. Economic Livelihood		
Dominant Livelihood	modes of livelihood, commercialization	describe livelihood activities and dependence on natural resources; commercialization and role of markets and middlemen; role of authorities in trading and pricing
Livelihood Sustainability	income security, livelihood options	measure effects of livelihood/production activities on resources; review socio-economic factors that promote unsustainable production
Labor Arrangements	labor by gender, age, informal use	describe labor use and allocation by gender and age, hired, family and exchange labor arrangements
6. Socio-Political Groups		
Socio-Political Structure[10]	social groupings, local authorities	describe centers of authority, outsiders, decision-making and sharing systems influencing access and distribution of resources in biodiversity project sites
Women in Production and Conservation	gender roles in production and conservation	describe contributions of women and women-headed households in production and conservation decision making, land allocation, labor use, distribution of goods, marketing, and conflict resolution
7. Conflict Resolution		
Formal and Informal Structures	agrarian conflicts, dispute resolution	describe conflict resolution mechanisms and review agrarian conflicts
Expropriation and Resettlement Procedures	extent and manner of resettlement	in projects where expropriation/resettlement was an option, evaluate procedures (use Bank guidelines; see OD 4.30)
Mechanism for Dealing with Encroachment and Interventions[11]	social decision making and control systems	describe local mechanisms for controlling encroachment; attitudes to outside interventions and conflict resolution; assess effectiveness of extension services

9.Some categories of tenure arrangements include: (1) aboriginal or indigenous territories, (2) community-based tenure regimes, (3) private or individual property rights, (4) forest concessions, (5) public lands (including biodiversity conservation sites), and (6) common property sites, and others.

10.These refer to: (1) kinship groups, (2) local village or community organizations, (3) supra-community groups, (4) village chiefs and headmen, (5) social stratification (by gender, caste, religious specialists), (6) patron-client relations, (7) political or religious brokers (appointed chiefs or headmen), and (8) prophets. These also refer to municipal groups like local governments, churches, and others.

11.Alternative encroachment mechanisms include: (1) resettlement outside PA boundaries, see World Bank OD 4.3, (2) relocation within PA boundaries, to a site that is less sensitive to human interventions, and (3) legal recognition of customary tenure such as in ancestral lands.

8. Process Documentation and Participation		
Formal Procedures	information dissemination and consultation	evaluate regulations governing local participation and assess local involvement and consultation (meetings, attendance rates, quality of project presentation)
Social Surveys	consultation in data gathering and project preparation	evaluate how social surveys were conducted; assess participation of local leaders, community members, and NGOs in conduct of survey; review mechanism used for training community enumerators; supervision and payment schemes used; effectiveness of participatory techniques used in social surveys and project preparation
Attitudes to Biodiversity Project Authority	measures of local perceptions	describe community perceptions of effectiveness of biodiversity project authorities; attitudes towards community conservation responsibilities
Participation in Income Flows[12]	community income; income transfers	describe community income flows from biodiversity project; evaluate flows using equity standards; assess participation in income transfers
Willingness to Manage Biodiversity Project	community role in conserving resources	describe community perceptions of responsibilities in managing the biodiversity project and expectations about income flows and obligations; solicit suggestions for improving community management of natural resources

12.Examples are the following: (1) employment in biodiversity project related work; (2) supplementary livelihood or income transfer programs; (3) tourist income; (4) special rights to use natural resources; (5) royalties from licenses and entrance fees; and (6) special trusts or endowments for local communities.

Annex 3
Attachment 2

EXAMPLES OF PARTICIPATORY DATA GATHERING AND ANALYSIS TECHNIQUES USED IN SOCIO-CULTURAL PROFILES (SCPs)

The data gathering and analysis techniques listed below may be used by the task manager and social science team in collaboration with in-country research institutions and NGOs contracted to perform SAs. Most of the techniques are simple, so that local people may be trained to participate during pre-testing, fieldwork, data collection, and analysis. The choice of techniques depends upon types of data to be collected, project requirements (time and resources), quality of available social data, and others.

