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ECUADOR

**INSTITUTIONAL STRENGTHENING FOR ENVIRONMENTAL
MANAGEMENT**

(TC-97-10-20-4-EC)

PLAN OF OPERATIONS

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ANNEX I Logical Framework

BASIC SOCIOECONOMIC DATA

The basic socioeconomic data for Ecuador is available on the Internet at the following address:

English:

http://www.iadb.org/int/sta/english/brptnet/brptframe_eng.htm

Spanish:

http://www.iadb.org/int/sta/spanish/brptnet/brptframe_eng.htm

ABBREVIATIONS

AFE	Administración Forestal de Ecuador (AFE)
CAAM	Comisión Asesora Ambiental (CAAM)
CNRH	Comisión Nacional de Recursos Hídricos (CNRH)
CONAPCHID	Comisión Nacional de Cuencas Hidrográficas (CONAPCHID)
CRDs	Corporaciones Regionales de Desarrollo (CRDs)
DINAREN	División de Recursos Naturales del Ministerio de Agricultura (DINAREN)
FSO	Fund for Special Operations (FSO)
GIS	Geographical Information System (GIS)
GOE	Government of Ecuador (GOE)
GPS	Global Positional System (GPS)
INDA	Instituto de Desarrollo Agropecuario (INDA)
INEFAN	Instituto Ecuatoriano Forestal de Areas Protegidas (INEFAN)
MMA	Ministry of Environment (MMA)
NGOs	Non-Governmental Organizations (NGOs)
SIG	Sistema de Información Geográfica (SIG)
SNGA	Sistema Nacional de Gestión Ambiental (SNGA)

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EXECUTIVE SUMMARY

Requester:	Republic of Ecuador		
Executing Agency:	Ministry of Environment		
Beneficiaries:	National and Decentralized Environmental Authorities, Forestry Groups		
Amount and Source:	IDB:	US\$600,000	(FSO)
	Local counterpart funding:	<u>US\$120,000</u>	
	Total:	US\$720,000	
Terms:	Execution Period:	18 Months	
	Disbursement Period:	24 Months	
Objectives:	The project has two basic objectives: (i) establish a consolidated national environmental management system; and (ii) provide a framework for a rational management of forestry resources.		
Description:	The project has two subprograms:		
	Subprogram I - Institutional Strengthening of Environmental Management. The first subprogram has two components:		
	<ul style="list-style-type: none">• <u>Institutional Strengthening of the Ministry of Environment</u> has three activities: (i) support for the restructuring of the Ministry of Environment (ii) technical support for the revision of the draft laws for water and forestry in light of the new Environmental Management Law; (iii) support for the technical design of a National Environmental Fund, specifying instruments which would guarantee its financial sustainability.• <u>Consolidation of the National Environmental Management System</u> will support the development of specific instruments for the coordination and monitoring of the Sistema Nacional de Gestión Ambiental (SNGA), working with a representative sample of municipalities. Specific activities: (i) design and implementation of mechanisms for policy and environmental activity coordination among the Ministry of Environment (MMA), the three representative municipalities and a selected		

sample or social and public organizations; (ii) design and implementation of an environmental management monitoring system at the national level; (iii) strengthening of environmental management capabilities of a sample of municipalities with significant responsibilities in the SNGA; (iv) design and development of economic instruments for environmental control to be applied at the regional and municipal levels in coordination with national authorities, such as the National Comptroller and members of the judicial system.

Subprogram II - Forestry Policy and Management. In this Subprogram, four components will be supported:

- Definition of Nationally Protected Forests includes three activities: (i) development of a conceptual framework for defining nationally protected forests; (ii) broadening of cadastral surveys and legalization of title to cover all lands and owners; (iii) preparation of a pre-feasibility study for a land tenancy regularization project for privately held natural forest land.
- Sustainable Management Plans for Privately Held Forests consists of the preparation of studies in the following areas: (i) conceptualization and design of sustainable management plans of native forest land owned either by communities or commercially; (ii) standard criteria and methodologies for voluntary certification; (iii) evaluation of community and local business alliances.
- Policies and Incentives for Private Forestry Investment consists of the following activities: (i) evaluation of policy conditions and limitations for forestry projects; (ii) development of a design for incentives and financial schemes to mobilize and administer public and private resources allocated for investments related to forestry development, protected areas and biodiversity management.
- Strengthening of the MMA in the utilization of the Sistema de Información Geográfica (SIG) as a tool for policy management has the following activities: (i) establishment of a training center for SIG operation and application; (ii) consultant services for the design of a training model for the center, including course material and curriculum; (iii) training of users connected to the Geographical Information System (GIS) network.

