

Proposal for Review

Project Title:	Costa Rica: Enabling Activity (Building National Technical Capacity to Develop Options for Greenhouse Gas Emissions Reductions and Enhancement of Carbon Sinks)
GEF Focal Area:	Climate Change
Country Eligibility:	Convention Ratified August 26, 1994
Total Project Costs:	\$ 470,000
GEF Financing:	\$ 470,000
Country contribution in kind:	\$ 130,000
GEF Implementing Agency:	UNDP
Executing Agency:	Ministry of Natural Resources, Energy and Mining National Meteorological Institute
Estimated Approval Date:	May 1995
Project Duration:	20 months
GEF Preparation Costs:	US\$ 15,000

**COSTA RICA: ENABLING ACTIVITY
(BUILDING NATIONAL TECHNICAL CAPACITY
TO DEVELOP OPTIONS FOR GREENHOUSE GAS EMISSIONS REDUCTIONS
AND ENHANCEMENT OF CARBON SINKS)**

COUNTRY AND SECTOR BACKGROUND AND CONTEXT

1. The international scientific community anticipates that climate change, and, in particular, global warming caused by anthropogenic activities, will have a great impact on the sustainability of the world's existing agricultural production systems, domestic water supplies, and natural terrestrial and marine ecosystems. Developing countries such as Costa Rica, whose economies are largely dependent on their agricultural, fishery and tourism sectors as sources of food supply, employment and foreign exchange are particularly at risk. Costa Rica's narrow landmass bordered by the Caribbean and Pacific, its many microclimates, and its heavy dependence on hydroelectric generation in the national power sector increase the country's vulnerability to climate change.
2. It is important that national research, analysis, and planning institutions factor climate change into their economic development programs and activities. Moreover, the Framework Convention on Climate Change commits signatories such as Costa Rica to take inventory of their emissions and to develop mitigation strategies such as greenhouse gas reductions or enhancements of carbon sinks to combat the effects of climate change.
3. Understanding and reacting to the many complex facets of climate change is a major policy focus for Costa Rica. Costa Rica is taking action both at a multilateral level through mechanisms such as the Framework Convention on Climate Change (FCCC) signed in June, 1992, at the United Nations Conference on Environment and Development in Rio de Janeiro, and at regional and national levels through research programs and national planning strategies.
4. Costa Rica ratified the FCCC in August 1994. The FCCC structures the international policy debate on the climate issue for the next decade, establishes several new institutional mechanisms for international cooperation, and binds together the issues of environmental protection and economic development. The FCCC has been ratified by 121 countries and entered into force on March 21, 1994, 90 days after it was ratified by the 50th party.
5. Costa Rica is complying in many of the areas described in Articles IV and XII of the FCCC, particularly in data exchange, inventories and research, education and public awareness. Most significantly, Costa Rica has already developed a broad national climate change strategy and has completed a national inventory of greenhouse gas sources.
6. Furthermore, Costa Rica is demonstrating world leadership by embarking on an ambitious program to incorporate sustainable development principles in the missions and programs of each of its major Cabinet agencies. Under this initiative, Costa Rica has elected to meet Annex 1 country emissions reductions standards (reduce emissions to 1990 levels by the year 2000) under the FCCC.

Costa Rica's Climate Change Program

7. Costa Rica is an active participant in the Intergovernmental Panel on Climate Change (IPCC) - a scientific and advisory group of scientists from over 100 countries commissioned by the United Nations Environment Program (UNEP) and the World Meteorological Organization (WMO). The first scientific assessment report of the IPCC was presented at the Second World Climate Conference sponsored by UNEP and WMO in 1990. As a result of this involvement in the IPCC and the two World Climate Conferences, Costa Rica has had an active Climate Change Program since 1989.

