

FACSIMILE TRANSMISSION



United Nations Development Programme
GLOBAL ENVIRONMENT FACILITY (GEF)



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GEF

Date: 25 March 1999

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Pages: (39 including this sheet)

From: Richard Hosier
Principal Technical Adviser
Climate Change

Subject: Revised Climate Change Enabling Activity proposal
for Ecuador and Dominican Republic

Please find attached the revised Climate Change Enabling Activity proposal for Ecuador and Dominican Republic in which we have addressed your comments in your email dated 4 March 1999.

I would like to inform you that regarding the integration of Dominican Republic in the CPACC project, we will use the same procedure of Suriname. As you may recall, this country dealt directly with OAS and they are now part of CPACC.

Thank you.

**NATIONAL COMMUNICATION FROM ECUADOR
ENABLING ACTIVITIES**

COUNTRY: ECUADOR

PROJECT TITLE: Enabling Ecuador to prepare its first National Communication to the UNFCCC

GEF FOCAL AREA: Climate Change

COUNTRY ELIGIBILITY: Eligible under financial mechanism of the UNFCCC

GEF CONTRIBUTION: US\$220,000

NATIONAL CONTRIBUTION: US\$ (In kind)

GEF IMPLEMENTING AGENCY: UNDP

IMPLEMENTING AGENCY: National Committee for Climate. Basic Group

NATIONAL COUNTERPART: National Committee on Climate Change. Ministry of Environment.

GEF FOCAL POINT: Ministry of Environment

FCCC FOCAL POINT: Instituto Nacional de Meteorologia e Hidrologia (INAMHI)

PROJECT DURATION: 15 months

1. PROJECT CONTEXT AND BACKGROUND

1.1 GEOGRAPHIC POSITION

Ecuador is located at the north west of South America, between 1°21' N and 5°5' S and between 75°11' and 81°1'W (according to the Protocol of Rio de Janeiro). It has a land area of 272,044 square kilometers and includes the Galápagos Islands, or the Archipelago de Colón located at 1,000 kilometers from the coast with a land area of 8,010 square kilometers.

Physical, ecological, climate, etc. characteristics of the country are highly influenced by its special location on the earth. Ecuador is crossed by the Equator and by the Andes Cordillera, located between the meridians 77°-79° W. The western and eastern ranges of the Andes cross the country from north to south. Both ranges are joined by cross sectional mountain systems that form inter-Andean valleys. Low- and highlands are located to the west towards the Pacific Ocean and to the east towards the Amazons.

Due to the conditions mentioned before, Ecuador has four natural regions fully identified and geographically distributed: Coast, Inter-Andes or Sierra, Amazon and Insular or Galápagos.

1.2 CLIMATE

Geographic characteristics and the singular position of the country generate a series of climates and micro-climates.

The Coast is exposed to the influence of ocean currents, like the warm current El Niño and the cold current Humbolt, which determine the diversity of climates in the this region. In general terms, there are three types of climates: Arid or Semi-arid Tropical Megathermal, Arid or Semi-humid Tropical Megathermal, and Humid Tropical Megathermal.

In the inter-Andean region there are four main climates that can be described: Very humid Tropical Megthermal, Semi-humid to Humid Equatorial Mesothermal, Equatorial Mesothermal, Cold Equatorial of high mountain.

It is also necessary to mention that the inter-Andean region has the most diverse micro-climates; consequently, there exist a large range of variability of the elements of the climate between relatively short distances.

The Ecuadorian Amazons has a megathermal regular climate very humid with rains distributed uniformly during the 12 months of the year with an average rainfall between 2,500–3,000 mm with an important increase towards the Andean foothills with an annual average of more than 4,500 mm.

The climate in the insular region is of Equatorial type. It is important to mention that the rainfall varies with the altitude.

1.3 POPULATION

According to the last population census, 1990, and to estimations by the INEC –Instituto de Estadísticas y Censos- and the World Bank, the Ecuadorian population for the years 1996, 2020 and 2030 is estimated in 11,697,300, 16,600,000 and 18,500,000 respectively.

The dynamic of the population has been so intense that between 1950 and 1996 the percentage of the rural and urban population changed: 71% of the Ecuadorian population in 1950 was concentrated in the rural area, in 1996 this percentage hardly reached 39%.

Consequently, and due to migratory processes, the population is located in certain provinces, three of them (Guayas, Pichincha and Manabí) concentrate 56% of the Ecuadorian population. According to the INEC, there are three main reasons to migrate: economy (34,8%), family (48,2%), and education and others (17%).

1.4 ECONOMY

The national economy is strongly susceptible to the external sector and to abnormal conditions that may occur.

Variation of international prices of certain export products and the close of markets have affected the economy of the country generating serious constraints derived from economic policies of adjustment issued by the government in office.

The following are products that made part of the Ecuadorian exports: cocoa since last century until the end of the 20s, banana since the middle of last century, oil since 1972, sea products since the 80s and flowers since the 90s.

In 1996, 77,6% of the exports were primary products (oil (31%), banana (19,9%), shrimps (12,9%), coffee (2,6%) and natural flowers (2,1%) and the remaining 22,4% corresponded to industrialized products (oil by-products (5,2%) sea products (3,1%), manufacture of metals (2,2%), cocoa (1,5%).