1. Collection of Secondary Information

   1.1 Published government reports (statistical yearbooks, census, government surveys)
   1.2 Written records, histories, reports from NGOs, missionaries, etc.
   1.3 Library search (books, articles, etc.)

2. Key Informant Interviews

   2.1 Checklist format using several key informants
   2.2 Informal, consensus-building techniques and group discussions
   2.3 Formal meetings, consultations with local leaders, NGOs and stakeholders, staff in project implementing agency, outsiders
   2.4 Life histories of elders, key informants

3. Direct Observation of Processes and Behavior

   3.1 One-time, short-term site visits (less than two weeks)
   3.2 Two or more short-term site visits (each about two weeks)
   3.3 One medium-term site visit (at least one month)

4. Participant Observation of Processes and Behavior

   4.1 Observers as part of community activity (at least one month)
   4.2 Local resident as observer using records, diaries, or other media such as tapes, films, photographs (for recording religious and political events, feasts, meetings)

5. Mapping of Social Structures
   5.1 Genealogy mapping of dominant lineages
   5.2 Decision tree diagramming of actors and decision making mechanisms using a specific problem (e.g., decision to build a health center, plant trees)
   5.3 Diagram of power structures; actors that determine allocation of resources; livelihood; social obligations
   5.4 Institutional linkages (through use of venn diagrams)

6. Community Mapping

   6.1 Individual farm (rural) or household property (urban) sketches
   6.2 Nature zoning (rural) settlement zoning (urban)
   6.3 Community or village mapping and sketch maps

6.4 Transects

7. Production/Livelihood Diagramming

- 7.1 Production, seasonal calendar (rural); Industry, employment (urban)
- 7.2 Time lines and time trends
- 7.3 Production (rural) or Labor employment (urban) time transects
- 7.4 Synchronized calendars

8. Gender Analysis Tools

- 8.1 Task analysis and role flexibility by gender (rural and urban)
- 8.2 gender needs assessment
- 8.3 women's time management
- 8.4 mapping and perceptions of women's realities

9. Ground Observations and Aerial Surveys

- 9.1 Photographs across sites depicting land use changes from urbanization, encroachment, environmental degradation; boundaries of resource plots, squatter settlements; territories of open access or communal use (aerial photos, GIS)
- 9.2 Participant mapping using local people to draw map of area and delineate major physical features; communal or religious/sacred sites; nature zoning

10. Socio-economic Surveys

- 10.1 Non-random sampling of persons arbitrarily interviewed at various locations (such as rapid appraisal and so-called "roadside interviews")
- 10.2 Random sampling using list frame from residential, NGO (such as church) listing of village residents; also from census
- 10.3 Random sampling using combination of area and list frame from GIS or village maps and listing of residents.
- 10.4 Purposive sampling of populations such as disadvantaged segments, stakeholders

11. Community Information and Consensus-Building Techniques

- 11.1 Village Management Plans
- 11.2 Ranking of problems by large social groups
- 11.3 Interest group meetings (stakeholders, outsiders)
- 11.4 Group dynamics; structured discussions; role playing

12. Policy and Project Design Techniques

- 12.1 Logical framework
- 12.2 Systems diagramming and flowcharts

Annex 3
Attatchment 3

SAMPLE SCP REPORT OUTLINE

A. Summary of Findings and Recommendations

B. General Description of Biodiversity Project

1. Location and type of biodiversity project
2. Project authority set-up/current management practices

C. Description of Communities Affected by Biodiversity Project

1. General description of biodiversity project users (types of communities, and groups; demographics; socio-political organization; economic livelihood)
2. Tenure and natural resource control (forms of tenure; legal recognition of tenure regimes; inheritance patterns; customary social controls; external interventions and relations with outsider-users in defining access to resources)
3. Conflict resolution mechanisms (formal and informal systems; agrarian conflicts and dispute resolution; expropriation/resettlement; mechanisms for dealing with encroachment; interventions)

