TC ABSTRACT

Supporting Climate Change Initiatives Through Information – RG-T2353

I. Basic project data

▪ Country/Region:	Regional
▪ TC Name:	Supporting Climate Change Initiatives Through Information
▪ TC Number:	RG-T2353
▪ Team Leader/Members:	Juan Chang (INE/CCS), team leader, Simone Bauch (CCS/CBR), alternate team leader.
▪ Taxonomy:	Client Support
▪ Reference to Request[1]: (IDB docs #)	
▪ Date of TC Abstract:	May 15th,2013
▪ Beneficiary:	Regional (Brazil, Peru, Colombia)
▪ Executing Agency and contact name	INE/CCS
▪ IDB Funding Requested:	USD 750 000
▪ Local counterpart funding, if any:	USD 150 000
▪ Disbursement period:	24 months
▪ Required start date:	September 2013
▪ Types of consultants:	Firms and individual consultants
▪ Prepared by Unit:	CCS
▪ Unit of Disbursement Responsibility:	CCS
▪ Included in Country Strategy (y/n); ▪ TC included in CPD (y/n):	
▪ GCI-9 Sector Priority:	Protect the environment, respond to climate change and promote renewable energy.

II. Objective and Justification

2.1 The objective of this Technical Cooperation is to support the generation of information to assist climate change projects at the IDB through research and dissemination on relevant data. This will be done by connecting scientific information generated in academia and research centers, with operational interests at the IDB. As such, this TC will support three different initiatives related to the provision of bio-climatic services in Latin America. The resulting information will serve current and future carbon sinks projects and generate a basis for policy decision making.

2.2 Over 50% of GHG emissions in Latin America are originated from land use, land use change and forestry. The region still has not produced the information which would help understand the effects of land use change (deforestation particularly), on climate regulation services. Improved analytical approaches and indicators to estimate the physical regulation of climate by ecosystems is needed. Understanding how land-cover changes affect the loading of heat and moisture into the atmosphere, while taking into account the relative contribution of wind-transported heat and moisture, will support the design of better policies for climate adaptation, making the case for reducing deforestation even more important. Similarly the region accounts for significant carbon sinks in biomes such as the Amazon forest, which, if preserved, will help avoid additional Green House Gas (GHG) emissions.

2.3 This TC is aligned with the GCI-9 objective that calls to “protect the environment and respond to climate change”, as it substantially increases the support for climate adaptation and mitigation. Likewise, the Plan of Action "Integrated Strategy for Climate Change Adaptation and Mitigation,

[1] A copy of the Letter of Request, Programming/Portfolio Review Mission Aide Memoire or Report requesting the TC should be submitted with the Abstract.

and Sustainable and Renewable Energy" (CCSAP, for its acronym in English), within its lines of action calls to: (iii) develop tools to incorporate climate change mitigation and increase the resilience of the activities financed by the Bank

2.4 **General objective:** Address knowledge gaps in the field of bioclimatic services and the role of forests for local climate regulation in the region.

2.5 **Specific objectives:** The specific objectives of the operation are:

a. Provide technical support to Bank operations related to the maintenance of forests for climate mitigation and climate resilience.

b. Increase awareness at the policy level to include climatic and biodiversity criteria into decision making processes related to protection of forests and ecosystems providing climate regulation services.

c. Increase the local technical capacity in the Biodiversity Hotspot region of Madre de Dios to understand the linkages between forest and climate change, in particular the effects of changing land cover on local, physical climate processes essential to local societies.

III. Description of activities and outputs

3.1 **Component 1: Assessment and indicators on bio-climate regulation within Latin America**. This component will finance a three step study aiming at: (i) synthesizing existing research on bio-climate regulation within Latin America, with emphasis on the Amazon; and (ii) developing a set of indicators to guide IDB's actions for maintaining or restoring bio-climate services within Latin America; and (iii) recommendation of sub-regions within Latin America for targeting programs to maintain or restore bio-climate services.

3.2 **Component 2: Valuation of bio-climate services in the Brazilian Amazon.** This component will finance valuation studies of climate regulation services provided by specific pilot sites in the Amazon forest, and will assess the impacts of climate change on such services. These estimates will be used to: (i) guide public policy regarding conservation of the Amazon; and (ii) analyze the trade-offs between forested land and other land uses such as agricultural development. The estimates will provide information on environmental thresholds to be considered in the future, and the economic rationale to preserve amazon ecosystems for the private and public sectors.