Although the balance of trade was positive during the last 10-12 years, decay of prices is constant. Thus, the bulk of exports grew at an average rate of 4,5% and the price per unit fell to an annual rate of 3,3%. Imports show an inverse behavior, the price per unit of imported products grew approximately four times and the bulk of imported products fell five times during the same period.

Thus, the balance of trade, that is the relation between the index of prices of exports over the imports fell from 100 in 1980 to 18 units in 1990.

The process of indebtedness that started by the middle of the 70s has reached such a situation that at the present the country is completely unable to generate internal savings to finance the growing needs to invest in development issues. In 1996, the external debt was 14,586 millions of dollars and 86,5% corresponded to the external debt and 13,4% to the private debt and represented 66% of the GDP.

The Gross Domestic Product in 1997 was 19,920 million dollars with an annual growth rate of 3,3% and a GDP per capita of 1,698 dollars.

1.5 AGRICULTURE

The main role of the agrarian sector in the national socioeconomy is represented by the 17% contribution to the GDP, by the generation of 31% of employment in the population economically active and by the use of 31,1% of the country land used for agrarian practices. The agrarian activity in the Sierras is oriented to the internal consumption whereas the activity in the Coast is oriented to exports.

The land area under agrarian use used for temporary crops (5,2%), permanent crops (17,6%), grass (63%) and fallow and recess (14,2%).

INEC's Survey on Land and Agrarian Production in 1995 points out that 61% of the land in the coast is used for agrarian purposes and is occupied with temporary crops (2,7%) like corn, rice, cotton, soy, fruits, etc.; permanent crops (23%) like coffee, cocoa, African palm, banana, etc.; grass (57,6%), fallow (13,8%) and the remaining area (2,9%) is land in recess.

In the Sierra 47,6% of the land is designated to the agrarian sector and is divided as follows: 63,7% to grass, 11,9% to permanent crops (fruits from warm climates), 9,2% to crops of short cycles (corn, potatoes, barley, wheat, bean, vegetables, etc.) 10,9% to fallow and 4,3% to recess.

The Amazon region, due to its type of soil and low population density, has only 7,7% of the land under agrarian use.

Among the crops with the largest coverage in Ecuador are the rice (14,8%), coffee (14,7%), hard corn (13%), banana (8,7%), soft corn (6,3%), potato (2,5%), soy (3,1%), African palm (3,3%), etc.

1.6 FORESTS

According to a study of satellite images carried out in 1990 by CLIRSEN –Centro de Levantamientos Integrados de Recursos naturales por Sensores Remotos-, the land area of native forests in Ecuador is 11,473,343 hectares that represent 42,4% of the total land; 80% of the land is located in the Amazons, 13% in the Coast and 7% in the Sierras. 35,7% of the native forests correspond to protected natural areas, 27,8% to protective forests and 36,5% to producer forests.

Forestation and reforestation was null in 1960, but as a consequence of state incentives they have gained importance in the country although the level is not enough to balance the cutting down of trees. The level of growth of forest plantations was 2070 ha/year between 1967-1987, 6328 ha/year between 1987-1989 and 1346 ha/year between 1990-1995.

The information about the deforestation rate varies according to the source and the theoretical base to obtain the data. In studies of climate change in the forest sector it has been used the analysis of the project "Desarrollo Integrado de la Estructura de Comercializacion de la Madera y Productos de la Madera en el Ecuador" that indicates that between 89,000 and 124,000 ha/year are deforested, taking as an average value 106,500 ha/year.

If the present deforestation rate remained in 1,1%, by the year 2000 the forest cover would decrease 11% and by the year 2080 the country would not have native forests.

1.7 ENERGY

The different sources of energy existing in the country show the existing potential. The most important are the following: hydroelectricity (95,6%), crude oil (2,6%), biomass (0,8%), geothermal power (0,7%), carbon (0,2%) and natural gas (0,1%).

Although hydroelectricity is the most important source, its contribution to the balance of energy is reduced because of the predominance of hydrocarbon products.

Several areas of the country are able to use solar energy with levels of radiation of 3-4 Kw. h/m² per day. The possibilities of using aeolian energy are given in certain places.

The economy of the country largely depends on the production and export of oil. Its contribution to the GDP between 1980 and 1982 was 12,3%, in 1985 reached 16,6% and fell for several reasons to 6,8% in 1987. Between 1994 and 1996 was 10,5%. Thus, the general budget of the state is financed with oil incomes. In 1996, 35% of the total resources generated through Ecuadorian exports corresponded to oil and its by-products.

According to a study by INECEL's Unit of Economic Studies (1996), the electricity generated (7080.7 Gwh) was 77,5% originated from water sources and 22,5% from thermal sources. The hydroelectricity Power Plant Plaute considered as one of the largest in Latin America generates about 80% of the water energy and presents serious problems due to the accelerated sedimentation of the reservoir.

Hydrocarbons (oil and natural gas) were the primary sources of energy responsible of 91% of the production of energy in 1990. The biomass 6,2%, hydroelectricity 2,7% and solar-aeolic 0,2%.

In 1990, the energy consumption was 5,372 Ktep (thousand of tones equivalent to oil) distributed as follows: transport (38,3%), industry (20,5%), residential (26,4%), agrarian, fishing and others 9,2%, etc.

1.8 INDUSTRY

National manufacturing industry has developed at a lower pace than in the average Latin American countries. At first, it was limited to respond to the primary needs of food and clothing. The textile industry is one of the oldest industries and was established in the Sierra towards the end of the last century.