8. Since 1989, Costa Rican climate change activities have included:

- (a) Continuous participation in the IPCC process through contribution of scientific information and in-country review of IPCC reports.
- (b) Active participation in sessions of the Inter-Governmental Negotiating Committee (INC) and the preparation process for both the U.N Conference on Environment and Development and the First Conference of the Parties to the Framework Convention on Climate Change.
- (c) Development of a National Program for Climate Change, initiated in 1991 with the National Meteorological Institute as the host government agency. The program was created with the following objectives:
 - (i) Promote studies and projects designed to reduce the uncertainties about climate change and its impacts.
 - (ii) Disseminate relevant research results about climate change and possible impacts to policymakers and others.
 - (iii) Coordinate research and adaptation options.
 - (iv) Evaluate mitigation and adaptation options and their costs.
 - (v) Inform the public about the issue.

9. As part of the National Program, Costa Rica has completed a national inventory of GHG emissions sources with funding from the GEF. At the same time, Costa Rica is participating in the US Country Studies Initiative. Both activities are described in greater detail below.

PROJECT OBJECTIVES

- To develop Costa Rica's institutional capability and technical procedures to provide the scientific underpinning for policy analysis and decision making in greenhouse gas reduction and sinks enhancement.
- To develop a portfolio of cost effective greenhouse gas reduction and sinks enhancement policy options, measures and strategies.
- To assemble the data and develop the methodologies necessary to verify and monitor emission reductions in the various economic sectors of the country.
- To catalyze mitigation policy and legislation development and implementation.

PROJECT DESCRIPTION

10. Costa Rica needs additional in-country technical capacity to develop baseline forecasts for developing future anthropogenic emissions scenarios, analyze the economic and political cost-effectiveness of these scenarios, and suggest mitigation measures to make science-based national policy decisions and implement its FCCC commitments. While substantial scientific data, in the form of a national inventory of emissions sources, exists, analysis of options is vital to making these data relevant to policymakers.

11. Decisions about the desirability of enacting GHG reductions and sink enhancement programs need to be based on a familiarity with different baseline scenarios and with the potential impacts that decisions affecting these baselines will have on the country's economic and social development.

12. By the end of the project, and as a direct result of the project, the following situation is expected:

- (a) A team of Costa Rican technical experts will have been developed. This team will be able to advise policy makers on development decisions likely to be affected by mitigation strategies.
- (b) A portfolio of mitigation policy options, including a ranked list of potential project concepts for further development under the GEF Project Development Facility or other bilateral or multilateral funding mechanisms - based on an in-depth analysis of existing sources of greenhouse gas emissions and several baseline scenarios - will be published and made available to Costa Rican policy makers and other interested parties.
- (c) Costa Rica will be equipped to meet its reporting requirements at the next Conference of the Parties to the Framework Convention on Climate Change.

- (d) Models and "lessons learned" about Costa Rica's experiences with both its emissions inventory and analysis of mitigation policy options will be available to share with other Parties to the UNFCCC facing similar circumstances.
- (e) A significant contribution to the field of mitigation policy and its relationship to economic development will have been made.
- (f) Costa Rica will have the data and models necessary to verify and monitor emission reductions in the various economic sectors of the country.

13. The project will use a participatory, team approach to gathering and analyzing data, developing several baseline scenarios and identifying cost effective mitigation policy options. The goal of the scenarios will be to predict the emissions projections and tendencies for at least 20 to 25 years. Particular attention will be paid to examining costs - economic and political - of these scenarios and specific mitigation strategies. The project will take place over a period of 20 months with three distinct phases:

Phase One - Months 1-2

14. Phase one will gather likely team members and technical experts together at a five day conference where participants will: present the results of the national inventory developed by the UNEP project; decide on methodologies and parameters for the baseline scenario development and analysis; present ideas from international experts in greenhouse gas mitigation, environmental policy development, and economic analysis; and; assemble work groups and set out work plans for the individual sector studies.

15. Conference participants will be pre-selected representatives from public, private, NGO and academic communities actively involved in energy, land use, transportation, waste management and economic development. The conference will also include presentations from outside experts who have experience with cost benefit analyses of mitigation options in these sectors.

