TC Abstract

I. Basic project data

• Country/Region :	MEXICO/CID - Isthmus & DR
• TC Name :	Integrating stakeholders in assessments for sustainable mangrove management
• TC Number :	ME-T1313
• Team Leader/Members :	BUSTAMANTE,CESAR TULIO - Team Leader COTTA,JAMIE NICOLE - Team Member RAMIREZ RAMIREZ,GMELINA JULIANA - Team Member BAMBAREN DE GAGGERO, ROSARIO MARIANELLA - Project Assistant LEMAY,MICHELE H. - Alternate Team Leader PEREZ-SEGNINI, JUAN CARLOS - Attorney
• Indicate if : Operational Support, Client Support, or Research & Dissemination.	Client Support
• If Operational Support TC, give number and name of Operation Supported by the TC:	
• Reference to Request :(IDB docs #)	
• Date of TC Abstract :	07 Jul 2016
• Beneficiary (countries or entities which are the recipient of the technical assistance):	MEXICO, CONAFOR Y CONANP
• Executing Agency and contact name (Organization or entity responsible for executing the TC Program) {if Bank: Contracting entity} { if the same as Beneficiary, please indicate}	US-IDB - Jamie Cotta
• IDB Funding Requested :	$ 300,000.00
• Local counterpart funding, if any :	$ 0.00
• Disbursement period (which includes execution period):	24 months
• Required start date :	
• Types of consultants (firm or individual consultants):	Firms
• Prepared by Unit :	Rural Dev & Natural Disasters
• Unit of Disbursement Responsibility :	Rural Dev & Natural Disasters
• Included in Country Strategy (y/n): TC included in CPD (y/n):	Yes No
• GCI-9 Sector Priority	Addressing climate change, renewable energy, environmental sustainability and food security

II. Objective and Justification

Support the creation of a replicable model for mangrove ecosystem management that engages stakeholders and integrates both ecological and economic measures for valuing and enhancing the resilience of mangrove forest natural capital and its underlying biodiversity.

Mangrove forests constitute one of the most productive ecosystems in the world, providing a diverse suite of ecosystems services upon which human well-being depends. These unique forests harbor exceptional biodiversity, and support fish reproduction which enhances incomes, and provide timber, wood and medicinal plants. Their physical structures protect vulnerable coasts from erosion and reduce the risk of human and material losses, thus enhancing economic benefits by upholding the diverse functions and uses of mangrove ecosystems. Finally, mangrove forests mitigate climate change as they sequester and store blue carbon. Mexico possesses about 5% of global mangrove coverage, and is the fourth country worldwide in mangrove extent. However, mangrove forests are among the most threatened habitats in the tropics and sub-tropics. Mexico ranks among the top five countries in extent of mangrove forest cover lost, and has the second highest associated carbon emissions. Mangrove loss in Mexico is motivated by clearing for agriculture, shrimp aquaculture and tree plantations, cattle grazing, wood harvesting, and tourism development and is exacerbated by overfishing and pollution. These impacts are exacerbated by sea level rise driven by climate change. Mangrove forest restoration and conservation, if successful, can offer multiple benefits, as evidenced above. However, historical conservation approaches have failed to value the full suite of ecosystem services that mangroves provide. Furthermore, they have not sufficiently acknowledged the role of local stakeholders that have an investment or interest in the mangrove ecosystem's natural capital and ecological condition. This is manifested through the persistent decline in mangrove extent and health globally and poor success rate of restoration initiatives to date. It is estimated that, at current deforestation levels, in 25 years, close to 50% of Mexico's mangroves will have been eliminated. To halt further decline, the development of pragmatic strategies to ensure sustainable use of mangrove ecosystems is of fundamental importance.

To foster sustainable mangrove use in Mexico, an integrated conservation and management approach will be piloted in Alvarado Lagoon System (ALS), Veracruz. The ALS is inhabited by more than 50,000 people, including indigenous communities, dependent on mangroves for subsistence, income, and cultural uses, among other ecosystem services. The ALS features 15,000 hectares of intact mangrove forests and more than 11,000 hectares of impacted mangroves with restoration potential. This ALS is being degraded by activities such as agriculture, cattle ranching, unsustainable fishing, and timber cutting. The management approach will be tested through an innovation platform consisting of a NatureServe, Pronatura Veracruz and Conservation Strategy Fund (CSF) collaboration. The approach will be tested in La Mojarra Ejido, where land is collectively managed and, thus, the local population faces substantial ecosystem management complexity. Stakeholders will be integrated into ecological, socioeconomic, and socioecological assessments and project activities will culminate in mangrove management planning. Based on the experience, a management model will be developed, detailing stakeholder-integrated processes. The model will guide government agencies and other institutions in LAC in developing and implementing sustainable management plans with their own stakeholders.

III. Description of activities and outputs

The proposed components and activities described below are designed to bring together conservation science, ecosystem valuation, and local capacity-building, offering a scalable, bottom-up approach that engenders stakeholder responsibility for long-term sustainability of healthy mangrove ecosystems.

Component 1. Stakeholder Engagement and Assessment in ALS
A comprehensive assessment of all stakeholders (landowners, land users, communities, and others) will be completed in the pilot site, La Mojarra Ejido, to provide insight into the nature of stakeholder relationships and interests within the mangrove ecosystem. Using participatory appraisal methods, connections will be identified between stakeholders and mangrove natural capital and biodiversity resilience. Results will be used to design a strategy to involve local stakeholders in subsequent project components for more effective implementation.