Environmental and Social Review:	The Technical Review Group (TRG) revised this Plan of Operations and its recommendations are included in the document.
Benefits and Beneficiaries:	The project will provide the Government of Ecuador (GOE) with the technical and financial means to more effectively manage its abundant natural resource base, which has been threatened in recent years. In Subprogram I, the project will develop a National Environmental Management System, which recognizes the importance of newly-established Ministry of Environment in that system, as well as the decentralization process under which Ecuador is developing. In Subprogram II, the project will provide forestry authorities and interest groups with the research and technical tool essential to not only reversing the alarming rate of deforestation, but to more effectively plan an environmentally-sound approach to optimal use of this valuable resource.
Risks:	<p><u>Risk:</u> public sector budgetary limitations: Since its inception in 1996, the Ministry of Environment has received very limited budgetary resources. This trend has become even more severe in the past year given the general financial conditions encountered throughout the public sector. Should resources continue to be limited to this extent in the future, retention of staff, at the central, provincial and municipal levels, will be difficult. <u>Mitigants:</u> The Ministry of Environment is looking for additional sources of revenues and stream-lining its institutional framework. The bank will sustain discussion with the GOE regarding parallel restructuring efforts in public environmental agencies.</p> <p><u>Risk:</u> legislative follow-up actions. While a product of this project will be proposed modifications to existing and draft environmental legislation, steps must be taken by the Ministry of Environment and other interest groups to ensure that approval of these changes is forthcoming. <u>Mitigant:</u> The technical cooperation is providing resources to create consensus and stake holders support for the new legislation and regulations.</p>

Bank's Country and Sector Strategy:	The project is consistent with Bank strategy, given the significant amount of investment which the Bank finances in Ecuador, which points to the importance of a strong institutional and legal framework for monitoring environmental impact of these and other investments.
Special Contractual Clauses:	None.
Poverty-Targeting and Social Sector Classification:	Not applicable.
Exceptions to Bank Policy:	None.
Procurement:	Procurement of equipment will follow established Bank policy. Equipment financed with counterpart resources will follow national procurement regulations (see paragraph 2.1).

I. FRAME OF REFERENCE

- 1.1 Exploitation of renewable natural resources generates significant economic activity and revenue in Ecuador. However, the inappropriate management of these resources and the national institutional weaknesses facing environmental management pose a threat to the sustainability of these economic activities and their potential development role. The Bank supported improvements of the environmental planning capacity of the country General Planning Secretariat with the Technical Cooperation ATN/SF-4205-EC approved in 1993. The studies helped to prepare environmental policies and sectoral guidelines. The establishments of the Presidential Environmental Commission and later on the new Ministry of Environment were partially a result of this previous operation. While the Ministry of Environment, created in 1996 to substitute the Environmental Advisory Commission, is the country's environmental authority, it is confronted by institutional and financial limitations in fulfilling its mandate. The Ministry is being supported by the international donor community and the proposed technical cooperation will supplement the activities supported by the donor agencies.
- 1.2 While there is a conservationist tradition in Ecuador to some extent, particularly in some indigenous communities, the exploitation of the natural resource base, without controls or guidelines at the civic or governmental level, has led to a troubling trend toward environmental deterioration. Of particular concern is the loss of primary forests (only 1% of the primary forest remains on the coast), the massive destruction of mangroves due to shrimp industrial interests and the indiscriminate cutting of trees, without a replanting effort. In the energy and mining sector, petroleum fields are inadequately managed, principally in the Amazon region. Water contamination levels have increased significantly in recent years, and urban living conditions have deteriorated.