Phase Two - Months 3 - 11

16. Phase two will be devoted to producing sectoral studies in the areas of energy, land use, transportation, and waste management. During this time, multi-disciplinary teams consisting of representatives of government agencies, private sector economic concerns, and academia, and, technical advisors from Costa Rican and other non-governmental organizations will gather data, develop several baseline scenarios, analyze these scenarios with socioeconomic data, and develop a portfolio of policy options.

17. The baseline scenario will begin with a general picture of where Costa Rica is today. Baseline scenarios for the future will combine data on population, land tenure, development patterns, income distribution, infrastructure, energy use, current national development plans, and economic policy including tax and trade policies to determine tendencies for the next 20 - 25 years.

18. Baseline emission scenarios do not include any policies aimed specifically at stabilizing global CO₂ emissions, and so can be described as "business as usual" scenarios. They are extremely important in policy development, as they provide an indication of the potential dimensions of the global warming problem given that no preventative or remedial action is taken, and can be used as references against which to assess the implications of different policies.

19. It is important to use baseline scenarios because the sensitivity of sectors to climate change may be affected by baseline changes. Comparing the sensitivity of sectors to climate change under current conditions, with the sensitivity using changed baseline scenarios, helps identify what baseline variables (e.g. population growth) may be the most important for affecting climate sensitivity. Identifying such sensitivities helps in designing climate change mitigation policies.

Phase Three - Months 11 - 20

20. The final phase will proceed on two tracks. One track offers technical assistance to Costa Rica's Consultative Commission On Climate Change as they develop a national plan to present to the President's Cabinet Commission on Sustainable Development. It is expected that the national plan will result in the introduction of legislation or a Presidential initiative. The individual sector reports, policy recommendations and cost analysis, will be published and presented at a second, smaller, three day workshop.

21. The project will culminate with the formal national communication of the national inventory and mitigation policy options to the COP in January, 1997.

RATIONALE FOR GEF FINANCING

22. In the absence of GEF financing of Convention-related enabling activities, no resources would have been available to undertake the programme of activities described in this proposal. This project is consistent with the enabling activity and capacity building objectives listed in INC Document (A/AC.237/90/Add.3), prepared jointly by the interim secretariat of the UNFCCC and the GEF Secretariat to facilitate coordinated and timely assistance to countries for the implementation of the Convention. This project responds to such objectives by implementing an activity needed to enable Costa Rica to fulfil its commitments as Party to the UNFCCC.

SUSTAINABILITY AND PARTICIPATION

23. Under the current administration, Costa Rica's Climate Change Program has expanded to become one of the two cross-cutting environmental policies (along with biodiversity protection) of the new multi-sectoral National Sustainable Development Plan. This plan represents a major milestone for international environmental policy in that it is the first time that the President of a country has designated the environment and sustainable development as leading policy agenda items.

24. Since May, 1994, the Costa Rica Government has brought more resources to bear on considerations of how climate change issues and economic development affect each other. One of the first actions taken by the new administration was to ratify the Framework Convention on Climate Change (FCCC).

25. The National Climate Change Program is now headed by the Consultative Committee on Climate Change (CCCC). The committee consists of members from: the Ministry of Natural Resources' Divisions of Energy, Forestry, and Special Technical Advisory Group; the National Meteorological Institute; the Ministry of Science and Technology's Division of Standards; and; the Ministry of Education. The CCCC is charged with implementing the FCCC at a national level and making recommendations to the President's Cabinet Council on Sustainable Development which includes the seven major cabinet secretaries and industry and NGO representatives.

