

## TC ABSTRACT

### I. Basic Project Data

▪ Country/Region:	REGIONAL/CCB - Caribbean Group
▪ TC Name:	Innovation in Climate-resilient Integrated Coastal Zone Management
▪ TC Number:	RG-T3081
▪ Team Leader/Members:	LEMAY, MICHELE H. (CSD/RND) Team Leader; HORI, TSUNEKI (CSD/RND) Alternate Team Leader; CHAKALALL, YURI (CSD/RND); SCHUELER, KELSEY HOPE (CSD/RND); DEOPERSAD, CHITRALEKHA (CSD/RND); GUERRERO COMPEAN, ROBERTO (CSD/RND); CHAVEZ, ELIZABETH (CSD/RND)
▪ Taxonomy:	Research and Dissemination
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	26 Jul 2017
▪ Beneficiary:	Regional
▪ Executing Agency:	INTER-AMERICAN DEVELOPMENT BANK
▪ IDB funding requested:	\$900,000.00
▪ Local counterpart funding:	0.00
▪ Disbursement period:	24 months
▪ Types of consultants:	Firms; Individuals
▪ Prepared by Unit:	Rural Dev & Natural Disasters
▪ Unit of Disbursement Responsibility:	Rural Dev & Natural Disasters
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Institutional capacity and rule of law; Climate change; Environmental sustainability

### II. Objective and Justification

- 2.1 The objective of this operation is to support emerging knowledge and methods for Climate-resilient integrated coastal zone management, including technological, economic, financial and governance dimensions with a view to building capacity for increasing resilience in coastal zones of the LAC Region
- 2.2 Climate-resilient integrated coastal zone management (ICZM) is an ecosystem-based approach to sustainable development of coasts, incorporating: assessment, maintenance and restoration of coastal ecosystem services; disaster risk management; climate change adaptation, including physical solutions; and behavioral, economic and financial tools for reducing risks. For over 30 years, the IDB has been the principal financial institution supporting ICZM evolution, and policy development and public investments in this sector in LAC. The last five years have seen significant global advances. The latest generation of Bank-financed ICZM operations shows that these advances need to be further applied at scale to demonstrate cost-effectiveness.
- 2.3 One ICZM priority is to assess coastal ecosystem trends. Due to exponential growth in cost-effective data collection technology, modelling, and analytical platforms to measure change in coastal ecosystems and built coasts; what took years to map, can now be done at a fraction of the cost and time (e.g. satellite derived bathymetry, historical mangrove mapping and drone-derived coastal asset inventories). Coastal member countries are often unaware of such advances and commission services based on outdated approaches. To leverage these opportunities, effective applications

must be demonstrated and awareness of their benefits raised while ensuring sustainability through partnerships.

- 2.4 A lack of understanding of coastal resources' economic contribution to society is a factor driving global coastal resource depletion. To value these resources and encourage environmental conservation, ICZM economic benefits must be well understood. State-of-the-art economic analyses estimate these benefits using multi-hazard risk assessments, cumulative impact mapping, and natural capital valuation. New tools accounting for social and economic change can assess service trade-offs and develop the ICZM "business case." Given recent experience in ex-ante economic analysis and impact evaluations, the Bank is positioned to support dissemination of ICZM economic analysis for evidence-based decision making.
- 2.5 Research engagement is enhancing probabilistic disaster risk estimation study coverage in LAC, a critical input to financial strategies to mitigate, retain and transfer disaster risk. The same approach can be used for coastal zones. Estimating probable losses from coastal erosion or flooding and its use in LAC to incentivize maintenance and restoration of coastal ecosystems is limited to pilot efforts (e.g., Mexico). Mapping nature-based infrastructure in coastal areas underpins any financial approach to secure resilience. It can help developers and natural resource managers establish financial strategies for coastal risk reduction and resilience.
- 2.6 Through pledges under the Paris Agreements, SDGs and SAMOA Pathway; Caribbean public and private sectors have committed to monitor and restore coastal natural capital and mainstream its value into planning and investments. However, there is a regional gap in knowledge and capacity to implement these strategies (e.g., restoration knowledge, capacity to conduct value ecosystem services). CSD/RND funded pre-feasibility studies for a strategic, regional and institutionalized approach to strengthen this capacity (RG-T2489). Led by a multi-sectorial steering committee, the project produced a preliminary proposal and action plan, and confirmed stakeholder interest in action plan activities.

