

TÉRMINOS DE REFERENCIA

Compatibilidad con la plataforma de modelado económico-ambiental integrado (IEEM) de CSD/RND

Número de proyecto: RG-T4530-P004

Numero de cooperación técnica: RG-T4530

Nombre de la Cooperación Técnica: Plataforma Integrada de Modelado Económico-Ambiental

1. Antecedentes y justificación

La Plataforma de Modelado Económico-Ambiental Integrado (IEEM, por sus siglas en inglés) llena un vacío importante en la literatura sobre desarrollo económico y en la caja de herramientas de los profesionales [1]. En el núcleo del IEEM se encuentra un marco de equilibrio general computable con visión de futuro que permite analizar el impacto de las políticas públicas y la inversión en indicadores como el Producto Interior Bruto (PIB), la renta y el empleo, pero también en la riqueza y el capital natural, todo ello en un marco cuantitativo, exhaustivo y coherente. El IEEM genera indicadores que permiten a los responsables de la toma de decisiones evaluar cuantitativamente las estrategias para alcanzar objetivos políticos complejos, incluidos los incorporados en los Objetivos de Desarrollo Sostenible, las metas de crecimiento verde y los planes de descarbonización.

El valor añadido del IEEM con respecto a un modelo convencional de equilibrio general computable incluye:

i) la integración de datos ambientales enriquecidos basados en la primera norma estadística internacional para la contabilidad ambiental y económica, el Marco Central del Sistema de Contabilidad Ambiental y Económica, en un modelo para toda la economía [2]; (ii) los módulos de modelización ambiental del IEEM que capturan la dinámica específica de cada activo de capital natural [3]; y (iii) los indicadores del IEEM que reflejan los efectos en las tres dimensiones del desarrollo sostenible, a saber, la economía, la sociedad y el medio ambiente, que se plasman en el concepto de riqueza [4-6].

La última innovación en el análisis económico-ambiental integrado vincula el IEEM con el modelado de servicios ecosistémicos espacialmente explícito (IEEM+ESM) para permitir el análisis de los impactos de las políticas en los servicios ecosistémicos de mercado y no de mercado [7]. Por ejemplo, muchos servicios ecosistémicos reguladores, como los servicios de mitigación de la erosión del suelo, proporcionan beneficios a las personas, aunque carecen de un precio de mercado [8]. Cuando estos servicios no se cuantifican ni se valoran, no se tienen en cuenta en la toma de decisiones. Como dijo el renombrado economista ambiental David Pearce: "La valoración económica es siempre implícita o explícita; no puede dejar de suceder en absoluto" [9] Pág. 4.

El proyecto Trabajo del Sector Económico (ESW) financiado por el BID en 2022 es "Fortalecimiento de Capacidades para la Implementación de la Plataforma de Modelación Económico-Ambiental Integrada (IEEM)". Esta ESW se basa en esfuerzos previos para colaborar con las representaciones del BID en los países e instituciones gubernamentales en la aplicación del IEEM en el análisis de políticas, al tiempo que continúa mejorando el marco vinculado del IEEM y el modelado de servicios ecosistémicos (IEEM+ESM). Las aplicaciones del IEEM se alinearán con los desafíos y oportunidades operacionales en el país para informar el desarrollo de los documentos del Desafío de Desarrollo del País y la Estrategia del País. Es muy probable que al menos cinco países participen en esta ESW: Uruguay, Colombia, Perú, Surinam y Chile. Es deseable que se incluya flexibilidad en los países concretos para que podamos responder mejor a la demanda emergente.

Por lo tanto, los objetivos específicos de esta ESW son: (i) colaborar con las oficinas de país del BID, los economistas y el gobierno para desarrollar aplicaciones IEEM que creen nuevos conocimientos en torno a áreas temáticas, incluidos los enfoques para evaluar los impactos de la descarbonización y aumentar el papel de las energías renovables en las

matrices energéticas de los países; y ii) actualizar las bases de datos y herramientas de 21 países del IEEM y mejorar la herramienta de modelización del cambio de la cubierta terrestre (LULC) del IEEM.

Con la orientación de especialistas del BID, esta consultoría contribuirá a ambos objetivos. En el caso del segundo objetivo relacionado con la herramienta de modelado LULC, el consultor proporcionará orientación sobre las características necesarias para integrar esta herramienta en el flujo de trabajo de IEEM+ESM.

2. Objetivos

Los objetivos de esta consultoría son proporcionar apoyo en el desarrollo de aplicaciones IEEM, actualizaciones de la base de datos IEEM y mantenimiento de la página OPEN IEEM Platform (<https://openicem.iadb.org/>) mediante el enlace con el diseñador web y el equipo de mantenimiento.