3.3 These studies will be developed in three steps:

a. By making use of geographically explicit areas, individual sector analyses (measured in currency units) including biodiversity (the costs of biodiversity loss), water (consequences of deforestation on the water cycle, erosion and water quality), health (impact of deforestation on human health due to vector borne diseases and air quality), and agriculture (economic impact of deforestation on land use and forestry).

b. The second step will finance a more in depth study of how local and regional climate is impacted by deforestation and land use change. Field data will be used in combination with remote sensing data to quantify both current and regional climate change that occurs as a response of common land transitions in the amazon (e.g. conversion of primary forests into agricultural fields and pasturelands). This will serve as the input for the third step.

c. The third step will combine the sector estimates into one overarching model to provide a comparable base for them. Their consolidation will provide an overall valuation estimate of deforestation. Climate scenarios from step 2 will be used to assess climate change effects.

3.4 **Component 3: Focus on the link between climate change and fire.** This component will fund a study to answer the following question: How will drier and warmer climate interact with fire to alter the structure, carbon storage, diversity, and flammability of tropical forests? As such, this

component will provide resources to on the ground experiments on the relationship between climate, fire behavior, and forest response to fire (tree mortality, canopy cover, forest flammability, carbon stocks, diversity, etc.); and, a conceptual structure to incorporate fire disturbance into dynamic vegetation models. Together with Components 1 and 2 the information generated will serve to design scientific based policies that enhance the protection of Amazon forests and biodiversity.

3.5 **Component 4: Outreach and coordination.** A great number of academic researches receive limited interest from the public and policy decision makers because outreach procedures are insufficient or inexistent. To enhance the understanding and uptake of the information produced, this component will pursue the set-up of dissemination events to promote the discussion of climate regulation services from biomes among experts and policy makers.

3.6 **Component 5: Capacity Building Program on Forest and Climate Change.** This component aims at enhancing local capacities in the department of Madre de Dios in Peru, as one of the most bio-diverse regions of the planet and highly threatened due the pressure on the forest from extractive industries. This component will fund the exchange of regional and local scientists and students to improve local capacity and knowledge with regards to the impacts of climate change on forests and vice-versa. The Program will emphasize the role of forest for climate change mitigation and adaptation in the region, as well as on the preservation of ecosystem services. It will include tools for monitoring of biodiversity and carbon flows from landscapes, and capacity building on the use of economic tools for forest and biodiversity conservation.

3.7 It will also allow the students to have access to the most recent publications and take part of the research being conducted in the region by several national and international universities. In order to implement this Program, this component will include the strengthening of partnerships with internationally recognized and local universities, and local research institutions of Madre de Dios. In particular this project aims at including students into the development and support to the research generated in Components 1 to 3.

3.8 The Capacity Building Program will be design to grant credits towards existing postgraduate programs. Specialized organizations such as the Conservation Strategy Fund and universities will be reached to put together a comprehensive capacity building program. Student host institutions will provide the necessary materials, tools and equipment, and the capacity building process will be supervised by the Madre de Dios Consortia that brings together the University of Florida (UF), The Woods Hole Research Center (WHRC), Proyecto Especial de Madre de Dios (PEMD), Futuro Sostenible (FS), Universidad Amazónica de Madre de Dios (UNAMAD) and Asociación Huarayo.

IV. Budget

Indicative Budget (USD$)

Component	Description	Type of cost	IDB funding	Counterpart	Total funding
1	Synthesis of information and indicator development	Consultants	$110 000		$110 000
2	Sector and general models	Consultants	$320 000		$320 000
3	Field experiments and models	Consultants	$160 000		$160 000
4	Outreach	Events and publications	$60000		$60 000
5	Diploma Program	Consultants	$100 000		$100 000
TOTAL			**$750 000**		**$750 000**

V. Executing agency and execution structure

5.1 The IDB will execute this TC given the short timeframe available to prepare the project document. Also, the IDB's considerable expertise in the development of land use and land use

change projects, and its ability to carry out hiring processes, position the Bank as an appropriate executor. As such, the Climate Change and Sustainability Division (INE/CCS) will take on the technical and fiduciary responsibilities. The IDB's procurement policies will apply to this TC.

VI. Project Risks and issues

6.1 This TC will be executed by the IDB, therefore the risks associated to it are low. Execution risks could be related to the quality of deliverables under components I, II and III. These will be mitigated by a meticulous peer review and a close supervision of activities performed by CCS.

VII. Environmental and Social Classification

7.1 Category C has no negative environmental impacts are associated to this activity.