

COLOMBIA
CLIMATE CHANGE AND BIODIVERSITY: MAINSTREAMING BIODIVERSITY
CONSERVATION THROUGH AVOIDED/REDUCED DEFORESTATION IN THE
ANDEAN-AMAZON PIEDMONT OF COLOMBIA
CO-T1145

Technical Cooperation Program (Trust Fund Financing)
TC/FUNDS Brief

I. GENERAL INFORMATION

Name of the T.C. Project	Climate Change and Biodiversity: mainstreaming biodiversity conservation through avoided/reduced deforestation in the Andean-Amazon piedmont of Colombia – the case of the Pasto Mocoa Road Project
Name of the Trust Fund:	Sustainable Energy and Climate Change Initiative - SECCI (MSC)
Beneficiary country:	Colombia
Beneficiary agency:	Corpoamazonia
Project Team:	Vera Lucia Vicentini, team leader (INE/TSP); Cristian Franz (VPS/ESG); Adriana Casas (VPS/ESG); Diego Buchara (LEG) and Caterina Vecco (INE/TSP).
Estimated Total Amount to be financed:	US\$100,000
Financed by trust fund:	US\$100,000
Financed local counterpart:	N/A
Financed by other sources - FSO	N/A
Execution and Disbursement Deadlines:	6 Months

II. BACKGROUND

- 2.1 The Pasto-Mocoa road is located in the southeastern part of Colombia and it consists of four segments, three of which will be paved (i.e., Pasto-Encano; Encano-Santiago; and Encano-San Francisco). The fourth segment connecting San Francisco with Mocoa will be constructed. This road will cut through the conservation forest reserve of the Mocoa river headwaters. It is an environmentally sensitive area with high biodiversity and thus provides a unique opportunity to promote habitat connectivity in the context of regional integration.
- 2.2 The idea of avoided or reduced deforestation was strongly supported by the recent Stern Review on climate change (2006). This report calls for “*large scale pilot schemes to explore effective approaches to combining national action and*

international support” to curb deforestation and degradation. Stern’s report indicates that deforestation is the second most important source of carbon dioxide emissions, estimated to represent more than 18% of global emissions, exceeding emissions produced by the global transport sector.

- 2.3 Rewarding or compensating developing countries for **reducing or avoiding deforestation** is recommended as an essential action by the international community to slow climate change, and to reduce non-energy emissions. There is evidence that curbing deforestation is a very cost-effective way of reducing greenhouse gas emissions if the appropriate policies and institutions are put in place.
- 2.4 The Stern Review predicts that emissions from deforestation may reach 40 gigatonnes of carbon dioxide (CO₂) by 2012, thus raising the concentration of CO₂ in the atmosphere by 2 parts per million. According to this review, non-energy emissions make up one-third of total greenhouse gas emissions; therefore, relevant actions can make an important contribution.
- 2.5 The Government of Colombia, through the Corporación para el Desarrollo Sostenible del Sur de la Amazonía -Corpoamazonia, has expressed high interest in climate change and biodiversity conservation as a policy priority. More recently, there exists the opinion that countries that have conserved their forests should be recognized in worldwide mechanisms that address CO₂ reductions. Upcoming discussions for post-2012 Kyoto protocol are likely to raise the concept of Reduced Emissions from Avoided Deforestation (REDD). Avoided deforestation refers to the prevention or reduction of forest loss in order to reduce emissions of greenhouse gases. In this regard, in countries such as Colombia the concept of REDD provides an opportunity to enhance one of its most valuable assets: biodiversity. Conservation of the country’s unique biodiversity richness is needed to mitigate the “carbon footprint” of economic development and facilitate transition to a more “carbon neutral” path of economic growth.
- 2.6 Landscape conservation in biodiversity rich areas with development processes, where paving and construction of new roads is expected, offers a possibility for a new conservation approach that also targets adaption to climate change. In this sense, development options and innovative mechanisms, such as carbon credits, can contribute to economic development while supporting the protection of sufficient forest canopy to maintain the climatologic and hydrologic functions of these forest ecosystems and their vital standing carbon stocks, helping to conserve the natural habitat along with strategic freshwater systems.
- 2.7 Overall conservation and development along the Pasto-Mocoa road can be strengthened by supporting the design and implementation of a comprehensive environmental and social management plan for sustainable development of the direct and indirect area of influence of the road, including the conservation forest reserve located in the headwaters of the Mocoa River.
- 2.8 The Pasto-Mocoa Road project has an environmental impact assessment that is addressing the environmental issues of the fourth segment that will be constructed