D. Analysis of Community Production Systems

1. Results of household production surveys (household characteristics, economic livelihood and household dependence on resources; family settlement history and migration patterns; tenure; current land use practices)
2. Existing resource management systems (sustainability and effectiveness of local practices)
3. Potentially damaging production practices (agriculture, gathering forest products, wildlife hunting/fishing, grazing, mining and quarrying, commercial uses, tourism)

E. Controlling Resource Access and Conflicts

1. Mechanisms for land allocation, resource sharing, reciprocity (kinship, lineage; labor sharing arrangements, inheritance, cultural prohibitions)
2. Mechanisms for dealing with encroachment and outside interventions (household-based systems; community decision-making and control; common property controls)

F. Participation

1. Legal basis for participation in biodiversity project operations and management
2. Consultation procedures (information dissemination, social surverys, descriptions of direct consultations)

3. Participation activities (consultation mechanisms, local perceptions of PA authority and conservation, levels of local management, participation in PA income flows)
4. Perceptions and attitudes (views on biodiversity project authority, environment, conservation; willingness to manage project)

G. Recommendations for Development of Participation Plan (strategies for project delivery and community resource mobilization)

Annex 1. Process Documentation of Participation in Project Preparation

Annex 2. Brief Description of Data Gathering and Analysis Techniques Used in SCP Data Collection and Diagnosis

Annex 3. References (sources of information)

ANNEX 5

ECUADOR-GEF BIODIVERSITY PROTECTION PROJECT
SELECTED PROTECTED AREAS
BIODIVERSITY AND ECOLOGICAL CHARACTERISTICS

Sangay National Park

Background

1. Sangay National Park covers an area of 271,925 ha within the provinces of Chimborazo, Tungurahua, and Morona Santiago. It is the only continental protected area which has been accorded World Heritage status in 1983 by UNESCO.

2. The park covers an altitudinal range of 1000-5400 m, and hence a great variety of climates and enormous diversity of flora and fauna. The park covers eight life-zones, from the perpetual snow line of the volcanoes Altar, Sangay and Tungurahua to sub-tropical forest in the Amazon.

Flora and Fauna

3. The flora of the area is typically Andean, for example forests of Polylepis, Myrtus, and Weimannia, and other characteristic species such as Buddleia incana and Senecio arbutifolia. In addition the area is rich in orchid species, and in species of cedars, palms etc.

4. The area is critical for the Andean tapir, and also has pumas, jaguars, spectacled bears, and a great variety of monkeys. It is estimated that there are more than 500 species of birds within the park, including the condor.

Problems

5. One of the major problems within the park is colonization and peripheral settlements. Human settlements are present in the sections of Purshi, Llushin and Palora. Within the park there are 400 families of the Atila community. Land conflicts exist with the Santa Rosa, Guarguala, Cuyuyne and Callebrillas haciendas along the Western part. Along the eastern buffer zone there are at least 9 human settlements. The majority of these are agricultural cooperatives of some 688 families, occupying an area of 35,911 ha.

6. Other problems within the park include mineral prospecting and road construction. In particular the construction of the Guamote-Macas road, has posed a significant threat, and no measures have been taken to mitigate environmental impacts.

Cayambe-Coca Ecological Reserve

Background

7. Cayambe-Coca ecological reserve extends through part of the provinces of Imbabura, Pichincha, Napo and Sucumbios. The altitude range spans from 800-5900 m, and covers 10 life zones. About 25 percent of the territory is located in the Sierra and 75 percent in the Amazon region. The reserve contains exceptional plant and animal diversity, with many species under threat of extinction. There are some 81 lagoons located in the park. It forms the watershed for the Quijos-Coca river, and constitutes a water source for approximately 1.5 million persons. It is known to be rich in mineral resources. The reserve also contains some important archaelogical sites in the eastern part and in the Cangahua zone.