LESSONS LEARNED AND PREVIOUS OR ONGOING INITIATIVES

U.S. Country Studies Programme (CSP)

26. The CSP is a United States initiative designed to provide assistance to selected developing countries in meeting their requirements to develop and/or update their national programs that include plans to mitigate the impacts of GHG emissions and to adapt to the foreseeable changes in climate. The program consists of teams of technical experts from eleven U.S. Government agencies led by the U.S. Environmental Protection Agency. Areas of technical assistance include one or more of the following: developing inventories of sources and sinks of greenhouse gasses, assessing countries' vulnerability to climate change, and evaluating mitigation and adaptation response strategies. Costa Rica is one of six Central American countries evaluated as part of a "country" study focusing on the region's vulnerability to climate change.

27. A vulnerability assessment evaluates how changes in climate may affect elements of the national economy, segments of the natural environment, and human health and welfare. For example, a rise in temperature and an increase in rainfall may lower (or raise) the yield of a country's crops which, in turn, may reduce (or increase) a country's gross national product and its economic well being.

28. The Central American "country" study began in January, 1994 and will be completed in December, 1995. The focus in Costa Rica is on vulnerability in the agricultural sectors of rice and sugar cane production, and climate change implications for coastal areas and water resources. The final results of the study will be published in December, 1995. The study has been coordinated by the Regional Committee for Hydrological Resources, with the Costa Rican National Meteorological Institute overseeing the agriculture study. Information on vulnerability in the agriculture sector gathered by the country study will contribute to the land use analysis sector of the UNDP/GEF project.

UNEP Project X11-GF/4102-92-42: Country Case Studies on Sources and Sinks of Greenhouse Gases in Costa Rica

29. Global Environmental Facility Funds were provided to Costa Rica through the United Nations Environment Program (UNEP) to help the National Meteorological Institute produce a national inventory of emissions sources for greenhouse gases based on IPCC methodology. This project provided \$140,569 in support of a national team of experts from Costa Rica's Departments of Energy and Forestry, the Ministries of Transportation and Agriculture, and from the National University, led by the National Meteorological Institute, to coordinate and oversee data collection from public and private sources and complete an inventory of greenhouse gas emissions for 1990 according to methodology established by the IPCC/OECD. The team brought together experts in the fields of forestry, land use, waste management, energy and fuel consumption - some of whom will be involved in the UNDP/GEF mitigation options project. During the project, which began in July, 1994, and concluded in February, 1995, emissions were considered from: Energy use and production; Agriculture; Land use changes; Waste Management (including agricultural product processing); Industrial Processes

30. The inventory determined that the highest priority target areas for reductions were energy and land use. In the energy sector, transportation was the highest source of emissions while deforestation headed the list for the land use sector.

31. Information from the national emissions inventory will be integrated with data gathered from UNDP/GEF project on population growth, energy use, national planning, tax and trade policy, land tenure, economic development patterns, and trends in agriculture, transportation and waste management to develop several baseline scenarios for considering mitigation strategies and policy options.

32. In addition to using data collected during the UNEP project, the UNDP/GEF project team will include several members of the national inventory team, use of computer equipment provided by the UNEP project, and the benefits of experience in organizing national and regional climate change workshops gained during the inventory. The UNDP/GEF project will complement future projects by developing a cadre of experts available to provide technical assistance to other countries in inventories, data analysis for climate change scenarios, and developing policy options for mitigating climate change.

33. Previous technical reviews of "enabling projects" for the UNFCCC have emphasized the importance of utilization of national expertise; this project emphasizes the development and strengthening of existing national expertise.

PROJECT FINANCING AND BUDGET

34. The total cost of the project is approximately US\$ 600,000, including the national in-kind contribution. The GEF contribution to the project amounts to \$470,000. A break-down of project costs by component is provided below.

35. Costa Rica's National Meteorological Institute will contribute the following to the project: office space; services such as electricity and water; computer and cartographic equipment; GIS hardware and software; equipment maintenance; communications (telephone and mail); access to residual information and institutional intellectual resources; 1/2 the salary of project director; secretarial and computer technical assistance; and transportation.

36. Additional in-kind inputs will come from: the Ministries of Planning and Transportation; the Ministry of Natural Resources, Energy and Mines; the University of Costa Rica School of Economics; the National University School of Economics; and, various NGOs involved in the sector studies.