3. Actividades clave

- Proporcionar soporte técnico en el desarrollo de aplicaciones IEEM.
- Contribuir al procesamiento de datos y actualización de las bases de datos para todos los países del IEEM, incluyendo el procesamiento de datos y la actualización de bases de datos para nuevas aplicaciones del IEEM (por ejemplo, información sobre emisiones de CO₂, procesamiento de encuestas de hogares, entre otros).
- Contribuir a la redacción, revisión y edición de trabajos escritos para la página web del IEEM, así como para su publicación. Por ejemplo, edición de trabajos escritos y gráficos para su publicación desarrollados en el contexto del proyecto IEEM (por ejemplo, ajuste de referencias bibliográficas, numeración de tablas y figuras, entre otras tareas);
- Servir de enlace y trabajar con los desarrolladores web de la plataforma OPEN IEEM que se encargan del mantenimiento del sitio; esto implicará proporcionar a los desarrolladores (SINAPSIS) productos de comunicación actualizados, bases de datos y herramientas actualizadas.
- Revise todo el contenido nuevo que se incluirá en la plataforma OPEN IEEM.
- Implemente IEEM según sea necesario.

4. Resultados esperados y entregables

A través de esta consultoría se producirán los siguientes entregables:

1. Plan de trabajo (2 semanas a partir de la firma del contrato)
2. Primer informe de una página que resume las actividades implementadas en aproximadamente el primer período de 2 meses después de la firma del contrato.
3. Segundo informe de una página que resume las actividades implementadas en aproximadamente el período final de 3 meses.

5. Cronograma e hitos del proyecto

La duración del contrato es de 12 meses.

6. Otros requisitos

Conocimientos especializados en estadística y economía. Un mínimo de 2 años de experiencia en economía y estadística. Conocimiento de la modelización de equilibrio general computable ventajoso.

7. Supervisión y presentación de informes

El supervisor del contrato es Juan Manuel Murguía juanmu@iadb.org

8. Cronograma de pagos

- 20% en la entrega del plan de trabajo y cronograma.
- 40% a la entrega del primer informe.
- 40% a la entrega del segundo informe.

CSD/RND Integrated Economic-Environmental Modeling (IEEM) Platform Expert

Washington DC

The 'DB Group is a community of diverse, versatile, and passionate people who come together on a journey to improve lives in Latin America and the Caribbean. Our people find purpose and do what they love in an inclusive, collaborative, agile, and rewarding environment.

About this position

IEEM generates indicators that enable decision-makers to quantitatively assess strategies to achieving complex policy goals including those embodied by the Sustainable Development Goals, green growth targets and decarbonization plans.

The purpose of these terms of reference is to, in collaboration with the 'DB Team, coordinate the Ex-Ante Economic Analysis for Pará's operation BR-L1613 and with the participation of external consultants, implement the analysis and prepare the Ex-Ante Economic Analysis Annex.

The consultant will support ongoing activities related to IEEM and the environment. The Team is dedicated to integrating natural capital and ES data in operational design and decision making to maximize economic, social and environmental outcomes.

What you'll do:

- In collaboration with the IDB Team, conduct the impact evaluation analysis of CR-L1142.
- Operationalize the scenarios for implementation in IEEM and the spatial LULC change and ES modeling.
- Update all ES geospatial data and parameters (contained in the datapacket for the rest of the Amazon countries except Brazil, that is already done, on the OPEN IEEM Platform) used to implement the InVEST sediment delivery ratio (erosion mitigation ES), nutrient delivery ratio (water purification ES), water yield (water regulation ES) and carbon storage ES models for Brazil. Prepare a datapacket for these four ES models for the amazon basin countries.
- With the IEEM external consultant, coordinate the implementation of scenarios in IEEM and the transfer of results to the LULC change modeling external consultant. Implement the ES analysis with the four ES models, structure the results and calculate the required shocks for implementation in IEEM in the dynamic and iterative IEEM+ESM implementation. Work closely with the two external consultants in implementing the iterative IEEM+ESM workflow until reaching the end of the analytical period.
- Prepare ES analysis and maps for inclusion in the final report.
- With inputs from the two external consultants, prepare the Ex-Ante Economic Analysis. The report should be of publishable quality as a final draft for a peer review journal.
- Review and comment on the Environment and Natural Resources Management Sector Framework Document.
- Provide support for regional dialogue on integrating natural capital in evidence-based public policy and specifically, with an external consultant, deliver a workshop on IEEM+ESM for the LAC region, in person and online.
- Travel to the country selected for the in person training in LAC (5 days).

Deliverables and Payments Timeline

The following deliverables will be produced through this consultancy:

1. Parametrized InVEST delivery ratio of at least three ecosystem services models.
2. Costa Rica CR-L1142 Impact evaluation analysis document for validation by the IDB Team.
3. Comments on the Environment and Natural Resources Management Sector Framework Document.
4. Draft final Ex-ante Economic Analysis.
5. Final Ex-Ante Economic Analysis.

Deliverable #	Percentage	Planned Date to Submit
On signature of contract	10%	02/28/2025
On delivery of Costa Rica CR-L1142 Impact evaluation analysis document.	20%	03/20/2025
On completion of Open IEEM training	10%	04/10/2025
On deliver of InVEST ecosystem service models.	20%	04/10/2025
On deliver of comments on SFD.	10%	04/20/2025
On deliver of Draft Ex-Ante Economic Analysis.	10%	05/10/2025
On deliver of Final Ex-Ante Economic Analysis	20%	05/25/2025

What you'll need

- Education: Master's Degree in Natural Resources, Economics or related field.
- Experience: A minimum of 10 years of experience in environmental economics.
- Languages: English.
- Key skills
- Expertise in environmental economics.
- IEEM.
- Computable general equilibrium models.
- ES and LULC change modeling.