Toward 1930 the fuel and pharmaceuticals industries began; in 1996 the pharmaceutical exports reached 45 millions of dollars with a small added value of barely 8%.

Until the sixties, industrialization was incipient, due to the fact that the country had few industries like food, beverage, tobacco and textiles. Starting in 1972, the industry started a dynamic process due to the increase of domestic demand caused by oil incomes, at the same time, the progressive advance in the Legislation of Industrial Promotion and the country's organization in development zones, fostered investment and offer advantages to export national products.

According to the last Economic Census (1992) industry employs 128,458 people, which represent 3.8% of the work force.

Among the most important sectors of industrial activity the following are included: consumer goods (food, beverage, tobacco and chemical products) with 68% of added value; intermediate goods (textiles, leather, chemicals for the industry) with 21.9% of added value; capital goods (machinery and equipment) with 10.1% added value.

Pichincha and Guayas provinces generate 58.9% of the added value, showing great concentration around the two most important cities in the country: Quito and Guayaquil.

In general, the characteristics of the industry are:

- Low level of the utilization of the industrial plant, in the second semester of 1996 it was 66%, the lowest since 1993
- High level of regional concentration, 80% of the companies are located in Pichincha, Guayas and Azuay.
- Dependent technology, hardly 20% is added value, the rest is imported. In the pharmaceutical industry the added value barely reaches 8%.
- Low use of manpower. At present there is a standstill in the creation of jobs.

1.9 Environmental Situation.

Documents like "El Diagnostico de la Situacion del Medio Ambiente en Ecuador (1980-1981)", its update in 1988 and the First Ecuadorian Conference on Environment highlight the environmental conditions in Ecuador during the eighties.

The National Government in its Development Agenda for 1993-1996 focused on Environmental problems. The Ministry of Foreign Affairs, in collaboration with the Canadian Government, prepared "Environmental Management in Ecuador" as a complementary document to the Ecuador's national report to the United Nations Conference on Development and Environment in 1992.

From 1994 until this day, environmental subjects have been discussed in greater depth and at a higher political level. The creation of the "Comision Asesora Ambiental de la Presidencia de la Republica (CAAM) in 1993 and the Ministry of Environment in 1996 were outstanding facts in the institutional and political spheres. Within the Consejo Nacional de Desarrollo (CONADE), Unidad del Medio Ambiente, NGOS and other levels of society began to play an important role in addressing environmental problems

The definition of "Principios Basicos para la Gestion Ambiental en el Ecuador" (1993), "Politiclas Basicas Ambientales del Ecuador" (1994) and "Plan Ambiental Ecuatoriano", constitute a fundamental step in addressing the Environmental subject in Ecuador.

On August 4, 1997, by Presidential Decree, the President decided to start the "Estrategia de Desarrollo, Ecuador 2025" project leaving its coordination to CONADE and "Consejo de Seguridad Nacional" (COSENA). The fundamental purpose of this project is to establish in a concerted manner the parameters that must guide and drive the development of the nation in the long term.

The current Ministry of Environment has outlined a strategy for Sustainable Development and Environmental Measures that will be subject to the scrutiny of the involved social entities. The main elements proposed by the MMA are:

- Institutional strengthening of the System of Environmental Management
- Protection and reconstruction of fragile systems
- Quality of life
- Sustainable development in border zones.

Moreover, the National Congress is currently considering and debating the draft of the Environmental Measures Bill which will establish, among other things, the principles of the State's environmental policy, obligations, responsibilities and the manner of participation of public and private sectors.

The recently created National Environmental Fund, is a private not for profit organization with the purpose to finance projects for the conservation and sustainable management of natural resources. The National Government capitalized the NEF with a contribution of one million dollars in state bonds.

On the subject of climate change several institutions of the national government and NGOs are performing the correspondent tasks. The Instituto Nacional de Meteorologia e Hidrologia (INAMHI) is a public entity of the Ministry of Energy and Mines, responsible for the coordination, normalization and establishment of policies in the fields of hydrology and meteorology in Ecuador. It is the Permanent Representative of Ecuador before the World Meteorological Organization and acts as the national coordinator on climate change. In fact, it is the focal point of Ecuador before the United Nations Framework Convention on Climate Change.

Within the context of the INAMHI's activities, the most outstanding are those related to the climate monitoring and evaluation through the work of its research and technical units supported by a national network of hydrologic and meteorological stations that cover the entire nation. This profile of the INAMHI allowed the Nation to begin addressing climate changes with the result of several projects with the coordination of the Ministries of Environment and Foreign Affairs and the participation of several national institutions.

The Ministry of Agriculture and Livestock is responsible for measures and policies ruling the activities pertaining to farming and animal husbandry. Two of the under-secretaries have participated in the realization of studies on climate changes, furthermore, they have a Permanent Operating Unit for the Evaluation of climate impact.

1.10 The Process of Climate Change in Ecuador (PCCE)

The process of climate change in Ecuador started in 1993-1994 through the proposal of objectives, strategic areas, procuring funds, and the participation of related institutions, preparation of technical documents and their dissemination, etc. The following is a summary of the main characteristics of the PCCE.

1.10.1 Objectives

Based on the above, the Process of Climate Change in Ecuador has the following objectives:

- Install a Basic Institutional Capacity to face the problems of Climate Change
- Analyze the Climate Change in Ecuador and possible impacts in strategic areas.
- Define alternatives of responses to Climate Change to make decisions.
- Comply with the international commitments undertaken.