A. Environmental Management Issues

- 1.3 The institutional framework for environmental control and monitoring, as well as natural resource management, is characterized by its fragmentation and lack of focus and cohesion. Public sector environmental management has demonstrated a certain level of clientelism, a mediocre staffing profile and various deficiencies in environmental management practices. The Ministry of Environment, created in 1996 to substitute the Comisión Asesora Ambiental (CAAM), is the national environmental authority. This institution faces financial and institutional limitations in fulfilling its responsibilities, not least of which is the complex institutional panorama of the environmental sector in Ecuador.
- 1.4 Aggravating the institutional obstacles with which the newly formed Ministry is faced is the duplication of responsibilities and functions at different governmental levels (national, regional and municipal). These overlapping functions are primarily due to the lack of definition of a central authority, which coordinates

policy initiatives as well as their implementation at the various governmental levels.

- 1.5 The present policy of the central government focuses on establishing the Ministry as a coordinating entity, delegating environmental management functions to regional and municipal authorities, in accordance with the Law of Municipal Management, the Special Law for Decentralization of the State and the Environmental Management Law. In this context, the Ministry sees the need for a program directed toward defining more precisely its role in environmental management and supporting this definition at the municipal level.
- 1.6 The Ministry requires a clearer definition of its role as maximum environmental authority, accompanied by the design of an organizational structure, which facilitates assumption of that role. The process of assembling the necessary laws, regulations, policies and environmental plans, along with the development of the role monitoring and follow-up in the MMA contains gaps (mostly of a structural nature), some of which have been identified and are being discussed at the Ministerial level, with the participation of other entities of the Sistema Nacional de Gerencia Ambiental (SNGA).
- 1.7 Given the recent re-organizational processes the country has undergone, it is essential to clarify the relations between the MMA and SNGA members, between the Ministry and public sector entities with environmental responsibilities, as well as the private sector and non-governmental organizations and civil society.
- 1.8 The staffing of the MMA does not correspond adequately to its assigned role. This is in part due to the manner in which the staffing pattern evolved, transferring personnel from the CAAM, the former Instituto Nacional Instituto Ecuatoriano Forestal, without an MMA staffing plan with criteria for its own creation. As a result, official labor norms such as manuals, job descriptions and organizational structure, inherited by the previous agencies, have little to do with the current role and responsibilities of the MMA. While there is a general consensus concerning the operating strategy and priorities for the MMA, a detailed examination of available professional staff, especially at the technical level, has yet to be achieved. This is primarily due to the absence of legal, economic, and teaching instruments, which would permit such a restructuring of the MMA, analyzing available staff and estimating organizational needs for complying with its mandate.
- 1.9 The lack of a coherent approach to environmental management among existing laws, as well as the inoperativeness of some mechanisms contained in the recently approved Constitution, stand as the principal limitations with which the Sistema Nacional de Gestion Ambiental (SNGA) is faced. The SNGA consists of the MMA, the environmental offices of the sectoral ministries, decentralized government authorities, environmental Non-Governmental Organizations (NGOs), community leaders and other interest groups. Despite the awareness of the current legislative weaknesses by the MMA, a lack of commitment still

persists by other decision-makers toward the legislative, institutional and budgetary actions required to obtain a well-run environmental management system.

1.10 There is also a lack of a communication network through which the various interest groups and environmental agents can express their concerns and suggestions. The plethora of duties, including the definition of policies, development of instruments, environmental control, monitoring, management promotion and knowledge sharing, which the MMA now assumes in the SNGA has created a series of management and technical problems among which are:

- a. Centralism and decision-making concentration - Instituto Ecuatoriano Forestal de Areas Protegidas (INEFAN) specifically.
- b. Multiplicity of functions. (One staff member performing policy, control and operational functions, for example).
- c. Dispersity of administration responsibility. Entities or autonomous agencies have been created for each type of resource. For instance: **Water:** Comisión Nacional de Recursos Hídricos (CNRH), Corporaciones Regionales de Desarrollo (CRDs); **Soil:** División de Recursos Naturales del Ministerio de Agricultura (DINAREN), Instituto de Desarrollo Agropecuario (INDA), INEFAN, **Watersheds:** Comisión Nacional de Cuencas Hidrográficas (CONAPCHID), INEFAN, CNRH, CRD's. Furthermore, responsibilities have been transferred to decentralized authorities, which has resulted in inconsistent criteria or even lack of action should responsibilities not be clearly defined.
- d. Lack of institutional coordination: This has been due in large part to the ineffectiveness of the directorates of the various environmental agencies in complying with their respective roles, often exerting clientelism and politically-based decision-making.

1.11 Therefore, there is a pressing need to design and implement effective mechanisms of communication among the various sectors, strengthening other levels of government, and transferring some roles assumed by the MMA to those levels.

1.12 There is currently a lack of consensus on criteria regarding the general concept of environmental management and the environmental institutional framework, both within the Ministry of Environment and among the other institutional actors in the SNGA. There exist basic differences regarding the proposed measures contained in existing and draft legislation (for example, the role of municipal governments in management of resources such as water).

B. Forest Resources

1.13 Despite high rates of deforestation, Ecuador continues to be rich in forest resources. According to recent estimates, Ecuador possesses more than 110,000

km² of forest, representing 42 percent of total land area, which contrasts with reforested area, only 1,000 km². Nevertheless, annual deforestation figures in Ecuador, estimated at a rate of 1.7%, one of the highest in Latin America, indicates that exploitable forests will be erased with twenty-five years. This process is directly related to the expansion of the agricultural frontier and the spontaneous colonization of the tropical forest zones. The increase in human infiltration of the natural forests has been influenced by factors such as: the expansion of the petroleum sector during the seventies, infrastructural penetration such as roads into previously inaccessible areas, facilitating human settlement in previously untouched areas. The Agrarian Reform and Colonization legislation of 1964 introduced the practice of allocating forest areas as part of the reform. Furthermore, the lack of forest conservation incentives, efficient wood production and land tenancy security in primary forestland as well as export restrictions for wood products all threaten effective use of the forestry base.

C. Forestry Management

- 1.14 The Ministry of Environment drafted the National Strategy for Sustainable Development of Forestry, which calls for a substantial restructuring of the Ministry, including the incorporation of INEFAN into the Ministry in 1999. This also involved streamlining the ex-INEFAN's staff at the national level, and pushing forth the decentralization of tasks and responsibilities to the different regions. At present the Ministry is creating a Department within its structure in order to deal exclusively with forest issues, as well as the regional structures that will perform the responsibilities previously assigned to INEFAN. During the last six years, INEFAN has developed several studies in the economic, technical and institutional venues, which identify the principal economic, institutional and technical problems facing the sector proposing appropriate actions for their resolution. Ecuador is faced with the following limitations in implementing forestry policy:
 - a. Deficiency in its land coding, as demonstrated by inappropriate and incomplete forestry zoning caused by: (i) spontaneous colonization associated with deforestation and (ii) lack of definition and legal security regarding land tenancy.
 - b. Minimal capability for the adequate promotion, formulation and implementation of natural forest management plans due to the lack of: (a) an institutional framework that facilitates productive alliances among indigenous communities, settlers and the private industrial sector; (b) definition for criteria determining economic sustainability, together with unnecessary regulations and control by the State; c) mechanisms for facilitating the formation of markets and proves for wood products.
 - c. Lack of macroeconomic, sectoral, commercial and transport policies to encourage competition which would lead to the development of a competitive forestry environment. This environment would lead to national and

international market competition. The lack of such policies are evidenced by: (i) wood product export; (ii) a string undervaluation of forestry resources and of potential public revenue to be collected from forestry exploitation; (iii) inefficient wood cutting and processing practices; (iv) low levels of private investment for the use of native forests and reforestation; (v) absence of sanitary control and investment in modernization of forestry technology.