connecting San Francisco with Mocoa cutting through the conservation forest reserve of the Mocoa river headwaters; a regional strategic environmental impact assessment that is a technical tool for the early identification of environmental and social risks and opportunities induced by the improvements and construction of the Pasto – Mocoa road; and an environmental and social management plan (PBMAS/Spanish acronym) for the area of influence of the road project, specially the forest reserve of the head waters of the Mocoa river. The results and recommendations of these assessments will inform the action agenda being developed under other TC1 and coordinated by Corpoamazonia.

- 2.9 In addition, the Pasto-Mocoa road project has conducted an extensive round of consultations with key stakeholders including environmental organizations from the government, such as the Colombian National Parks office, the Ministry of the Environment and the national biodiversity research institute – Alexander von Humboldt; and from civil society including non-governmental organizations like ILSA, World Wild Life Fund - WWF, Conservation International - CI and indigenous groups with interests in the area of influence of the project.

III. OBJECTIVES

- 3.1 The general objective of this technical cooperation (TC) is to support the Colombian Government through Corpoamazonia in developing a conceptual and analytical framework to assess current needs and barriers, as well as opportunities that can arise for Colombia in the context of Climate Change and REDD, with particular reference to its impact on biodiversity conservation in the area of influence of the Pasto-Mocoa Road, located in the Andean-Amazon piedmont in the Putumayo province.
- 3.2 Specific objectives include:
- 3.2.1 (i) Developing the conceptual basis of a methodology that uses carbon financing for lowering greenhouse gas (GHG) emissions in development projects showing how avoided/reduced deforestation could also be considered a feasible option for biodiversity conservation;
 - 3.2.2 (ii) Assessing economic options and innovative mechanisms, such as carbon credits from REDD that would contribute to local economic development while supporting the protection of vital standing carbon stocks, freshwater ecosystems and biodiversity resources;
 - 3.2.3 (iii) Assessing carbon emissions baseline and offsetting measures, as well as other relevant economic and environmental information to provide Colombian environmental authorities (i.e. Corpoamazonia) with reliable information for potential carbon credit negotiations;
 - 3.2.4 (iv) Developing an action plan for engaging the country in potentially viable REDD initiatives related to infrastructure investments; and

- 3.2.5 (v) Designing a financial mechanism to guarantee the long term sustainability of the conservation/mitigation actions being pursued in the Alto Mocoa forest Reserve.
- 3.3 This conservation/mitigation approach goes beyond the scope of risk management within the context of infrastructure development. The action plan for engaging the country in potentially viable REDD initiatives aimed at contributing towards its long-term financial sustainability and guaranteeing the continuing support for conservation/mitigation actions in the natural habitat of the Mocoa forest reserve.

IV. ACTIVITIES

- 4.1 Supporting Corpoamazonia in putting in place an action plan aimed at:
 - (i) identifying the project boundaries to facilitate access to markets;
 - (ii) assessing the carbon stock and a biodiversity baseline present in the project area;
 - (iii) identifying barriers and opportunities to ensure avoided/reduced deforestation over a long term period;
 - (iv) developing mechanisms to monitor and assess conservation or changes in carbon stocks and in biodiversity resources;
 - (v) packaging the project so that investors can be found in the carbon market; and
 - (vi) marketing the avoided/reduced deforestation project. This will result in a long-term conservation plan of a unique natural habitat with strategic freshwater ecosystems. This TC will support the development of the following activities:
- 4.1.1 Development of the conceptual basis for a methodology that uses carbon financing for lowering greenhouse gas (GHG) emissions in areas associated to development projects
- 4.1.2 Identifying potential types of areas to be included in reduced deforestation projects, based on forest characteristics and socio economic conditions;
- 4.1.3 Assessment of information about biodiversity endowments and existing social and economic conditions at the selected project site; based on the environmental assessments completed for this project, specially the environmental and social management plan (PBMAS/Spanish acronym).
- 4.1.4 Risk assessment of potential areas to determine project boundaries;
- 4.1.5 Interaction with local communities and stakeholders that would participate in preventing deforestation;
- 4.1.6 Identification of project components that would ensure long term forest conservation practices, including assessment of alternative economic activities for local communities, taking into account the environmental assessments completed for this project, specially the environmental and social management plan (PBMAS/Spanish acronym);
- 4.1.7 Development of project documentation to enable marketing at national and international carbon markets;