Requirements

- Citizenship: You are a citizen of one of our 48-member countries.
- Consanguinity: You have no family members (up to the fourth degree of consanguinity and second degree of affinity, including spouse) working at the 'DB, 'DB Invest, or 'DB Lab.
- COVID-19 considerations: The health and safety of our employees are our number one priority. As a condition of employment, IDB/IDB Invest requires all new hires to be fully vaccinated against COVID-19.

Type of contract and duration

- Type of contract: Product and External Services Consultant (PEC), Lump Sum.
- Length of contract: 24 months.

What we offer

The 'DB group provides benefits that respond to the different needs and moments of an employee's life. These benefits include:

- A competitive compensation package.
- A flexible way of working. You will be evaluated by deliverable.

Our culture

At the 'DB Group we work so everyone brings their best and authentic selves to work, willing to try new approaches without fear, and where they are accountable and rewarded for their actions.

Diversity, Equity, Inclusion and Belonging (DEIB) are at the center of our organization. We celebrate all dimensions of diversity and encourage women, LGBTQ+ people, persons with disabilities, Afro-descendants, and Indigenous people to apply.

We will ensure that individuals with disabilities are provided reasonable accommodation to participate in the job interview process. If you are a qualified candidate with a disability, please email us at diversity@iadb.org to request reasonable accommodation to complete this application.

Our Human Resources Team reviews carefully every application.

About the IDB Group

The IDB Group, composed of the Inter-American Development Bank ('DB), 'DB Invest, and the 'DB Lab offers flexible financing solutions to its member countries to finance economic and social development through lending and grants to public and private entities in Latin America and the Caribbean.

About IDB

We work to improve lives in Latin America and the Caribbean. Through financial and technical support for countries working to reduce poverty and inequality, we help improve health and education and advance infrastructure. Our aim is to achieve development in a sustainable, climate-friendly way. With a history dating back to 1959, today we are the leading source of development financing for Latin America and the Caribbean. We provide loans, grants, and technical assistance; and we conduct extensive research. We maintain a strong commitment to achieving measurable results and the highest standards of integrity, transparency, and accountability.

CSD/RND Integrated Economic-Environmental Modeling (IEEM) Platform consultant

Washington DC

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About this position

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The purpose of these terms of reference is to, in collaboration with the IDB Team, implement the analysis of the research proposal attached to this terms of reference, implementing the scenarios agreed with the IDB Team.

The consultant will support ongoing activities related to IEEM and the environment. The Team is dedicated to integrating natural capital and ES data in operational design and decision making to maximize economic, social and environmental outcomes.

What you'll do:

- In collaboration with the IDB Team, conduct a study on the topic selected in agreement with the COF economist of the country research proposal selected.
- Operationalize the scenarios for implementation in IEEM and the spatial LULC change and ES modeling.
- Prepare ES analysis and maps for inclusion in the final report. The report should be of publishable quality as a final draft for a peer review journal.
- Provide support for regional dialogue on integrating natural capital in evidence-based public policy and specifically, with an external consultant, deliver a workshop on IEEM+ESM for the LAC region, in person and online.
- Travel to the country selected in the research proposal to support the dialog with the government (5 days).

Deliverables and Payments Timeline

The following deliverables will be produced through this consultancy:

1. Parametrized InVEST delivery ratio of at least three ecosystem services models.
2. Summary document of Para project investment scenarios to be implemented for validation by the IDB Team.
3. Comments on the Environment and Natural Resources Management Sector Framework Document.
4. Draft final Ex-ante Economic Analysis.
5. Final Ex-Ante Economic Analysis.

Deliverable #	Percentage	Planned Date to Submit
On signature of contract	10%	02/28/2025
On deliver of first draft of final document	20%	03/20/2025

On deliver of second draft of final document	30%	04/10/2025
On deliver of final draft for revision.	20%	04/10/2025
On submission of final paper to a peer review journal	20%	05/25/2025

What you'll need

- Education: Master's Degree in Natural Resources, Economics or related field.
- Experience: A minimum of 10 years of experience in environmental economics.
- Languages: English.
- Key skills
- Expertise in environmental economics.
- IEEM.
- Computable general equilibrium models.
- ES and LULC change modeling.

Requirements

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- COVID-19 considerations: The health and safety of our employees are our number one priority. As a condition of employment, IDB/IDB Invest requires all new hires to be fully vaccinated against COVID-19.

Type of contract and duration

- Type of contract: Product and External Services Consultant (PEC), Lump Sum.
- Length of contract: 8 months.

What we offer

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- A competitive compensation package.
- A flexible way of working. You will be evaluated by deliverable.

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We will ensure that individuals with disabilities are provided reasonable accommodation to participate in the job interview process. If you are a qualified candidate with a disability, please email us at diversity@iadb.org to request reasonable accommodation to complete this application.

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