1.10.2. Strategic Areas Considered

Definition of the Strategic Areas is based on the analysis of the documents existing as of 1994, knowledge and experience on the subject. Thus, the following Strategic Areas were considered:

1. Agriculture
2. Water Resources
3. Tropical Forests
4. Coastal-Sea areas
5. Lowlands with propensity to flows
6. Areas under the process of erosion

1.10.2 Development of the Process. Important Projects

In 1993, INAMHI and the Ministry of Foreign Affairs carried out several actions to obtain international support to implement projects to deal with the issue Climate Change and to comply with the commitments undertaken by Ecuador before the UNFCCC. They requested cooperation to several developed countries and international agencies; the most important are United States, Netherlands and United Nations.

The following is a summary of the projects related to climate change and that were implemented in Ecuador:

- Project Ecuador Climate Change Country Study
- Project Ecuador-Netherlands on Climate Change in the Coast
- Project CC:TRAIN
- Project: Limiting the Greenhouse Gases Emissions

- **Project Ecuador Climate Change Country Study**

The project was financed by the US EPA and INAMHI contributed with the technical coordination. It received the support from several national institutions.

The project gave origin and the bases to the Process of Climate Change. It enables the dissemination and awareness on the issue, training of personnel, generation of proposals of new projects, preparation of technical documents and the execution of specific studies.

The personnel responsible for the execution of the studies was trained abroad in 10 workshops held in the United States and several countries of Latin America. They received support for country visits to the field, models and methodologies, software and hardware according to the needs, supplies and material, etc.

There have been 3100 issues printed to disseminate the results, including a summary in English.

The results were presented during the Third National Workshop on Climate Change held in May, 1998.

The publications are the following:

- Inventory of the Greenhouse Gases Emissions (Ministry of Energy and Mines)
 - Vulnerability in the Agrarian Sector (Ministry of Agriculture and Livestock)
 - Vulnerability in the Forest Sector (CLIRSEN)
 - Basic Scenarios and Climate Change (INAMHI)
 - Energetic mitigation (Ministry of Energy and Mines)
 - Mitigation in the Agrarian Sector (Ministry of Agriculture and Livestock)
 - Forest Mitigation (CLIRSEN)
 - Study of the Climate Change in Ecuador. Summary in Spanish and English
- **Project Ecuador-Netherlands on Climate Change in the Coast**

The initial contacts with the Netherlands Government started in December 1992 and an agreement was reached between February and March 1995 with the visit organized by CCAM and INAMHI of Dutch experts who defined the project. Between July and August 1996 the Netherlands Government sent the approval of the proposal. The execution of the project started in October 1997 and will be completed in February 1999.

Objectives of the Project:

- Elaboration of a profile of coastal resources along the Ecuadorian coast
- Evaluation of the Vulnerability in the coast of the Golfo de Guayaquil

The Steering Committee is composed of the Ministry of Environment, INAMHI, Coastal Resources Management Program (PMRC) and the General Direction of the Merchant Marine (DIGMER).

A group of consultants is in charge of the execution of the project. They coordinate and manage the execution of sectoral analysis presented by several institutions: National Institute of Fishing, INOCAR, CLIRSEN, INAMHI, University of Guayaquil, Pedro Vicente Maldonado Foundation, etc.

- **Project CC: TRAIN**

This is a program sponsored by UNDP and GEF and implemented by UNITAR at the global level and by Fundacion Futuro Lationamericano at the regional level.

The general objective is to develop the National Strategy of Implementation of Climate Change in Ecuador.

The specific objectives include:

- Define the National Strategy of Implementation
- Link Climate Change to medium and long term development plans
- Train personnel to prepare the National Strategies on Climate Change
- Link other projects related to the National Strategy

A very important component of the project is the capacity and dissemination of the different levels interrelated, like political, public, private, education, civil society, etc. The program considers several seminars, being the most important:

- Regional Workshop of Coordinators, held in October 1996, with the participation of Ecuador, Peru, Bolivia, Paraguay and Cuba where the general concept of the Project was outlined.
- Workshop CC:TRAIN. Climate Change. Challenges and Opportunities. It was held in May 1997 and 120 representatives from all the levels of the society participated. It allowed the formation of the National Committee on Climate.
- National Workshop on Capacity for the Preparation of the National Strategies of Implementation which will probably take place in February 1999.
- Several Workshops on consultation and dissemination.
- National Workshop for the presentation of the National Strategy of Implementation, which will be held in a date to be announced.

INAMHI is the General Coordinator of the project and UNITAR and the Fundacion Futuro Lationamericano are responsible of its implementation before the Ecuadorian Government.

- **Limiting the Greenhouse Gases Emissions**

Phase 1: Definition of a methodology to evaluate the actions to mitigate Climate Change.

The project is executed by UNEP's Collaborating Center for Energy and Environment (UCCEE) and RISO National Laboratory.

By middle 1996, CCAM and INAMHI coordinate a visit by an expert from RISO and together had meetings with people and institutions related to the subject mitigation, including the people responsible for the project Ecuador Climate Change Country Study. ✓

At this moment, the project is being executed by a private consultant and is in its final phase. The results of this project will be taken into account in the National Communication Support Program.