Component 2. Ecological Assessment of Pilot Site Mangrove Ecosystem
Ecological assessment to evaluate pilot site ecosystem condition with comparison to intact, healthy mangrove reference site. The assessment will establish simple quantitative metrics and their baseline values that enable mangrove ecosystem condition to be tracked over time. Ecological attributes will be linked to the ecosystem services assessed through economic valuation to demonstrate the link between ecosystem condition and the value of goods and services provided to local communities.

Component 3. Socioeconomic and Socioecological Assessment of Mangrove Use
Socioeconomic and socioecological assessments carried out to improve local understanding of i) stakeholder decision making and ii) the link between ecological functions and stakeholder well-being as well as the factors influencing integrity and resilience of mangrove natural capital.
The socioeconomic assessment will encompass cost-benefit analysis of multiple mangrove use scenarios, ecosystem services valuation, and economic games. The socioecological assessment, encompassing mangrove ecosystem use, management activities, stakeholder values, and system stressors, will be conducted to evaluate stakeholder impact on ecosystem biodiversity, function and value.

Component 4. Replicable Mangrove Ecosystem Management Model
A scenario-building process will be carried out with ALS stakeholders to develop a collective vision for sustainable mangrove use in the future. To enable the achievement of this vision, stakeholders will be guided in the design of a Mangrove Ecosystem Management Plan within ALS. The final Management Plan will reflect and integrate EIA outputs, socioeconomic and sociological assessments and stakeholder decisions. Based on the experience at the pilot site, a scalable model will be refined, detailing the step-by-step process of stakeholder engagement, assessments, scenario building, and management planning. This model will be incorporated into a final report containing contain best practices and lessons learned that can be applied for integrated conservation, restoration and management of mangrove ecosystems throughout LAC. The final report will be disseminated to local stakeholders, NGOs, environmental agencies and key decision makers from Mexico and elsewhere in LAC.

Outcomes

Name: Increased capacity of resource users and decision-makers to conserve and manage mangrove ecosystems in Mexico and the wider Latin America and Caribbean.

Components

Name: Component 1. Stakeholder engagement and assessment in ALS

Description: Stakeholder mapping and analysis

One stakeholder assessment completed, producing one report.

Name: Component 2. Ecological Assessment of Pilot Site Mangrove Ecosystem .

Description: Ecological assessment mangrove ecosystem condition for pilot site and future risk projection for pilot site and ALS

One ecological integrity assessment conducted for pilot project site and at least one comparable reference site in the ALS, producing one report.
One future risk projection realized for pilot site and lagoon, producing one report.

Name: Component 3. Socioeconomic and Socioecological Assessments of Mangrove Use

Description: Cost-benefit analysis, ecosystem services valuation and economic games with local stakeholders in pilot site.

One cost-benefit analysis conducted, producing one report
Ecosystem services valuation and economic games carried out in pilot site, producing one report.
One assessment of stakeholder impact on mangrove ecosystem biodiversity, function and value completed, producing one report.

Name: Component 4. Mangrove Ecosystem Management Plan and Replicable Model

Description: Participatory activities with local stakeholders to develop mangrove ecosystem management plan for pilot site. Elaboration of replicable mangrove ecosystem management model and final report. Dissemination of model and report.

One integrated stakeholder vision elaborated, producing one report.
One Mangrove Ecosystem Management Plan elaborated for pilot site, producing one report.
One replicable mangrove ecosystem management model elaborated for application outside ALS, producing one report.
One management model dissemination workshop in Mexico.

IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Component 1. Stakeholder engagement and assessment in ALS	$ 22,500.00	$ 0.00	$ 22,500.00
Component 2. Ecological Assessment of Pilot Site Mangrove Ecosystem .	$ 44,000.00	$ 0.00	$ 44,000.00
Component 3. Socioeconomic and Socioecological Assessments of Mangrove Use	$ 93,200.00	$ 0.00	$ 93,200.00
Component 4. Mangrove Ecosystem Management Plan and Replicable Model	$ 140,300.00	$ 0.00	$ 140,300.00

V. Executing agency and execution structure

The TC will be executed by the CSD/RND department BIO program within the Bank. The CSD/RND department BIO program will take on the role of overall supervision of the Project through the natural resource specialist (CSD/RND), based in Washington, DC.

The project team recommends the sole source selection method (SSS) to contract NatureServe for project implementation based on experience of exceptional worth.

The NatureServe team is uniquely positioned to contribute expertise from a cadre of specialists in biodiversity and conservation science and help bring together the methods, tools, and scientific data (ecological, social and economic) needed to respond to climate change and natural disasters, understand and abate threats, restore ecosystems, and support resilient ecosystems. Moreover, NatureServe is a leader in developing the methodologies and tools for terrestrial and freshwater species and ecosystem assessment across a variety of geographies, ecosystem types, and scales. NatureServe will sub-contract Pronatura, Veracruz and Conservation Strategy Fund essential project collaborators. Pronatura has extensive experience blending stakeholder engagement, scientific research, innovation, conservation and community sustainability to restore and manage mangroves in the ALS, while CSF has demonstrated success in sustaining natural ecosystems and human communities through enhanced use of economic tools in conservation efforts.

VI. Project Risks and issues

The primary risk associated with this TC is the potential lack of participation of key ALS stakeholders in the socioeconomic and socioecological assessments and management planning activities. There is a potential risk related to a lack of utilization of the disseminated mangrove ecosystem management plan and toolkit.

VII. Environmental and Social Classification

The ESG classification for this operation is [C]