Flora and Fauna

8. In accordance with the variety of life-zones present, the biological diversity is extremely rich. From numerous species of Bromelia to typical humid-tropical species such as Ocotea spp, Trichilia floribundia, Cecropia sp. Small forests and formations of Polylepis, Solanum, Ficus, Cedrela montana etc. can be found in the various zones.

A multitude of mammal species such as armadillos, various types of monkeys and cats, rabbits, bears, and andean tapir can be found. Bird species include: Ara severa, Nonnula brunea, Micrastur ruficollis, among numerous others.

Problems

9. Colonization poses a significant threat to the reserve, particularly towards the north-east and east, in the zones of El Chaco, El Salado, Reventador, San Rafael and at points along the river Cofanes. These include indigenous Cofanes settlements of 14 families towards the north-east, at least 2 communities of Quichuas: Oyacachi with 75 families and Chuscuyacu with 30 families, along the border limits of the reserve. In these areas indiscriminate wood cutting is a major problem.

10. Illegal mineral prospecting has led to contamination of the water resources with cyanide and mercury, particularly in the rivers Due, Condue and Aguarico.

11. The water supply project in the limits of the reserve, was carried out with no environmental assessment, and consequently no mitigative measures. This project has seriously affected the integrity of the ecosystems.

12. In addition a number of other projects related to mineral and petroleum exploration and exploitation, road construction, and hydro-electric and irrigation projects are affecting the reserve.

Cotacachi-Cayapas Ecological Reserve

Background

13. Cotacachi-Cayapas ecological reserve is located between the provinces of Imbabura and Esmeraldas, covering both coastal and sierra zones. In altitude it extends from 100 to 4900 m, and covers a huge variety of habitats in some 11 life zones. The area contains several lagoons and high mountain areas (Cotacachi, Yanahurco). It is one of the "hot spots" for biodiversity, and is suspected to contain one of the highest levels of endemic species in the world.

14. The reserve also contains one of the important pre-columbian archaelogical sites of Ecuador, "La Tolita". The park and its buffer zones are a center for indigenous Chachi populations.

Flora and Fauna

15. There are about 8-10 thousand plant species with some 40-60 of plant species and 25 percent of tree species endemic. For every plant species there are estimated to be 10-30 animal species.

16. Along with areas in Madagascar and the Atlantic coast of Brazil, this constitutes one of the world's most important areas for preservation. Recent and future extinction would reduce plant species by an estimated 6200 species of plants and 124 thousand species of animals. An estimated 5 species of animals become extinct every day, and one plant species every 3 days.

17. To date about 630 species of birds have been registered.

Problems

18. Problems relate principally to illegal exploitation of wood by the colonos for small businesses. It is estimated that in the Canton of Eloy Alfaro and San Lorenzo, some 40-45 percent of the population rely on illegal wood cutting for their livelihoods within the reserve and its buffer zones.

19. In addition the mineral potential of the area poses an enormous threat to the reserve.

20. Land and resource conflicts have been recorded as in the case of the Hacienda Pinan which has some 5000 ha of land in the reserve, indigenous Chachis, 15 families of campesinos precaristas of the Hacienda, and small and large land owners. Canton San Lorenzo has some 60 families, Eloy Alfara about 80 families, and others from Playa de Oro to Alto Tambo. Some 45 kms of land demarcation are needed. Moreover, basic services are lacking for all these occupants.

21. The construction of roads (Selva Alegre-Quininde) and irrigation canals poses a further threat.

Podocarpus National Park

Background

22. Located in the south-east of Ecuador in the provinces of Loja and Zamora Chinchipe, Podocarpus National Park covers an altitude range of 1000-3600 m. It crosses from North to South across the Cordillero Real of the Andes, and contains highly unusual landforms and lagoon systems (140 lagoons). According to the Holdridge life zone system, it contains 6 life zones and is an important center for endemism.

23. The park has held considerable importance in the past due to the presence of Cinchona spp., which provided quinine, and which may now be under threat due to over-exploitation.

24. The area also forms the watersheds of the rivers Catamayo, Zamora, Chinchipe and Nangaritza, providing a source of water for two provinces.