- 4.1.8 Development of methodological guidelines to monitor compliance with project objectives;
- 4.1.9 Proposal of a legal and institutional framework that would ensure enforcement and facilitate transfer and usage of project potential revenues;
- 4.1.10 Assessment on negotiation of carbon or reduced deforestation assets.
- 4.2 The results and recommendations of this TC will be validated through a participatory process including all stakeholders involved, such as the private sector, non-governmental organizations and indigenous peoples.
- 4.3 These activities will be performed during the six-month period of this TC. The maximum amount available is US\$100,000, which will cover honorarium and travel expenses of a Project Coordinator, and specialists in climate change, biodiversity conservation, forest management, ecosystem services, green markets especially international carbon markets, climate change and geographic information system analyst -GIS.
- 4.4 The services for this TC will be provided by individuals consultants with experience in the field of landscape conservation, climate change and development. Previous experience working in Colombia in the planning and implementation of large and medium-scale conservation & development projects is required. All information needed for this project will be gathered across Government agencies, IDB, other donors and the NGO community, and the resulting information on the environmental assessments, including the EIA, REA and PBMA will be broadly reviewed.
- 4.5 The prospective candidates should demonstrate expert capacity and knowledge in key areas of climate change, forest management and biodiversity conservation. In particular, the consultants should demonstrate expertise in carbon finance, biodiversity, forestry economics, land use planning and management, and communications and training, as well as provide a successful track record of working in Colombia and in other countries of the Amazon basin.
- 4.6 Experience in the use of decision support systems for scenario modeling and policy analysis is required. The potential candidate also needs the ability to provide services directly and through local partners that can support national, regional and local agencies and organizations in the development of pilot methodologies for reduced deforestation projects. The consulting contract will be based on lump-sum basis, tied to specific products and deliverables.
- 4.7 Outputs Required

The study outputs are directly linked to the production of an avoided/reduced deforestation project to raise investments in the carbon market. Therefore, intermediate outputs will be linked to the process:

- a. Project Concept Note
- b. Project Document, including institutional and legal arrangements, quantification of carbon stock, rationale for additionality, and methodological approach for project monitoring
- c. Strategy paper on usage of project proceeds
- d. Forestry inventory (carbon stocks and biodiversity baseline)
- e. Document on legal and institutional framework for project implementation
- f. Legal framework and avoided/reduced deforestation related contracts