- **Tropical Snow and Glaciers Program (TSG)**

Since 1990, under the direction of ORSTON in France, there is a program of monitoring climate change in tropical Andes in Bolivia, Peru and recently in Ecuador. The glaciers are considered as excellent indicators of the variation in the climate. At present, the program Tropical Snow and Glaciers handles a net of glaciers in the three countries in coordination with their national counterparts. The first results showed an accelerated recess of the glaciers since 1980.

The project considers the participation of state and private research agencies. In Ecuador, the Program TSG started in 1994 and will be completed in 2002. The National Institute of Meteorology and Hydrology, the National Polytechnic School, Universidad Central del Ecuador, and the Empresa Municipal de Agua Potable y Alcantarillado de Quito are directly involved with the project.

1.11 THE NATIONAL COMMITTEE ON CLIMATE (NCC)

From the beginning of the Process of Climate Change in Ecuador there has been an urgent need of a superior level, a transectoral one that may lead and define the guidelines and policies at the internal and external level in issues related to climate change.

The organization of the National Committee on Climate is the result of the achievement of one of the objectives of the project CC:TRAIN jointly with INAMHI.

The NCC has as a general objective to create policies, strategies and raise the awareness on Climate Change and the application of the UNFCCC.

The specific objectives are:

- To propose policies on climate change that may give a national position to the country.
- To give the necessary political support for the application of the correctives that will enable the country to face the processes of Climate Change.
- To promote the coordination to deal with issues of climate, desertification and biodiversity within the concept of sustainable development.
- To involve the different levels of the society from different sectors: public, private, education and civil society.
- To establish the institutional mechanisms to apply the Mechanism of Clean Development under the Protocol of Kioto.
- To coordinate the compliance with the international conventions and treaties, like the Framework Convention on Climate Change.
- To disseminate and promote the access to existing international support.

It is also important to mention that the national government can grant its approval for the execution of projects related to climate change, Jointly Implementation, Mechanism of Clean Development and others if there is a favorable report from the Committee.

The Committee includes a Steering Committee and Work Groups.

The Steering Committee is composed of representatives from the different sectors of society (public, private companies, science and technology, the civil organization and sectional governments) in the following manner:

- Ministry of Environment. President
- Ministry of Foreign Affairs
- Ministry of Energy and Mines
- Ministry of Agriculture and Livestock
- Secretary of Planning. President
- National Council of Universities and Polytechnic Schools (CONUEP)
- Association of Municipalities from Ecuador (AME)
- Ecuadorian Committee for the Defense of Nature and Environment (NGOs)
- Chamber of Industries from Pichincha
- Council of Ecuadorian Nationalities

The Ministry of Environment presides the Steering Committee and INAMHI is the Permanent Secretary.

The work groups should be in charge of the research and monitoring and would be based on the guidelines and policies issued by the Steering Committee. The groups will not be exclusive but open to the participation of representatives from related sectors. Several institutions will participate in different groups.

2. OBJECTIVES

The project proposes the following general and specific objectives.

2.1 General Objective:

The general objective of the project is to make easier the preparation of the Initial National Communication from Ecuador to the Conference of the Parties (COP) according to Article 12 of the United Nations Framework Convention on Climate Change.

2.2 Specific Objectives:

The specific objectives of the project include:

- To update the National Inventory of Greenhouse Gases, 1990, (prepared under the Project Ecuador Climate Change Country Study (ECCCS) supported by the USCS Programme to the year 1994 so the results can be used for the preparation of the Initial National Communication from Ecuador,

- To promote and support the adoption of measures of adaptation of ecosystems and mitigation of GEI emissions identified as a result of the analysis performed under the ECCCS and Ecuador-Netherlands projects on Climate Changes in the Coast.
- To carry out a process of dissemination and public awareness in the different levels of decision-making within the government and in the different public institutions, academic and private, related to the measures of adaptation and mitigation to reach a consensus that will enable their implementation.
- Support and consolidate the work of the National Committee on Climate and to prepare, develop and define national strategies to implement the United Nations Framework Convention on Climate Change through their harmonization with national plans and priorities of development that may function as the bases for the National Communication.
- To ensure that the National Communication will be the basis to promote a change in national policies related to energy, agriculture and forests that can contribute favorably to the abatement of GEI emissions and that have a positive economic impact for the country.
- To be the base for the development of sectoral projects on climate change that can be financed by international agencies, including the GEF or by the Annex I Parties of the United Nations Framework Convention on Climate Change.

3. PROJECT DESCRIPTION

During the preparation of the project and with the purpose to achieve the objectives of the project the following components were identified:

3.1. Organization and elaboration of the global work plan:

The first activity of the project will be the elaboration of the Work Plan that includes the areas and priority measures and the execution of the following tasks:

- Establish the work group. The present Technical Coordinator of the project CC:TRAIN will be the Project Coordinator in order to secure the coordination among projects and avoid duplication of effort.
- Prepare a detailed Work Plan.
- Organize a Workshop of Insertion and complete the Work Plan of the project.
- Organize the project, including the coordination and/or participation of the most important institutions related to the environment sector in Ecuador in a way that will make easier the implementation of the project.

The preparation of the Work Plan will require the use of the local knowledge and experiences gained during the Process of Climate Change in Ecuador to secure the complement of the projects:

- Ecuador Climate Change Country Study executed with the support of the U.S. EPA and the United States Country Study Program.

