TC ABSTRACT

Valuation of Bioclimatic Services of the Amazon Forest

BR-T1269

I. Basic project data

▪ Country/Region:	Brazil / Southern Cone
▪ TC Name:	Valuation of Bioclimatic Services of the Amazon Forest
▪ TC Number:	BR-T1269
▪ Team Leader/Members:	Simone Bauch (CCS/CBR), Carlos Ludeña (INE/CCS)
▪ Indicate if: Operational Support, Client Support, or Research & Dissemination.	Client Support
▪ Reference to Request[1]: (IDB docs #)	37035029
▪ Date of TC Abstract:	August 30th, 2012
▪ Beneficiary:	Ministry of Science, Technology and Innovation of Brazil
▪ Executing Agency and contact name: {If Bank: Contracting entity}	CCS/SBR
▪ IDB Funding Requested:	USD$210,000
▪ Local counterpart funding, if any:	USD$52,500
▪ Disbursement period (which includes execution period):	24 months
▪ Required start date:	October 25th 2012
▪ Types of consultants (firm or individual consultants):	Individual consultants
▪ Prepared by Unit:	CCS
▪ Unit of Disbursement Responsibility:	CCS
▪ Included in Country Strategy (y/n); ▪ TC included in CPD (y/n):	Yes Yes
▪ GCI-9 Sector Priority:	Environment protection and Climate Change

II. Objective and Justification

This Technical Cooperation will support a valuation study of bioclimatic services provided by the Amazon forest, and will assess the impacts of climate change on such services. These estimates will be used to guide public policy regarding conservation of the Amazon, agricultural development in the region, as well as environmental thresholds to be considered in the near future. This information is innovative in the sense that little research has been carried out to answer these questions.

[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.

Given that this TC is linked to climate change mitigation and adaptation, it is aligned with the GCI-9 objective created to "protect the environment and respond to climate change", as it substantially increases the support for climate change projects. This project is also aligned to the Brazil country strategy for 2012-2014 (document GN-2662-1).

General objective: To estimate the value of bioclimatic services of the Amazon forest and promote the debate among policy makers and researchers in Brazil.

Specific objectives:

- Develop estimates on valuation of costs and benefits incurred due to deforestation for 5 sectors: biodiversity, health, water, agriculture and climate change.
- Develop a model to estimate overall costs of deforestation (and account for leakage and interaction between sector impacts and economic factors of production).
- Compile a study on the valuation of deforestation (containing both sector and overall costs).
- Organize a workshop with experts on CO^2 fertilization to discuss the effects of climate change on the Amazon forest.
- Prepare a workshop with the participation of policy makers.

III. Description of activities and outputs

Valuation of bioclimatic services is a very broad field with little existing information available. Therefore we propose to enhance the current activities to include:

Component 1: Sector estimates

This component will fund 5 sector analyses on the impacts (measured in currency units) of deforestation. These include:

- 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;
- Agriculture: economic impact of deforestation on land use and forestry;
- Climate change: how deforestation will increase risks associated to climate change at a regional level.

Component 2: Overall estimates

While it is common to perform point estimates to establish the value of an ecosystem service that might have lost part of its economic value due to alternative uses, it is very rare to homogenize such studies. The main objective of this component is to provide a comparable base for these estimates in order to be able to add them up and, therefore, arrive at an overall estimate for the valuation of deforestation.

Component 3: CO2 fertilization

A major question related to the effects of climate change on tropical forests is the effect of CO^2 fertilization. The simplified hypothesis is that, as CO^2 concentration in the atmosphere increases, plants would grow more and consequently absorb more CO^2 in the process, cancelling the adverse effect of climate change. While some experiments have been carried out in temperate forests, the effect on tropical forests is still an open question. Since we will include climate change scenarios in our CGE model, we propose to organize a workshop to promote a debate on this scientific issue, which is expected to provide better inputs for our modeling. This workshop will be carried out in November 2012 in Washington D.C. and will have the participation of leading scientists in the field.

Component 4: Outreach

Most academic research programs receive limited interest from the greater public because they are not well publicized. To enhance the understanding and uptake of the estimates produced, this component includes an event to promote discussion of costs of deforestation among experts and the general public. The scope and location of this event will be determined later on.

Also, this component would include a special session at the IUFRO Landscape Ecology Conference to be held in Concepción, Chile, from the 5th to the 12th of November, 2012 (http://www.iufrole2012.cl/.) The idea would be to present the sector estimates and promote the discussion among participants and attending policy makers about the overall estimates of costs accruing from deforestation.

IV. Budget

This TC will finance data analysis and workshops. As such, the procurement plan is divided into consulting services (US$140,000), workshop logistics (US$40,000) and travel costs (US$30,000).

Indicative Budget

Component	Description	Type of cost	IDB funding (USD)	Counterpart funding (USD)	Total funding (USD)
1	5 sector studies	Consultants	$100 000	$40 000	$140 000
2	1 general model	Consultant	$40 000		$40 000
3	Workshop with experts	Event	$30 000	$12 500	$42 500
4	Participation in IUFRO conference	Event	$10 000		$10 000
	Event	Event	$30 000		$30 000
TOTAL			**$210 000**	**$ 52 500**	**$262 500**

V. Executing agency and execution structure

IDB will execute this TC upon request by the Brazilian Environment Ministry (see annex 2). This arrangement is justified given the short timeframe available to prepare the project document. Another reason for the execution of this TC by the IDB can be attributed to its

considerable expertise in carrying out projects related to climate change mitigation through land use and land use change initiatives, as well as the Bank's ability to conduct the selection and hiring of high quality consulting services. Indeed, INE/CCS has a Climate Change Specialist in Brazil that is available to support and provide overall assistance in monitoring and coordinating the activities. As such, the Climate Change and Sustainability Division at the Brazil's Country Office (CCS/CBR) will have the principal technical and fiduciary responsibility. The IDB procurement policies will apply to this TC.

VI. Project Risks and issues

As this is TC will be executed directly by the IDB the risks associated to it are low. The main risks relating to the execution could relate to the quality of deliverables to be developed under components I and II of the TC. This will be mitigated by peer review (by CCS and MCTI staff) and close supervision of the activities by CCS.

VII. Environmental and Social Classification

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