### **III. Description of Activities and Outputs**

- 3.1 (1). Advanced technologies for understanding coastal change. Objective: promote use of cost-effective baseline data collection and analysis of coastal ecosystem health, trends and threats in LAC. Includes: (a) At scale demonstrations of innovative applications of data collection and analysis methods for measuring coastal change (e.g., historical mapping of mangroves and forecasting of sea level rise impacts on their extent, measuring and modelling beach erosion). Demonstrations will be conducted in a minimum of 3 LAC member countries; (b) regional dissemination of results of demonstrations through capacity building (e.g., webinars), communications and a technical note.
- 3.2 (2). Measuring the economic benefits of coastal restoration. Objective: contribute to the advancement and dissemination of economic analysis methods to rigorously assess costs and benefits of coastal restoration and to mainstream the practice of conducting cost-benefit assessment of projects during design. Includes: (a) review of recent applications of economic analysis of ICZM and identification of research gaps for public policy and investment decisions; (b) preparation a technical note on measuring the economic benefits of coastal restoration; (c) Hands-on targeted training courses on cutting-edge cost-benefit methodologies. Training material will benefit from the data generated in Component 1.
- 3.3 (3). Nature-based coastal protection financial strategy. Objective: diagnose, in coordination with international financial stakeholders and the Bank's relevant divisions, the current access to financial instruments for nature-based coastal protection, as well as to identify challenges and propose new financial mechanisms and instruments such

as insurance and mutual aid (funds). Includes: (a) Survey and comparative analysis of recent international experience in public and private financing of nature-based coastal protection infrastructure. Based on these results, a subsequent phase would finance: (b) Review of the policy, institutional and regulatory context for financial mechanisms for nature-based coastal protection in the 3 member countries selected above; (c) Assessment of the potential opportunities for incorporating nature-based coastal protection infrastructure in a financial strategy for coastal resilience based on the baseline data collected in Component 1; and (d) Adaptation of new financial instruments as a stand-alone pilot case or under the framework of eventual PBLs in selected countries.

- 3.4 (4) Regional Virtual Center of Excellence for Coastal Natural Capital in the Caribbean. Objective: refine, revise and build consensus on the proposal for a model Regional Center for Coastal Natural Capital in the Caribbean. Includes: (i) intra-regional and national level briefings, as well as a donor roundtable, to increase awareness and build political support, while fostering a participatory approach to Center design and (ii) a detailed mandate analysis and refined business proposal to address two key questions: how will the Center support, crowd-in and embed itself in the network of existing institutions without creating competition? How will this initiative have long term sustainability.
- 3.5 **Component I: Component 1: Advanced technologies for understanding coastal change.** (a) at scale demonstrations of innovative applications of cost-effective approaches for data collection and analysis of coastal change; (b) regional dissemination of results of demonstrations.
- 3.6 **Component II: Component 2: Measuring the economic benefits of coastal restoration.** (a) comprehensive review of recent applications of economic analysis; (b) preparation and peer-review of technical note on measuring the economic benefits of coastal restoration; (c) hands-on training courses.
- 3.7 **Component III: Component 3: Nature-based coastal protection financial strategy.** (a) Survey and comparative analysis of recent experience in financing nature-based coastal protection.
- 3.8 **Component IV: Component 4. Virtual Center of Excellence for Coastal Natural Capital in the Caribbean.** Description: (a) intra-regional and national briefings; (b) mandate analysis and preparation of a business plan.

#### IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Component 1: Advanced technologies for understanding coastal change.	\$ 500,000.00	\$ 0.00	\$ 500,000.00
Component 2: Measuring the economic benefits of coastal restoration.	\$ 200,000.00	\$ 0.00	\$ 200,000.00
Component 3: Nature-based coastal protection financial strategy.	\$ 50,000.00	\$ 0.00	\$ 50,000.00
Component 4. Virtual Center of Excellence for Coastal Natural Capital in the Caribbean;	\$ 150,000.00	\$ 0.00	\$ 150,000.00

## **V. Executing Agency and Execution Structure**

- 5.1 The Bank will execute the TC and will be responsible for the administration of the procurement of the consulting services. CSD/RND will monitor and supervise the TC under the overall guidance of the team leader and with the technical support of relevant country offices and stakeholders.
- 5.2 With over 30 years of experience in financing public policy development and investments in ICZM, including recent advances on the technological, economic and financial front, the Bank is well positioned to procure consulting services and expertise at the forefront of the field and oversee the technical review of deliverables.

## **VI. Project Risks and Issues**

- 6.1 There is a risk of coordination and sequencing between the various consultancies and activities under Components 1, 2 and 3. This risk will be mitigated by the hiring of consultancies for project management and coordination, as well as procurement strategy. Under Component 4 there are risks related to the effectiveness of stakeholder outreach and engagement, a critical aspect of component success. This risk will be mitigated through the reformulation of a Project Steering Committee and dedicated resources to provide technical support to these individuals as they engage relevant stakeholders and decision makers.

## **VII. Environmental and Social Classification**

- 7.1 The ESG classification for this operation is "undefined".