

Technical Cooperation Abstract

I. Basic project data

▪ Country/Region:	Regional
▪ TC Name:	Development of Integrated Economic-Environmental Framework
▪ TC Number:	RG-T2503
▪ Team Leader/Members:	Team leader: Segio Ardila (INE/RND); Co-Team leader: Onil Banerjee (INE/RND) Team members: Michele Lemay (INE/RND); Maria Claudia Perazza (INE/RND); David Corderi (INE/RND); Leonardo Corral (SPD/SPV); and Yolanda Valle (INE/RND).
▪ Indicate if: Operational Support, Client Support, or Research & Dissemination.	Research & Dissemination
▪ Date of TC Abstract:	April 2014
▪ Beneficiary:	REGIONAL
▪ Executing Agency and contact name	IDB
▪ IDB Funding Requested:	US\$300,000
▪ Local counterpart funding, if any:	N/A
▪ Disbursement period (which includes execution period):	18 months
▪ Required start date:	June 2014
▪ Types of consultants (firm or individual consultants):	Firm and consultants
▪ Prepared by Unit:	INE/RND
▪ Unit of Disbursement Responsibility:	INE/RND
▪ Included in Country Strategy (y/n); ▪ TC included in CPD (y/n):	N/A
▪ GCI-9 Sector Priority:	Poverty reduction and equity enhancement; climate change, sustainable (including renewable) energy, and environmental sustainability

II. Objective and Justification

2.1 A standard component in the preparation of an IDB loan operation is an ex-ante economic impact assessment which serves to estimate how an investment may affect regional production, income, employment and other economic indicators. Conventional impact assessment approaches tell us little, however, about the environmental consequences of investment alternatives. The objective of this Technical Cooperation (TC) is to advance economic impact evaluation methods through the development of an integrated economic-environmental impact assessment framework.

- 2.2 Recognizing the importance of integrated economic and environmental accounts for informed decision making, the 1992 United Nations Conference on Environment and Development’s Agenda 21 called for the development of national systems of integrated environmental and economic accounts. After decades of international effort, the System of Environmental-Economic Accounting (SEEA) Central Framework, the first international standard, was published in 2014.¹ The standardization of integrated accounts presents an opportunity to improve the evidence base upon which investment decisions are made².
- 2.3 A prerequisite to using the new integrated accounting framework to inform decision making is the development of a consolidated economic-environmental database customized for modeling purposes, and a modeling framework to structure interactions between accounts and enable simulations to be undertaken. This TC proposes the development of an integrated economic-environmental Computable General Equilibrium modeling (IEEM) approach to impact assessment with Guatemala as a pilot case³. IEEM will have the capability to provide decision-makers with information on the economic impact of a program intervention, the environmental resource costs, changes to stocks of environmental assets and the negative externalities that may arise in the form of pollution. The database structure and modeling framework will be transferable to any country in the region (and beyond).
- 2.4 Investment in IEEM is considered “a strategic investment” for the IDB’s BES Program⁴. The proposed TC will result in an impact assessment approach contributing to the IDB’s two key objectives for LAC: reducing poverty and inequality, and; achieving sustainable growth. The IEEM may be used to assess the economic and environmental impacts of investment alternatives and facilitate the selection of the welfare maximizing option, considering their inherent environmental externalities. This is essential to, as stated in the IDB-9, confront the largest challenges of the century: environmental sustainability and meeting energy requirements in the face of climate change.

¹ United Nations, European Commission, Food and Agriculture Organization, International Monetary Fund, Organisation for Economic Cooperation and Development & the World Bank 2014. System of Environmental Economic Accounting 2012- Central Framework. New York: UN.

² Pilots of the SEEA Central Framework are underway in LAC in Guatemala, Colombia and Costa Rica. Spearheading efforts is the World Bank’s Wealth Accounting and the Valuation of Ecosystem Services ([WAVES](#)) program, a global partnership of United Nations and other international agencies, government, academia and non-government organizations with the mandate of integrating natural capital accounting into national accounting data collection processes (WAVES, 2014).

³ Guatemala is the most advanced in LAC with data collection having released last month 2001 to 2010 integrated accounts. Furthermore, a Guatemalan pilot is aligned with the IDB’s strategic goal of focusing on less developed/smaller countries.

⁴ BES External Advisory Committee Meeting Minutes, April 29, 2014, [available here](#).

2.5 Current analytical approaches for evaluating policy and program impacts focus on economic indicators. To effectively respond to the IDB-9 sector priority of *protecting the environment, responding to climate change, promoting renewable energy and ensuring food security*, more robust analytical methods are required to develop the evidence base in support of innovative solutions to emerging challenges. Understanding the impacts of policies and programs on water supply, agriculture, forestry, biodiversity and energy- all key resources for promoting sustainable growth- is now more pressing than ever and may be realized through this TC.