- CC:TRAIN – Implementation of the United Nations Framework Convention on Climate Change (UNITAR/NN.UU).
- Ecuador-Netherlands on Climate Change in the Coast with emphasizes on the Low Basin of Guayas.

3.2. Creation of a Center of Information and Coordination on Climate Change (CICCC).

Once created, the CICCC will give place to the appropriate link with other sources of national and international information to achieve an effective exchange of information among the national institutions. At the same time, it will give support to the institutions to access to the existing international information on climate change. It will establish a Website on climate change in Ecuador according to the initiative CC:INFO/Web of the FCCC Secretary.

The CICCC will have the appropriate personnel and equipment to achieve all the objectives of the project.

3.3 Update of the Inventory of GEI Emissions to 1994.

The inventory will consider the sectors of energy and non-energy, including carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (NO₂) and other gases that may be considered appropriate. It will use IPCC methodology from 1996.

The Inventory and the definition of the elements to be included in the National Communication will be presented at the National Workshop.

3.4 Capacity for the project personnel

The personnel will receive specific training to achieve personal and project obligations. Material from the project CC:TRAIN will be used.

3.5 Analysis of the impact of climate change on Water Resources in Ecuador

The proposal is to analyze the impact of changes on rainfall level and temperature regimes in one of the most important resources for the country -on which it depends the socio-economy of the country. Said analysis at the country level has not been performed by other projects.

The analysis will focus national aspects to define geographic basins of interest for the impacts that may generate and that may be the subject of a deeper analysis.

3.6 Analysis of the potential environmental, economic, and social impacts of the implementation of mitigation measures.

After the analysis and update of the measures to mitigate proposed in previous studies in forest, energy and agrarian sector it will be conducted an analysis of environmental, social and economic impacts that may generate the implementation of the proposed measures. The results, the final priority and definition of the elements to be included in the National Communication will be handle during the National Workshop.

3.7 Analysis of the potential environmental, economic and social impacts of the implementation of adaptation measures.

After the analysis and update of the measures to mitigate proposed in previous studies in the forest, energy and agrarian (potato, rice and soy in pilot areas) sectors and coastal resources (Low Basin of Guayas) it will be conducted an analysis of environmental, social and economic impacts that may generate the implementation of the proposed measures. The results, the final priority and definition of the elements to be included in the National Communication will be handle during the National Workshop.

3.8 Preparation of strategies of implementation of the measures of adaptation and mitigation proposed

In order to implement priority measures defined in previous sections, the most appropriate strategies will be structured within the context of the national reality.

3.9 Presentation of the final results of the project

The final results and results or status of other projects will be presented During a National Workshop.

The workshop will count with local participation and international agencies related to the subject.

3.10 Preparation of the National Action Plan on Climate Change

This Action Plan will be the result of the joint efforts with the project CC:TRAIN and will include effective measures of response to the climate change in Ecuador. They will include the measures of adaptation to the possible climate change and mitigation of the GEI.

3.11 Preparation of additional information required for the National Communication

Additional information for the National Communication will be collected and prepared according to the results and analysis arising from the different projects. The information will include:

- a. Financial and technological needs and constraints related to the implementation of articles 4 and 12 of the FCCC.

- b. Projects to finance.
- c. Material relevant for the assessment of the global trends of emissions.
- d. Description of the Methodology used to assess GEI emissions.

3.12 Preparation and dissemination of the first National Communication from Ecuador

The National Communication will be prepared using the results of the studies carried out in the country and according to the format approved at the Second Conference of the Parties to the Framework Convention on Climate Changes. It will be translated and published.

The National Communication shall be previously approved by the National Committee on Climate Change that will submit it for its final approval to the Ecuadorian Government. The Government will officially submit the National Communication to the FCCC Secretary.

4. INSTITUTIONAL FRAMEWORK

This project was divided into two main phases: during the first it was planned, approved and financed; during the second it was implemented.

The first phase was in charge of the Ministry of Environment and INAMHI as the President and Permanent Secretary of the National Committee on Climate that included the contact and follow up of the GEF support and approval of the project. The Technical Coordinator of the project CC:TRAIN was in charge of planning the project in consultation with potential institutions participating.

The institutional framework at national level for the implementation of the project is composed of three levels: Direction, Coordination and Execution.

The National Committee on Climate represents the directive level. The Committee will be in charge of the direction, supervision, and general evaluation of the project.

The Coordination level will be in charge of the control of the detail compliance with the work program approved by the Steering Committee.

The execution level will be responsible of the execution of all the aspects, technical and administrative, of the project. The Coordinator will present to the National Committee on Climate reports of progress and achievement of the activities, on quarterly basis.

4.1 ORGANIZATION AND FUNCTIONS

The Ecuadorian agency that will represent the Government of Ecuador is the Ministry of Environment as the President of the National Committee on Climate that will represent

the Government of Ecuador before the GEF in order to establish and implement the agreement.

There will be three levels to manage the project: direction, coordination and execution.

4.1.1. Directive Level

The directive level will be responsible of the direction, supervision and general evaluation of the project based on the agreement achieved between the Ecuadorian Government and the GEF.

This level will be composed of the National Committee on Climate directed by the Ministry of Environment.