- d. Institutional disarticulation and lack of operational management and infrastructural capacity in the forestry authority, resulting in: (i) insufficient and inadequate allocation of public sector investment resources; (ii) inadequate administration of protected natural areas; (iii) low utilization of management information tools for defining zoning parameters and administering forestry resources.

II. THE PROGRAM

- 2.1 The general objective of this technical cooperation is the improvement of the institutional base for managing natural resources in Ecuador. The specific objective for Subprogram I is to provide the Ministry of Environment with management tools corresponding to its role as central authority for environmental policy and management and strengthen decentralized environmental agencies. Subprogram II has three specific objectives: (i) define precisely the role of the public sector in different forestry policy initiatives; (ii) maximize private sector participation in areas appropriate for the development of the forestry sector; (iii) improve the legal-institutional framework and capacity for forestry development.

**CONSOLIDATED BUDGET
(US Dollars)**

AREA	FINANCING		
	IDB	COUNTERPART	TOTAL
<u>Subprogram I</u>			
• Strengthening Ministry of Environment	136,700		
- Consultancies	136,700	0	136,700
• Consolidation of SNGA	122,300	48,300	169,877
- Consultancies	103,300	0	103,300
- Equipment, Logistic Support		35,800	35,800
- Training	19,000		19,000
- Publications		12,500	12,500
TOTAL: Subprogram I	259,000	48,300	307,300
<u>Subprogram II</u>			
• Definition of Nationally-Protected Forests	180,000	35,700	215,700
• Sustainable Management Plans for Privately Held Forests	57,000	18,000	75,000
• Policies and Incentives for Private Forestry Investment	78,000	9,000	87,000
• Strengthening of the MMA in the Utilization of GIS as a Tool for Policy Management	26,000	9,000	35,000
- Equipment	12,000		12,000
- Consultancies	11,000		11,000
- Training 80 Staff Members	3,000	9,000	12,000
TOTAL: Subprogram II	341,000	71,700	412,700
TOTAL: Subprogram I & II	600,000	120,000	720,000
PERCENTAGE CONTRIBUTION	80%	20%	100%

- 2.2 The project has a total cost of US\$720,000, eighty percent of which, US\$600,000 will be financed by the Bank on a non-reimbursable basis, in convertible currency, through net income from its Fund for Special Operations. Local counterpart, amounting to US\$120,000, will be provided by the Republic of Ecuador. In-kind contributions in the form of staff hours of both a professional and administrative nature, logistic support and other local support can be recognized as counterpart. All equipment purchases and consultant contracting will follow Bank policy and procedures

III. PROGRAM DESCRIPTION

A. Subprogram I - Institutional Strengthening of the Environmental Management System (US\$307,300)

1. Institutional Strengthening of the Ministry of Environment (US\$136,700)

a) Development of an action plan for the restructuring of the Ministry and the Sistema Nacional de Gestión Ambiental (SNGA)

- 3.1 An operational regulatory framework providing detailed job descriptions, technical profiles and office functions within the Ministry will be developed. This will necessarily include a re-design of the current budgetary system, adjusting for the restructured organizational frameworks for both the MMA and the SNGA. Based on the restructuring design, a plan of action for its implementation will be developed, including time frame, and necessary resources.

b) Technical support for the legal analysis and review of measures provided in the three principal legal codes for environmental management in Ecuador

- 3.2 The recently-approved Ley de Gestión Ambiental and the draft laws for water and forestry. These three laws should contain consistent approaches in terms of institutional responsibilities and technical provisions.
- 3.3 In the preparation of the technical cooperation, it has been established that there are basic and substantial contradictions in these three legal documents. It is essential that the MMA coordinate and assure that there is a cohesive legal base for the definition of public and private responsibilities for natural resource management and control of environmental contamination.
- 3.4 It is important that the approach of environmental legislation is geared toward the promotion of environmental self-management by civil society and the private sector. Effective decentralization schemes for local environmental authorities should be promoted and methods for an effective inter-action by the private sector and local authorities with the MMA should be developed. Extensive stakeholder participation will be carried out, including indigenous people representatives.
- 3.5 With this approach in mind, the legislative component will include the following activities:
- a. Study and analysis of the Ecuadorian Constitution, the *Ley de Gestión Ambiental* and draft legislation for the *Ley de Aguas* and the *Ley Forestal*, suggesting pertinent modifications so as to guarantee a coherent institutional

approach, including definition of the roles of the private sector and civil society in environmental management.