V. JUSTIFICATION

- 5.1 This TC is related to the IIRSA initiative, specifically to the Amazon Hub. This hub is a buffer that includes over half of the world's biota. The hub's territory has about 15 to 20% of the planet's fresh water reserves and is crossed by over 20,000 km of navigable waterways, which allow territorial communication with a low environmental impact. Its rivers have high biological diversity with over 2,000 fish species, ten times more than European rivers. This buffer extends along the multi-modal transport system interconnecting ports on the Pacific coast, such as Tumaco in Colombia, Esmeraldas in Ecuador and Paita in Peru, with the Brazilian ports of Manaus, Belén and Macapá. Its aim is to join both oceans through the Huallaga, Marañón, Ucayali and Amazon rivers in Peru, the Putumayo and Napo in Ecuador, the Putumayo in Colombia and the Iça, Solimões and Amazon in Brazil along over 6,000 km of navigable waterways, and the river ports of El Carmen on the Ecuadorian/Colombian border, Gueppi in Colombia and Sarameriza and Yurimaguas in Peru. Therefore, by jurisdiction, it has an influence on an estimated area of 4.5 million km² with a total of 52 million inhabitants and great differences in population density.
- 5.2 Increased transit on the Pasto-Mocoa road of the Amazon hub will affect several natural habitats of the Andean-Amazon piedmont. In the southeastern part of Colombia the road Pasto-Mocoa affects the eastern and western cordillera mountain forests and a Colombian protected area known as "Reserva Forestal Protectora de la alta cuenca del río Mocoa".
- 5.3 The upgrading of the Pasto-Mocoa road poses the challenge and the opportunity to evenly allocate the environmental and economic benefits and costs for both the national and local economies, through creative financial and conservation mechanisms.
- 5.4 Evidence of support and declaration of priority by the Colombian government (See Annex I –Corpoamazonia intention letter)

- 5.5 Landscape conservation and development in biodiversity rich areas of IIRSA's Amazon hub can help to achieve the new environmental and social safeguard standards of infrastructure investments financed by the IDB. There is increasing worldwide awareness that the conservation of tropical forests can help to mitigate the threat of global warming. Therefore a mechanism, such as carbon credits from reduced deforestation (REDD) in the area of influence of the Pasto-Mocoa road project with threatened tropical forests can guarantee availability of funds for conservation and sustainable development in the short and medium term. In the longer term, and as the carbon market matures, carbon credits could be earned by lowering deforestation rates and by avoiding deforestation of old growth tropical forests.
- 5.6 The idea of avoided deforestation has been strongly supported by the Stern Review on climate change (2006). This report calls for the "large scale pilot schemes to explore effective approaches to combining national action and international support" to curb deforestation. According to this report, deforestation is the second most important source of carbon dioxide emissions, representing an estimated 18% of global emissions.
- 5.7 According to the IDB Environment Strategy (2007), in Environment and Regional Integration investments, Bank programs will promote regional economic integration under the framework of regional environmental management focusing on key areas, such as strengthening regional environmental institutions, promoting sustainable management of regional environmental public goods and services; and guaranteeing the environmental quality of regional infrastructure initiatives.
- 5.8 In addition, the IDB Environment and Safeguards compliance policy (2006) points out that it will support environmental and natural resources management in its operations: proactively supporting borrowing member countries and clients in identifying and financing operations designed specifically to enhance environmental governance, policy development and institutional capacity building; reversing environmental deterioration; and promoting the conservation and sustainable use of natural resources and ecological services.
- 5.9 In relation to Natural Habitats² and Cultural Sites³ the Environment and Safeguards compliance policy of the Bank points out that "the Bank will not

² **Natural Habitats** are biophysical environments where: (i) the ecosystems' biological communities are formed largely by native plant and animal species; and (ii) human activity has not essentially modified the area's primary ecological functions. Natural habitats may be sites that (a) provide critical ecological services required for sustainable human development (e.g., aquifer recharge areas, areas that sustain fisheries, mangrove or other ecosystems that help to prevent or mitigate natural hazards); (b) are vital to ensure the functional integrity of ecosystems (e.g., biological corridors, natural springs); and (c) have high levels of endemism. Natural habitats may occur in tropical humid, dry, and cloud forests; temperate and boreal forests; Mediterranean-type shrub lands; natural arid and semi-arid lands; mangrove swamps, coastal marshes, and other wetlands; estuaries; seagrass beds; coral reefs; underwater vents; freshwater lakes and rivers; alpine and sub-alpine environments, including herb fields, grasslands, and páramos; and tropical and temperate grasslands. (IDB-Environmental and Safeguard compliance policy, 2006).