The responsibilities include:

- To act as the national counterpart of the project
- To comply with objectives of the project
- To enter agreements for the implementation of the project
- To administer the financial resources of the project
- To enter required conventions and/or contracts
- To approve the First National Communication to the FCCC

4.1.2 Coordination Level

The coordination level will be composed of the Ministry of Environment and INAMHI, CNC's President and Permanent Secretary respectively.

They will be responsible of the coordination with all the entities and agencies that will participate in the study. They will also control the compliance with all the terms of reference of the project by the execution level, manage the financial resources and supply office spaces and basic services for the execution level.

4.1.3 Execution Level

The execution level will be composed of:

- a) A **Basic Group (BG)** direct responsible for the functions assumed at this level. It will be composed of three persons working on a full-time basis: the Project Coordinator, a technical expert and a bilingual secretary.

The Technical Coordinator of the ECCCS and CC:TRAIN projects will be the Coordinator of the present Project. The Government of Ecuador will grant him the commission of the services during the project life.

The main responsibilities include:

- Execution of the **technical aspects** of the project. They include:
 - Preparation and execution of the Detailed Work Plan of the project.
 - Preparation of the terms of reference referred to in the study, the technical aspects, including those that correspond to work contracts signed.
 - Conduct the workshops and meetings of study and consult.
 - Implement a Center of Information and Coordination on Climate Change (CICCC)
 - Preparation and presentation of periodical reports of progress and evaluation and those special reports as required by the Steering Committee
 - Integrate sectoral results with the project
 - Prepare, present, edit and publish the National Communication, GEI Inventory and other results arising from sector analysis
 - Support the work of the National Committee on Climate and national delegations to events related to the FCCC and the Protocol of Kioto.
- **Administrative activities:** prepare terms of reference and contracts. Organize field visits, workshops and work meetings.
- b) **Specific Work Groups (SWP)** established within each of the institutions as executors of partial analysis of the project in accordance with the agreement or other legal mechanism that guarantees the compliance with the terms of reference prepared by the Basic Group and approved at the directive level.

The institutions that will participate as executors are, among others: Ministry of Energy and Mines, Ministry of Agriculture and Livestock, Center of Collection of Natural Resources by Remote Sensors (CLIRSEN – Centro de Levantamiento de Recursos Naturales por Sensores Remotos), INEFAN, INAMHI, etc.

- c) **National Consult.** It will be responsible of developing certain issues like the implementation of the Center of Information on Climate, including Internet and a Website services, etc.

Moreover, there will be work and consultation relations on specific issues with agencies and experts at the national and international level. It will be of a special interest the relations with work groups responsible of the Enabling Activities in Latin American countries, especially with those that have already finished their National Communications.

The project will use the experience and results of other completed or under implementation projects like those generated within the frame of projects of climate change supported by the United States Country Study Programme, CC:TRAIN, Netherlands, etc.

The activities will follow a technically logic sequence: analysis on Mitigation will be based on the GEI Inventory and Adaptation on Vulnerability.

The guidelines, methodologies and available tools accepted at the international level, mainly by IPCC, FCCC and UNDP, will be used during the execution of the activities.

5. MONITORING AND EVALUATION

An external revision will be conducted after the preparation of the detailed Work Plan. The purpose of this revision is to identified, during an earlier phase, possible gaps, superposition and other risks related to the effective implementation of the project as well as to identify potential sources of information that may be beneficial for the project.

The executing agency and the National Team will be responsible of monitoring the project. The Project Coordinator and the individuals responsible for research teams will prepare, on a regular basis, the general progress report and a detail of activities already performed.

The Project will use methodologies of monitoring and evaluation established by UNDP, including a first evaluation and tripartite revision during the first 12 months of effective implementation of the project.

6. BUDGET

As an Enabling Activity related to the National Communication from Ecuador to the CFCCC, the total of "incremental costs" will be granted by the GEF.

The total budget for the execution of the project, completed with the delivery of the National Communication to the FCCC, is US\$220,000 and corresponds to the GEF as an International contribution. The studies performed under the previous projects do not have the same level as required to achieve the objectives. Thus, the project will include an update and a deeper analysis of the results until the present.

ANNEX I

COVERAGE OF THE ACTIVITIES IN ECUADOR TO PREPARE
THE INITIAL NATIONAL COMMUNICATION

Information to be included into the national communication	Enabling activity to produce the information needed	Type of Activity ¹		
		Planning ² and execution	Capacity Building	
			Institutional	Human
1. National circumstances	Compilation of the information from existing sources	CCT, X	CCT, X	CCT, X
2. Greenhouse gas inventory (incl. CO₂, CH₄ and N₂O) for: - all energy sources - industrial processes - agricultural processes - land use change and forestry - other sources	Data gathering and inventory of GHG emissions from: - all energy sources - industrial processes - agricultural processes - land use change and forestry - other sources	USCS, X	USCS, X	USCS, X
3. General description of steps taken or envisaged to implement the Convention including, as appropriate: (a) programs related to sustainable development, research, public awareness, etc.; (b) policy options for monitoring systems and response strategies for impacts; (c) policy frameworks for implementing adaptation measures and response strategies; (d) building capacity to integrate climate change concerns into planning; (e) programs to address climate change and its adverse impacts, including the abatement of increase in GHG emissions and enhancement of sinks	An assessment of potential impacts of climate change in the country	USCS, H-E, X	USCS, H-E, X	USCS, H-E, X
	An analysis of potential options to adapt to the impacts of climate change.	X, USCS E-H	X, USCS E-H	X, USCS E-H
	An analysis of potential options to abate the increase in GHG emissions and enhance the sinks.	X, USCS, R	X, USCS, R	X, USCS, R
	Formulation of programs and policy frameworks for implementing the identified response measures.	X/CCT	X/CCT	X/CCT
4. Other information including, as appropriate: a) Financial and technological needs and constraints associated with the implementation of the Convention under articles 4 and 12. b) projects for financing c) material relevant for calculation of global emission trends	Based on the results of the studies compilation and preparation of the additional information that the country wants to present in its national communication	X, CCT	X, CCT	X, CCT
5. Compilation and production of the initial national communication	Preparation, translation (as appropriate), and publication of the national communication (incl. the preparation of an exec. summary)	X	X	X