Project Components	Component costs US \$
Personnel	164,000
Workshops (2)	36,200
Training	4,000
Sector Studies (4)	240,000
Publications/Info dissemination	7,000
Equipment	7,000
Miscellaneous	9,000
Project Total	467,200

INCREMENTAL COSTS

37. Preparation of national communications by developing countries is to be fully financed by the GEF as financial mechanism for the UNFCCC. An incremental cost assessment is therefore not required. As the activities described above would not have been undertaken by the country to address its developmental goals but are required as part of Costa Rica's obligations vis a vis the Framework Convention on Climate Change, the baseline does not involve any action or expenditure. The incremental costs for this project are therefore the full costs.

ISSUES ACTIONS AND RISKS

38. Costa Rica currently has a broad national climate change strategy and has completed a national inventory of greenhouse gas sources and sinks. Additional in-country technical capacity is needed to develop cost-effective emissions *mitigation strategies* in order to implement its commitments under the Framework Convention on Climate Change (FCCC) and provide options to policy makers. This project will assist teams of Costa Rican nationals to analyze the areas of

energy, land use, transportation and waste management, using information on socioeconomic variables such as population and land tenure, national planning and economic policy, and to develop technically sound projections and policy options based on different future scenarios. The project will result in a portfolio of greenhouse gas reduction and sink enhancement policy options, measures and strategies, including a list of specific potential project concepts for further development under GEF Project Development Funding or other bilateral or multilateral funding mechanisms. At the end of the project Costa Rica will have a substantially enhanced capacity to implement these policies, measures and strategies.

INSTITUTIONAL FRAMEWORK AND PROJECT IMPLEMENTATION

39. The project will be implemented by a variety of participants under the coordination and supervision of the National Meteorological Institute which will house a project coordination unit (project manager, project coordinator, administrative support). The National Meteorological Institute will organize the workshops, subcontract various tasks to appropriate parties, coordinate the activities of the sector studies and be the central point for information dissemination and technical advice to policy makers based on the results of the studies.

40. The National Meteorological Institute is responsible for climate monitoring and evaluation, vulnerability studies, and mitigation of the effects of greenhouse gas emissions. NMI coordinates and directs the following actions:

- analyzes the climate records of the country;
- adapts global climate change models to global & regional conditions;
- evaluates the vulnerability of the country's main economic activities in view of foreseeable changes;
- evaluates and measures greenhouse gas emissions & sinks;
- evaluates mitigation options in the country;
- evaluates adaptation possibilities in order to diminish vulnerability.

41. NMI is also a member of the Consultative Committee on Climate Change - an inter-agency commission charged with implementing Costa Rica's climate change activities and providing policy options to the President's Cabinet Council on Sustainable Development.

42. Some of the members of the multi-disciplinary inventory team will also be involved in the baseline scenario analysis. This project will further build the capacity of this team and consolidate its ability to contribute experience-based technical input to policy makers in Costa Rica.

43. Other project participants will include: representatives from various economic sectors most likely to be affected by climate change, government policymakers, specialists from Costa Rican and international nongovernment organizations working on climate change, and experts from the Institutes of Economic Studies and Sustainable Development for the two main universities in the country.

Project progress reports and monitoring

- Brief quarterly reports will be published outlining major achievements of the past quarter.
- A full listing of all technical reports will be published prior to the end of the project.
- A detailed mid-term project performance report will be submitted to the UNDP/GEF at least one month before the mid-term project review.
- Project progress will be subject to on-going monitoring by the UNDP Country Office.