Support operations that, in its opinion, significantly convert or degrade critical natural habitats or that damage critical cultural sites. Whenever feasible, Bank-financed operations and activities will be sited on lands already converted. In addition, the Bank will not support operations involving the significant conversion or degradation of natural habitats as defined in this policy, unless: (i) there are no feasible alternatives acceptable to the Bank; (ii) comprehensive analysis demonstrates that overall benefits from the operation substantially outweigh the environmental costs and; (iii) mitigation and compensation measures acceptable to the Bank –including, as appropriate, minimizing habitat loss and establishing and maintaining an ecologically similar protected area that is adequately funded, implemented and monitored. The Bank will not support operations that introduce invasive species”

- 5.10 The efforts of the local government and environmental authorities in developing sustainable alternatives to manage the conservation forest reserve of the headwaters of the Mocoa River must bring tangible benefits for both the local people, as well as at the national level.
- 5.11 Helping the local governments and the local environmental authorities to develop and implement a REDD pilot project for the forest reserve that rewards them for maintaining high forest coverage and low deforestation rates and to develop alternative economic uses to increase the livelihood benefits in local communities will provide a model that could be replicable in other parts of the Amazon where natural habitats and cultural sites are located in the frontier of development, where paving and construction of new roads is expected.

³ **Cultural sites** are any natural or manmade areas, structures, natural features and/or objects valued by a people or associated people to be of spiritual, historical and or archaeological significance. Material remains may be prominent, but will often be minimal or absent. (IDB-Environmental and Safeguard compliance policy, 2006)

VI. COST AND FINANCING

6.1 The cost of the TC is estimated at US\$ 100,000 to be provided by SECCI Sustainable Energy and Climate multi-donor trust fund (MSC).

CATEGORY	SECCI (MSC)	TOTALS
Methodology and Action Plan <ul style="list-style-type: none"> Development of the conceptual basis for a methodology that uses carbon financing for lowering greenhouse gas (GHG) emissions in areas associated to development projects; Identifying potential types of areas to be included in reduced deforestation projects, based on forest characteristics and socio economic conditions; Assessment of information about biodiversity endowment and existing social and economic conditions at the selected project site, based on the environmental assessments completed for this project, specially the environmental and social management plan (PBMAS/Spanish acronym); Risk assessment of potential areas to determine project boundaries. 	14,500	14,500
Validation of REDD with the key stakeholders including local communities and other stakeholders that would participate at preventing deforestation, and sign a MoU	4,000	4,000
Business Plan and Marketing Strategy Development of a detailed business plan (BP) for sustainable forest based economic activities, focusing on carbon credits for reduce emissions from deforestation, degradation and avoided deforestation –REDD: <ul style="list-style-type: none"> Identification of project components that would ensure long term forest conservation practices, including assessment of alternative economic activities for local communities, taking into account the environmental assessments completed for this project, specially the environmental and social management plan (PBMAS/Spanish acronym); Development of project documentation to enable marketing at national and international carbon markets. 	45,000	45,000
Technical coordination and supervision of the BP validation with the key stakeholders and establishment of specific agreements to its implementation.	11,000	11,000
Monitoring and Implementation <ul style="list-style-type: none"> Development of methodological guidelines to monitor compliance with project objectives; Proposal of a legal and institutional framework that would ensure enforcement and facilitate transfer and usage of project potential revenues; Assessment on negotiation of carbon or reduced deforestation assets. 	12,500	12,500
Monitoring and Technical Supervision	13,000	13,000
TOTAL	100,000	100,000

VII. EXECUTING AGENCY AND SUPERVISION

A. Executing Agency

- 7.1 Upon the request of the beneficiary agency – Corpoamazonia-, the Bank, through the Infrastructure and Environment Department and the Transport Sector, will execute the TC and manage all procurement processes involved, according to Bank's procurement policies and procedures set forth in document GN-2350-7.

B. Monitoring and supervision

- 7.2 The Project Team will have basic and technical responsibility, and will supervise all aspects of the TC, in coordination with the beneficiary agency. These activities include the supervision of the midterm and final reports of the studies, meetings with stakeholders and other products of this TC. Intermediate and final reports of each study will be submitted to the Bank and the beneficiary agency. The Bank will be responsible for the approval of final reports.