X activities under this project / CCT activities done under the CC:TRAIN Program/ USCS activities done under the U.S. Country Studies Program / H E activities done under the Ecuador Holanda Project / R activities done under the Rizo Project

X activities covered by the proposed project

CCT activities covered by CC:TRAIN

including data gathering and research related to the preparation of the national communication

ANNEX II

**BUDGET FOR EXPEDITED PROCESSING OF THE ENABLING ACTIVITY PROPOSAL
FOR PREPARING THE INITIAL NATIONAL COMMUNICATION OF ECUADOR**

Information to be included into the national communication	Enabling activity to produce the information needed	Type of Activity			Total Costs in US \$
		Planning and execution	Capacity Building		
			Inst.	Training	
1. National circumstances	Compilation of the information from existing sources	-	-	-	-
2. Greenhouse gas inventory	Data gathering and an inventory of GHG emissions	10,000	10,000	5,000	25,000
3. General description of steps (a) programs related to sustainable development, research, public awareness, etc.; (b) policy options for monitoring systems and response strategies for impacts; (c) policy frameworks for implementing adaptation measures and response strategies; (d) building capacity to integrate climate change concerns into planning; (e) programs to address climate change and its adverse impacts, including the abatement of increase in GHG emissions and enhancement of sinks	An assessment of potential impacts of climate change in the country	20,000	5,000	2,500	27,500
	An analysis of potential options to adapt to the impacts of climate change	20,000	5,000	2,500	27,500
	An analysis of potential options to abate the increase in GHG emissions and enhance sinks.	20,000	5,000	2,500	27,500
	Formulation of programs and policy frameworks for implementing the identified response measures.	20,000	5,000	2,500	27,500
4. Other information: a) Financial and technological needs and constraints associated with the implementation of the Convention under art. 4 and 12 b) projects for financing c) material relevant for calculation of global emission trends	Based on the results of the studies, compilation and preparation of the additional information that the country wants to present in its national communication	10,000	-	-	10,000
5. Compilation and production of national communication	Preparation, translation (as appropriate), and publication of the national communication.	20,000	-	-	20,000
Project management		19,000	10,000	10,000	39,000
Monitoring/Evaluation		15,000	-	-	15,000
Subtotal		154,000	40,000	20,000	214,000
Project support services (3%)					6,000
GRAND TOTAL					220,000

Annex III

*Project endorsement by the GEF operational focal point in the country
"acknowledging project goal of sufficient capability in areas covered by the project".*

Annex IV**A BRIEF SUMMARY OF THE GUIDELINES ADOPTED BY THE COP2 FOR THE CONTENT OF THE NATIONAL COMMUNICATIONS FROM NON-ANNEX I COUNTRIES**

The guidelines for the communications of non-annex 1 countries were adopted by the CoP in July 1996. In accordance with the article 12 of the UNFCCC, and following the detailed guidelines presented in the document FCCC/CP/1996/L.12, the communications of the Parties not included in Annex I should include the following elements:

- a) Information on national circumstances
- b) A national inventory of anthropogenic emissions by sources and removals by sinks of the following greenhouse gases: carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), to the extent the Party's capacities permit. Other greenhouse gases may be included at the discretion of the Parties. The guidelines and simplified default methodologies adopted by the IPCC should be used to the extent possible, and the best available data should be provided, being either for the year 1994 or alternatively for the year 1990. The format of providing this information is presented in table II below.
- c) General description of steps taken or envisaged by the Party to implement the Convention including, as appropriate: (i) programmes related to sustainable development, research and systematic observation, education and public awareness, training, etc.; (ii) policy options for adequate monitoring systems and response strategies for climate change impacts on terrestrial and marine ecosystems; (iii) policy frameworks for implementing adaptation measures and response strategies in the context of coastal zone management, disaster preparedness, agriculture, fisheries and forestry, with a view to integrate climate change impact information, as appropriate, into national planning processes; (iv) in the context of undertaking national communications, building of national, regional and/or sub-regional capacity, as appropriate, to integrate climate change concerns in medium and long term planning; and (v) programmes containing measures the Party believes contribute to addressing climate change and its adverse impacts, including the abatement of increase in greenhouse gas emissions and enhancement of removals by sinks.
- d) Any other information that the country considers relevant to the achievement of the objective of the Convention and suitable for inclusion in its communication. This may include: proposals for projects for financing, including specific technologies, materials, equipment, techniques or practices that would be needed to implement such projects, along with, if possible, an estimate of all incremental costs, of the reductions of emissions and increments of removals of greenhouse gases, as well as an estimate of the consequent benefits; material relevant for calculation of global emission trends; constraints and obstacles; etc.