Flora and Fauna

25. The area contains Ecuadorian Cloud Forest, and is the richest in tree species in Ecuador. Endemic species include Podocarpus (the only conifer native to Ecuador) and Cinchona. Some 78 forest species of great importance have been identified including Buddleia incana and Cordia alliodora. In the altoandino ecoysystems many different types of Hipericacea and Lycopodiaceae have been found. Rostovia maquellanica, previously encountered only in Antartica has also been found. The number of vascular plant species is estimated at 3-4 thousand, and at 2800 m the numbers of species registered per hectare vary from 75-90.

26. With some 800 species of birds, Podocarpus is the world's richest national park for birds. Mammal species include pumas, bears, giant armadillos, and jaguars amongst others. There is also a great variety of amphibians, reptiles, insect and fish species.

Problems

27. The problems confronting Podocarpus relate principally to mineral exploitation, through concessions and informal mining. Some 90 percent of the territory is covered by mining activities /concessions. Fundacion Natura has initiated a dialogue with the mineral sector, but considerable resistance is encountered.

28. Other problems relate to colonization, accompanied by illegal exploitation of wood (especially in the Romerillos sector) and use of land for farming and cattle-raising. There is also an illegal trade in orchid species. Much conflict exists between the colonos, park authorities and visitors. There are some 78 farms with 208 persons living through agro-pastoral activities and exploitation of wood.

Machalilla National Park

Background

29. Machalilla National Park is located in the Province of Manabi, in the central coastal region. It includes the islands of Salanga and La Plata. The Park forms a transition zone between dry and humid tropical forest and is high in biodiversity. The terrain varies in altitude from about 400-600 m. While much of the area in the region is subject to desertification, the park provides a refuge for threatened plant and animal species. It contains 4 life-zones, and encompasses marine, sea-shore and cliff environments.

30. In addition to its biodiversity, the park has considerable archaelogical importance containing remains of the cultures of Mantena, Machalilla and Chorrera, and while much remains to be investigated, an important site is located at Agua Blanca.

Flora and Fauna

31. Typical flora includes the candelabra cactus, palo santo, Ziziphus thyrsiflora, Ceiba petandra, Prosopis juliflora, Tabebuia chrysantha (a much exploited species), Catheya maxima (an indicator species for the dry tropical forest life-zone), balsa (Ochromo lagapus), a great variety of palms and numerous other species.

32. A great diversity of animal life exists, which previously gave rise to the traditional hunting practices of the area. Mammals include armadillos, bears, monkeys amongst others. Reptile species include the boa constrictor and species of tortoises. Both marine and other forms of birds species are found.

Problems

33. Illegal exploitation of wood has been a major problem in the park, particularly given the valuable species found and that the surrounding landscape lacks any cover. The most affected zones include Cerro Matapalo and Cerro La Polvoro, and the principal species include, balsam, guayaco, cedro, cascol and seca, which are taken to the markets in Jipijapa, Manta, Portoviejo, Guayaquil and La Libertad. Illegal hunting also remains a problem.

34. With respect to land tenure issues, the situation is complex and confusing. Communities claim rights to the land, and there also exist absentee landlords. There is a population of more than 5000 distributed in peripheral villages, and inside the area.

35. A recent and important problem is the opening of a multi-use pipeline, by Petroecuador. The pipeline runs through the park, and has been a source of considerable destruction of plant life and perhaps archaeological sites. Construction was carried out without any consideration given to environmental impacts which could have been mitigated.

Yasuni National Park

Background

36. Located in the Ecuadorian Amazon region, in the Provinces of Napo and Pastaza, Yasuni National Park covers 679,730 ha. The park was declared a World Biosphere Reserve by UNESCO in 1988. It is the traditional habitat of indigenous groups of Huaorani, Quichuas and Shuars. In 1990 the Government granted the Huarani 600,000 ha of which 135,000 ha included the Park territory.

37. While little has been studied about the biodiversity, data indicate that the park constitutes a significant centre of endemism, where species are conserved in conditions similar to the end of the Pleistocene era.