- b. Proposal for bringing sectoral legislation into line with the new *Ley de Gestión Ambiental* and the national environmental strategy with the respective sectoral authorities of the SNGA.
- c. Coordination with the national and decentralized authorities, discussion and refining of these proposals and commitment to their regulation.

c) Support for the technical design of a National Environmental Fund, specifying instruments which would guarantee its financial sustainability

- 3.6 At present, there is a dispersion of activities and approaches for the management of international technical cooperation and national investment resources within the SNGA. It is important to consolidate the role of international technical cooperation and incorporate both planning and follow-up within its focus.
- 3.7 An integral management of environmental management projects will be defined, which responds to existing policies and strategies, with appropriate inter-institutional coordination mechanisms. The National Environmental Fund can play a relevant role as articulator of strategic resources for environmental management. Its role should be defined not as project executor, but as administrator and articulator of project resources, such as a “banco de proyectos”. Nevertheless, to guarantee its financial sustainability, economic instruments should be devised for the generation of income for environmental development., The Office of Planning of the MMA should integrate criteria and administrative technology with the Fund.
- 3.8 In this regard, technical support should be provided for the following activities:
 - a. Detailed design of the National Environmental Fund.
 - b. Design of economic instruments to assure its financial sustainability and a development plan for implementation of the suggested financial instruments in the SNGA.

2. Consolidation of the Sistema Nacional de Gestion Ambiental (US\$170,600)

a) Design and implementation of mechanisms

- 3.9 Design and implementation of mechanisms for development of policies and environmental actions among the MMA, three representative municipalities and a selected sample of social and public organizations concerning.

b) Environmental policy

- 3.10 Environmental policy, organization of the Sistema Nacional de Gestión Ambiental actions and responsibilities for the implementation of the national environmental strategy.

c) Design and implementation of a monitoring system

- 3.11 Design and implementation of a monitoring system for environmental management at the national level which will permit the MMA to evaluate achievements, system efficiency and propose adjustments as warranted.
- a. Training in the use of GIS, as well as monitoring and control systems that support environmental management decision-making.
 - b. Participative design of an environmental management monitoring system, with public and private sector representatives and development of a computerized prototype.
 - c. Design of a prototype for a monitoring system for the local state of the environment, based on advances which have been achieved among various SNGA entities (i.e., Patra project in the MMA, the Cuenca case, projects financed through the Swiss Fund, GIS systems of INEFAN, among others).
 - d. Design and implementation of vigilance and control committees at the national, provincial and municipal levels.

d) Strengthening of the environmental management capabilities

- 3.12 Strengthening of the environmental management capabilities of a selected group of municipalities and provincial governments with significant responsibilities in the SNGA.
- 3.13 This activity implies the development of a training program for representatives of the SNGA, with planning and management evaluation regarding processes for participative planning, negotiation, management control systems, and decision-making support.
- 3.14 These training programs will be provided to professionals of the Ministry and the SNGA, in themes such as environmental management, community participation and conflict resolution. The course size will be relatively small (20-30), for those professionals selected based on their quality performance.
- 3.15 Similarly, workshops will be offered to selected municipalities in the SNGA, involving representatives of the communities, NGOs, and the private sector, all

leaders of environmental management teams at the local level. These workshops will be led by experts in:

- a. Training in subjects such as development sustainability in the provinces and prototype municipalities.
- b. Training in methods for the formulation of local environmental management projects.
- c. Environmental management skills.
- d. Negotiation and preparation of plans of action for environmental authorities that will participate in the project.

e) Design and development of economic instruments

3.16 Design and development of economic instruments for environmental control that can be applied by the provincial and municipal authorities in coordination with the pertinent national authorities

3.17 The activity requires:

- a. Studies for the development of punitive actions for environmental control, in coordination with the pertinent national authorities (Contraloría, judicial system, Congress, among others).
- b. Development of legislation and appropriate regulation for presentation for congressional approval.
- c. Development of a strategy for the promotion, training and implementation of these new instruments at the municipal and provincial levels.
- d. Formulation of a strategy for the standardization of control and vigilance mechanisms regarding areas such as control of hazardous chemicals, air pollution and sustainable soil management.