Expected time line

May 1, 1995	Project start
May 1 - Mid June	Prepare for workshop Identify experts/participants Assemble teams/working groups
Mid June	Workshop Determine length, depth of studies Establish workplan for teams
July 1 - Sept 1	Consolidate teams Begin sectoral studies
Sept 1 - Jan 1	Sectoral studies: Energy/Land Use/Transportation/Waste Management Develop policy options portfolio and preliminary project concept list
Jan 1 - March 1, 1996	Write and publish reports Prepare for presentation of results workshop
March 1	Presentation of results workshop Final report and recommendations to CCCC

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Distribution of proceedings

Mid March - June 1

CCCC develops recommendations on action plan for
Presidential Sustainable Development Committee

January, 1997

Finalize and present Costa Rica's national communication to
the Conference of the Parties of the UNFCCC

TECHNICAL REVIEW

COSTA RICA: ENABLING ACTIVITY (BUILDING NATIONAL TECHNICAL CAPACITY TO DEVELOP OPTIONS FOR GREENHOUSE GAS EMISSIONS REDUCTIONS AND ENHANCEMENT OF CARBON SINKS)

[The Project Brief has been revised to reflect the concerns expressed in this technical review]

1. The current version of the Project Brief is an updated and detailed version of an earlier draft ("Enhancement of national technical capacity for greenhouse gas abatement strategy development") which I received and reviewed in early Dec. 1994.
2. Many of my comments on the earlier draft are applicable to the current version, and some of it will thus be repeated.
3. Costa Rica (CR) has demonstrated considerable national commitment in mitigating global change, including striving to meet the FCCC guidelines applicable to Annex 1 countries, i.e. reducing emissions of greenhouse gases (GHG) to 1990 levels by the year 2000.
4. The commitment has been backed up by several initiatives and actions which are listed in the Project Brief. Two global environmental issues -- climate change and biodiversity protection -- are part of the National Sustainable Development Plan.
5. Notable among the activities already terminated has been the preparation, early in 1995, of a GHG emissions inventory. (Not surprisingly, energy use and deforestation have been identified as the largest sources of GHGs.) The tasks proposed logically follow, and are expressed clearly with a corresponding schedule for all the activities. The project would start with a workshop to present the results of the inventory study, and to make arrangements for the followup sectoral studies on source reduction and sink enhancement. These sectoral studies would take much of the first year. The remaining months would be to disseminate the results of the studies, develop policy recommendations, both nationally and over the Central American region.
6. The proposal is painstakingly complete, for instance, in Sec. D. "Immediate objectives, outputs, and activities". (Here we find that Output 1.2 has not been defined, no doubt an omission, since the activities are spelled out.)
7. The budget has recognized that the technical staff involved in the sectoral studies will generally not be those in workshop arrangement, information dissemination, and policy development. Thus, the sectoral studies are budgeted separately, and not included within the salaries of the project core staff.
8. The amount budgeted for the first workshop (\$30,200 for five days) appears to be high, even if we consider the participation of international experts. Moreover, while all other budget items are

rounded to thousands, the odd number (\$200) gives the impression that it has been adjusted so that the total coincides with that of the earlier draft (Dec. 1994).

9. Another large item (\$33,000) is identified as "Mitigation project marketing", which is not clearly identifiable with specific tasks listed earlier. The type of expenses involved here should be clarified.

10. Many of the tasks to be conducted are pioneering in Latin America. The project foresees and budgets for the preparation and dissemination of reports for the sectoral studies and the final report as well as the three workshops, one of which would be to other Central American representatives. This reviewer feels that these activities should be supplemented by the preparation of a manual on the methodology used for the sectoral studies and their consolidation into the list of mitigation options. Such a manual, developed from the individual reports, would be useful not only in the national and Central American workshops, but also to other Latin American countries. An additional \$30,000 on such a consolidated manual would be an excellent investment for the GEF portfolio.

11. In summary, the proposal is well formulated with the background, objectives, tasks, etc. clearly defined, and consistent with the proposed timeline and budget (with a couple of observations noted above). The tasks are ambitious, but given Costa Rica's commitment and past experience, and the clarity of the current proposal, are likely to be accomplished. The only suggestion would be to increase the budget by \$30,000 to prepare a manual and facilitate better dissemination among other countries.