2.6 Finally, IDB-9 emphasizes the need for leveraging its comparative advantage and improving the delivery of nonfinancial value-added products, and; increasing the importance of these products as a component of the IDB's core business. This TC contributes to this goal and is also aligned with the Cancun Declaration's call for disclosure of comprehensive project-level reporting with stronger metrics including ex-ante analysis.

2.7 Key outputs of this TC will be:

- A transferable approach to database construction and model development that may be implemented in other LAC countries to quantify investment impacts on economic indicators and environmental resources. Increased transparency of investment impacts on environmental resources and residuals in decision making.
- Facilitation of mainstreaming environmental considerations into analysis of alternative investment opportunities.
- Demonstration of proof of concept to catalyze integrated data collection and consolidation efforts in LAC.
- International dissemination through peer reviewed journal publications, international speaking events, and recognition of the IDB as leader in the field of integrated economic-environmental impact assessment.

III. Description of Activities

Activity	Description	Outputs	Results
1. Construction of the economic-environmental SAM	<ul style="list-style-type: none"> • Build integrated SAM. • Build modules to track stocks and flows of environmental assets. 	<ul style="list-style-type: none"> • Integrated economic-environmental SAM and environmental modules; documentation. 	<ul style="list-style-type: none"> • Integrated SAM built. • Proof of concept demonstrated and in-house capacity created.
2. Development of integrated modeling framework	<ul style="list-style-type: none"> • Build and document IEEM. • Test policy applications. 	<ul style="list-style-type: none"> • IEEM built and documented. • Policy applications tested and documented. 	<ul style="list-style-type: none"> • IEEM developed. • IDB in-house expertise enhanced.
3. Dissemination strategy	<ul style="list-style-type: none"> • Consolidate documentation. • Write IDB Technical Note/methods paper/policy impact paper. • Dissemination via WAVES/international speaking events. 	<ul style="list-style-type: none"> • Database and model construction documented. • IDB Technical Note and two papers submitted to international peer reviewed journals. • Database/model disseminated. 	<ul style="list-style-type: none"> • Transferable approach to database/model developed • Greater transparency on investment impacts enabled. • Environmental considerations in impact analysis facilitated. • Proof of concept demonstrated, data collection catalyzed.

IV. Indicative Budget

Activity	Description	Funding US\$	Counterpart Funding	Total Funding US\$
Activities				
1. Construction of the economic-environmental SAM	<ul style="list-style-type: none"> • Database construction. 	100,000		100,000
2. Development of IEEM	<ul style="list-style-type: none"> • IEEM construction and testing with policy applications. 	160,000		160,000
3. Dissemination strategy	<ul style="list-style-type: none"> • Documentation, publications, local and international speaking engagements. 	10,000		10,000
4. Travel	<ul style="list-style-type: none"> • Travel for database/model development and dissemination. 	30,000		30,000
TOTAL		300,000		300,000

V. Executing Agency and Execution Structure

- 5.1 Given the strategic corporate objectives of this TC in contributing to the Bank's impact evaluation frameworks and informing decisions regarding the optimal allocation of IDB resources, this TC will be executed by the Bank. The Bank has the capacity to attract the services of the most qualified and renowned professionals in the field which will be required to undertake a cutting edge endeavor of this nature. The Bank's regional presence will enable products developed through this TC to be disseminated throughout the region. With Guatemala as the pilot case for database and model development, the IDB has the capacity to: foster south-south regional cooperation; catalyze data collection and model development efforts, and; promote internalizing environmental concerns into high-level decision making in the region. Where activities will take place in the territories of the member countries, for example, data work shopping in Guatemala, the Bank will obtain a letter of non-objection from the corresponding country prior to initiating any activity in such country.
- 5.2 The Bank will select and contract all consulting services (firms and individuals) according to current corporate procurement policies and procedures (GN-2303-20). INE/RND will have responsibility for the execution, monitoring and supervision of this TC. The IDB will be responsible for the work under this TC. As such, the IDB will be responsible for developing Terms of Reference comprising the activities in section II of this TC.

VI. Project Risks and Issues

- 6.1 One potential issue that may be faced is the increasing complexity of adding environmental sectors into the modeling framework. Each additional environmental sector adds a progressively thicker layer of complexity to the work at hand. Substitution possibilities of environmental assets and goods and services; the geographic specificity of environmental resources, and; cascading effects, thresholds and feedbacks arising from the use of environmental resources are all challenges that this project will confront, which makes the development of the IEEM cutting edge in the field. To mitigate risks, environmental sectors will be incorporated in a step-wise fashion. Given the budget, it may be possible to incorporate only a subset of the key environmental sectors into the framework in this phase. Taking a phased approach will enable future efforts to resume based on the advances made through this TC.

VII. Environmental and Social Classification

- 7.1 It is not anticipated that the activities to be financed in this TC will have negative direct or indirect social or environmental effects. According to the Bank's Safeguards Screening Toolkit, this operation is classified with "C": (i) no environmental or social risks; (ii) direct contribution to solve an environmental issue.