B. Subprogram II - Forestry Policy Management (US\$412,700)

3.18 The four components of this subprogram are 1) Definition of Nationally-Protected Forests; 2) Sustainable Management Plans for Privately Held Forest; 3) Policies and Incentives for Private Forestry Investment and 4) Strengthening of the Ministry of Environment in the Use of the SIG.

1. Definition of Nationally-protected Forests (US\$215,700)

3.19 This component consists of three activities:

- a. Development of a conceptual framework for defining nationally protected forests.

- b. Broadening of cadastral surveys and legalization of title to cover all lands and owners.
- c. Preparation of a pre-feasibility study for a land tenancy regularization project for privately held natural forest land.

3.20 Activity Support. The activities will be supported through financing of:

- a. Complementary actions to the ongoing *Proyecto Subir*. In collaboration with various institutions, so that cadastral expansion and legalization of property cover the area, including all private property owners (community, ethnic groups, individuals, companies, etc.). Public forests that should form part of the protected natural areas will also be identified in this process.
- b. Consultant contracting to prepare a pre-feasibility study for a project for the legalization of forest land tenancy. This project would include cadasters and legalization of forest properties not included in the INDA project, targeting agricultural areas.

2. Sustainable Management Plans for Privately Held Forests (US\$75,000)

3.21 This will include the following study activities:

- a. Conceptualization and design of sustainable management plans of native forest land owned either by communities or commercially. These plans should be consulted with the sectors and communities involved.
- b. Standard criteria and methodologies for voluntary certification.
- c. Evaluation of community and local business alliances.

3.22 Activity Support. The activities will be supported through financing of:

- a. International assistance to the Dirección de Bosques of the AFE to study and defines criteria, norms and methodologies for voluntary certification processes appropriate to Ecuador, including a strategy for their implementation.
- b. Agreement to evaluate a specific case in which alliances between enterprises and communities are developed, based on a sustainable management plan and applying certification criteria.

3. Policies and Incentives for Private Forestry Investment (US\$80,000)

3.23 The areas to be studied include:

- a. Evaluation of policy conditions and limitations for forestry projects.

- b. Development of a design for incentives and financial schemes to mobilize and administer public and private resources allocated for investments related to forestry development, protected areas and biodiversity management.

3.24 Activity Support. The activities will be supported through financing of:

- a. Consultancies to evaluate policy conditions and their potential limitations on investment projects: (1) restrictions and controls limiting the market of forestry lands; (2) the establishment of a forestry tax, as well as other contributions to finance forestry development, to be directed to Fonafor; (3) the maintenance, through Forestry Resources, of controls such as mobilization guides, definition of salaries for forestry occupations, etc. (iv) projected global trends in macroeconomic policies.
- b. Economic studies for incentive design, considering economic efficiency and financial profit criteria, keeping in mind: (1) the concept of future incentives as contained in the forestry law for which parameters and targeting are defined toward small and medium-sized foresters; (2) assessment of externalities generated by reforestation, as an economic justification for incentives and charging for environmental services.
- c. Consultancy to propose alternatives for the mobilization of savings and administration of public and private resources to finance forestry projects, including: (1) a review of limitations of schemes based on bank credit for financing for the required lending terms for forestry products. (2) possibilities for attracting foreign investment or mobilizing institutional investment resources in funds with minimum guaranteed and long-term return; (3) opportunities for the sale of forest services for forestry producers in the short and medium term.

4. Strengthening of the MMA in the Utilization of GIS as a Tool for Policy Management (US\$42,000)

3.25 The areas to be studied include:

- a. Evaluation of policy conditions and limitations for forestry projects.
- b. Development of a design for incentives and financial schemes to mobilize and administer public and private resources allocated for investments related to forestry development, protected areas and biodiversity management.