VIII. PROGRAM BENEFITS AND RISKS

A. Benefits and beneficiaries

- 8.1 The expected benefit of the TC is to help Corpoamazonia and other stakeholders to develop options and innovative mechanisms that contribute to the economic development of the region, while supporting the protection of sufficient forest canopy so as to: (i) maintain the climatologic and hydrologic functions of these forest ecosystems and their vital standing carbon stocks; (ii) conserve biodiversity and its habitat; (iii) protect strategic freshwater systems; and (iv) generate tangible economic benefits and opportunities for local communities along the Pasto-Mocoa road in the Andean-Amazon piedmont.
- 8.2 Additionally, this mode of intervention will provide a replicable model for other Bank financed infrastructure projects located within highly sensitive natural habitats and cultural sites, ensuring an effective management and the balancing of challenges and opportunities within these particular work settings.

B. Risks

- 8.3 One of the challenges is obtaining consultants specialized in the different aspects of climate change, carbon finance, conservation and sustainable development, with a successful track record of working in Colombia and in other countries of the Amazon basin. To address these risks, special emphasis will be placed on the preparation of detailed terms of reference for the consultancy services. Furthermore, resources are being allocated to Corpoamazonia in order to facilitate its important role of coordination and integration of national and local key actors. The consultation and participation process has been strongly enforced since the

commencement of the Pasto Mocoa Project, and will be key in guaranteeing the success of this TC.

IX. ENVIRONMENTAL AND SOCIAL REVIEW

- 9.1 This TC will not have a direct environmental and social impact. The environmental and social aspects involved in the implementation of the Pasto-Mocoa Road project are being dealt with through a series of instruments, already mentioned, including an environmental impact assessment for the segment connecting San Francisco with Mocoa, a regional strategic environmental impact assessment and an environmental and social management plan for the area of influence of the road project and rounds of consultations with key stakeholders, including environmental organizations from the government.
- 9.2 Based on the Bank Environmental and Safeguard Compliance Policy (OP-703), and taking into account the objectives, impacts and risks of this TC, the team considers this operation to be Category "C".
- 9.3 The project profile was reviewed by ESR on May 23, 2008, and approved the proposed environmental and social strategy.

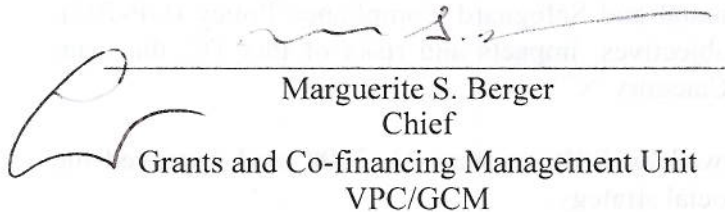
X. RECOMMENDATION

- 10.1 Vera Lucia Vicentini, designated team leader for the project of the reference, recommends the approval of this operation and the use of resources from Sustainable Energy and Climate Change Initiative - SECCI (MSC) totaling up to US\$100,000 in order to finance the corresponding project.

XI. CERTIFICATION

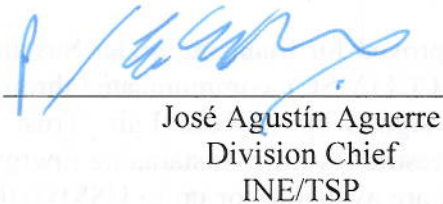
- 11.1 I hereby certify that this operation was approved for financing under Sustainable Energy and Climate Change Initiative - SECCI (MSC), communicated through an e-mail dated on February 13, 2009 and signed by Gerhard Lair, Trust Fund Manager (VPC/GCM). Also, I certify that resources from Sustainable Energy and Climate Change Initiative - SECCI (MSC) are available for up to US\$100,000 in order to finance the activities described and budgeted in this document. This certification reserves resource for the referenced project for a period of eleven (11) calendar months counted from the date of signature below. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted.

- 11.2 The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this TC Brief. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk.


Marguerite S. Berger
Chief
Grants and Co-financing Management Unit
VPC/GCM

3/4/09
Date

XII. APPROVAL


José Agustín Aguerre
Division Chief
INE/TSP

MAR 04 2009

Date