Flora and Fauna

38. The number and variety of species is greater than other terrestrial ecosystems. Upto 106 plant families with more than 700 species have been identified in an area of less than a kilometer.

39. Tree species include Cedrelinga catenaeformin, Parkia spp., Cedrela fissilis, species of palm and others.

40. Here more than anywhere, exists an enormous volume of wood, lianas epiphytes and orchids of the genera Epidendrum and Maxillaria.

41. At the source of the river Napo are found 473 species of fish, more than in any other watershed in the world.

42. To 1988, about 43 species of amphibians and 28 of reptiles had been inventoried in the area. Over 350 species of birds have been registered, and it is thought that more than 500 species may exist.

43. To 1988, about 83 species of mammals had been registered, including jaguars, armadillos, tigrillos.

Problems

44. Without doubt the major problem confronting Yasuni is Petroleum extraction, with 4 blocks of exploration and exploitation within the park, accompanied by significant deforestation, road construction, the use of bulldozers and helicopters. Petroleum extraction in the park has generated considerable debate between NGOs and the Government.

45. In addition colonization especially in the north-east is a problem, along with illegal hunting, and also uncontrolled tourism.

Galapagos National Park

Background

46. The Galapagos Islands are located 600 miles from the South American mainland in the Pacific Ocean. The islands belong to Ecuador and are known worldwide for their unique flora and fauna and habitats. Over 97% of the approximately 3,000 square miles of land area has been declared a National Park by the Government in 1959. In 1986 a 32,000 square mile Marine Reserve was established around the islands, the second largest such reserve after the Great Barrier Reef.

47. The Galapagos archipelago is characterized by extreme climatic, oceanographic and ecological variation within a small geographical area, biological simplicity, and largely unaltered evolutionary and ecological processes and habitats. These characteristics along with the archipelago's isolation from the continent, the young geological age and the hostile environment, have limited natural colonization from outside the area. This combination of conditions has permitted the evolution of unique species of plants and animals. Because of the strong selection pressure, the pace of evolution is also accelerated under these conditions. This results in the development of genetically isolated populations, races and subspecies- the "raw materials" of species formation and biodiversity.

Flora and Fauna

48. Approximately 42% of the native flora is endemic, as are 80% of the breeding species of land birds, 90% of the native mammals, 95% of the reptiles and 66% of the beetles.

49. The association of the Galapagos with the theories of evolution as propounded by Darwin, have earned the islands a prominant place in the history of science and the title "showcase of evolution". The islands continue to contribute to the understanding of evolutionary processes. Some of the best examples of adaptive radiation are seen in the cases of the 13 species of Darwin's finches, 11 subspecies of Giant Tortoises and several other species groups such as mockingbirds, lizards, beetles, ants, land-snails, and several groups of plants.

Problems

50. While the Galapagos is till one of the most unspoiled places on earth, it is severely threatened by introduced domestic animals and foreign plants, rapid tourism growth, and a steady wave of modern "development".

51. The introduction of foreign species poses the single largest and constantly growing threat. The plants and animals of the Galapagos evolved in the absence of such competition and predators. Some are driven to extinction by newcomers such as goats, dogs, pigs, rats, cats, cattle and a host of foreign plants. New species are introduced regularly, for purposes of agriculture, ornamental use, pets and accidentally in cargo. To date this, coupled with human impact has led to the extinction of dozens of species of plants, nine species of animals, plus numerous extinctions on individual islands.

52. The impact of human activity through land-clearing for agriculture and urban areas, over-exploitation of fisheries and other marine resources, and over-exploitation of forest resources is also very evident.

53. Over the last decade the islands have experienced a boom in the tourist trade, with increasing pressure on the resources, and accompanying problems such as introduction of species. With increasing human pressures, pollution has increased severalfold, and demands on the scarce resources are reaching critical proportions, and threatening the integrity of these fragile islands. An additional problem is that the educational system on the islands does not have the capacity to deal with these issues.