3.26 Activity Support. The activities will be supported through financing of:

- a. Supplying of a training center for multi-purpose GIS operation and application, including acquisition of computers, peripheral equipment and software licenses.

- b. Consultant services for the preparation of instruction material, cases and course presentation.
- c. Training of 80 staff members in GIS applications for the construction of a SIG-GPS technological network.

IV. PROJECT EXECUTION AND ADMINISTRATION

- 4.1 Project execution will be the responsibility of the Ministry of Environment, through the establishment of a Project Executing Unit comprised of two technical staff members from the MMA, two international experts and four local consultants.
- 4.2 The Project Execution Unit will be responsible for the management of the technical cooperation in terms of consultancies, training and acquisitions including: 1) the contracting of national and international consultants, proposed by MMA and approved by the IDB, in accordance with the terms of reference; 2) management of the technical cooperation according to Bank procedures and policies; 3) presentation to the MMA the following reports:
 - a. An Initial Report within ninety days from signature of the contract, which contains: (i) work plan and calendar of activities; (ii) final terms of reference for all consultants; (iii) training program; (iv) a proposal for equipment acquisition.
 - b. Mid-term reports at the end of the first year for consultancies and long-terms studies, and quarterly reports for short-term consultancies. The reports will contain an evaluation of compliance with objectives and projections of activities to be realized in the next year. Difficulties experienced in reaching specific objectives and remedial steps taken will be described.
 - c. A Final Report, within sixty days of the termination of project execution, including a summary of activities completed and results obtained.
- 4.3 The period of execution for the project will be 18 months, with a disbursement period of 24 months. The Project Executing Unit is responsible for the processing of disbursement requests and their respective justifications of the Bank's contribution, in accordance with the Bank's disbursement procedures.
- 4.4 The Project Executing Unit will maintain adequate financial and accounting records on the use of the project funds. The accounting system must be organized in such a manner that it provides the documentation needed to verify financial

transactions, and to permit the timely preparation and submission of financial statements. These records should:

- a. Allow identification of sums received from different sources;
 - b. Show project investments by category, consistent with the catalogue of accounts approved by the Bank
 - c. Contain sufficient detail to identify goods purchased and services contracted, and the use of those goods and services; and
 - d. Show the cost of activities for each component.
- 4.5 The PEU will submit a final financial statement on the sources and use of the project funds, within ninety (90) days after the date of the last disbursement of the contribution. Such financial statements should be audited by a firm of independent auditors, acceptable to the Bank, in accordance with the Bank's requirements.

V. VIABILITIES AND RISKS

A. Viabilities

- 5.1 The project will support the Ministry of Environment of Ecuador to organize and improve its managerial capacities and to develop sound policies for the management of the forestry sector. Strengthening environmental management and improving coordination with national and local agencies will benefit the sustainable use of natural resources and will address environmental issues of the development projects.
- 5.2 To support the capacity for development with less adverse environmental and social impact will result in considerable savings in dealing with natural disasters, pollution control, public health care expenditures, and maintaining productivity of the primary sector, important source of revenues of the country.
- 5.3 The project responds to high national priorities, by focusing on strengthening the national environmental management system and addressing forestry aspects, one of the most important renewable natural resources.

B. Risks

- 5.4 Project activities, which are solely for the strengthening of environmental management capabilities at the various levels and among sectors, can only be seen as innately beneficial. However, the effectiveness of the project and its long-term impact is subject to several factors completely beyond the scope of this technical cooperation. Since its inception in 1996, the Ministry of Environment has received very limited budgetary resources. This trend has become even more

severe in the past year given the general financial conditions encountered throughout the public sector. Should resources continue to be limited to this extent in the future, retention of staff, at the central, provincial and municipal levels, will be difficult. The second risk is in regard to follow-up actions. While a product of this project will be proposed modifications to existing and draft environmental legislation, steps must be taken by the Ministry of Environment and other interest groups to ensure that approval of these changes is forthcoming.