TC Document

I. Basic project data

▪ Country/Region:	Regional
▪ TC Name:	Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management
▪ TC Number:	RG-T2675; RG-T2702
▪ Team Leader/Members:	Team Leader: Cassandra Rogers (RND/CBA); Alternate Team Leader: Michele Lemay (INE/RND); Sybille Nuenninghoff (RND/CBL); Maria Claudia Perazza (INE/RND); Onil Banerjee (INE/RND); Kelsey Schueler (INE/RND); Carmen Del Rio (INE/RND); Maria Camila Padilla (FMP/CBA); Denise Ann Salabie (FMP/CBA); Shelly Pile (CCB/CBA); Escarlata Baza (LEG/SGO); Lisa Sofia Restrepo (INE/RND); and Yolanda Valle (INE/RND)
▪ Indicate if: Operational Support, Client Support, or Research & Dissemination	Research and Dissemination
▪ If Operational Support TC, give number and name of Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	August 2015
▪ Beneficiary (countries or entities which are the recipient of the technical assistance):	Countries of Latin America and the Caribbean (LAC)
▪ Executing Agency and contact name (Organization or entity responsible for executing the TC Program)	Inter-American Development Bank (IDB)
▪ Donors providing funding:	Multi-Donor Disaster Prevention Fund (MDP); Biodiversity and Ecosystem Services Special Program (BIO)
▪ IDB Funding Requested:	US$675,000
▪ Local counterpart funding, if any:	0
▪ Disbursement period (which includes Execution period):	30 months
▪ Required start date:	November 16, 2015
▪ Types of consultants (firm or individual consultants):	Firms and individual consultants
▪ Prepared by Unit:	INE/RND
▪ Unit of Disbursement Responsibility:	CCB/CBA
▪ TC Included in Country Strategy (y/n):	N
▪ TC included in CPD (y/n):	N
▪ GCI-9 Sector Priority:	(i) Supporting development in small and vulnerable countries and (ii) Climate change, sustainable (including renewable) energy, and environmental sustainability

II. Objectives and Justification of the TC

2.1. The general objective of the Technical Cooperation (TC) is to catalyze sustainable, replicable and innovative investments in disaster and climate-resilient Integrated Coastal Zone Management (ICZM).[1] The specific objectives are to: (i) consolidate and disseminate the Inter-American Development Bank's (IDB) successful experience in supporting the sustainable use of coastal and marine resources in Latin America and the Caribbean (LAC) through ICZM; and building on this; (ii) create new tools to secure the Bank's long-term leadership in the field and support state-of-the-art ICZM investment innovation (i.e. natural capital approaches[2] ecosystem-based disaster and climate resilience, financial sustainability).

2.2. For over three decades, the IDB has been at the forefront of policy development and public sector investments in ICZM in LAC. For example, through collaboration with the Government of Barbados (GOB) since 1982, coastal management in Barbados has undergone a significant evolution that has contributed to a thriving tourism industry that is the core of the country's economy. Through support provided by four investment programs,[3] technical assistance and knowledge products, the GOB has established the legal and institutional framework needed to protect its coast; acquired the technical know-how to assess, monitor and manage complex physical processes that shape its shoreline; and implemented coastal infrastructure works that have successfully controlled coastal erosion, reduced vulnerability to storms, stabilized beaches, and improved public coastal access. The latter impacts were realized primarily through the Coastal Infrastructure Program (CIP; 1386/OC-BA). These interventions have had significant impact and provided tangible economic and social benefits both to its international tourism product and to local Barbadians.[4] Barbados now has one of the most comprehensive ICZM programs in developing countries, and the program is recognized as a regional best practice model.

2.3. The Barbados program is also one of the few instances where rigorous evidence is being collected on the impact of ICZM approaches. Through "Capacity Building for Ecosystem Services Valuation and ICZM Best Practices Dissemination" (ATN/OC 13923-BA) the Bank (RND in collaboration with SPD) and the GOB are implementing an on-going impact evaluation and ecosystem services supply assessment (IA-ESSA) of the coastal infrastructure investments completed in order to assess the economic, social and environmental impacts and ecosystem service

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[1] ICZM is defined as "a continuous and dynamic process by which decisions are made for the sustainable use, development and protection of coastal and marine areas and resources...multipurpose oriented: it analyzes implications of development, conflicting use, and interrelationships among physical processes and human activities, and it promotes linkages and harmonization between sectoral coastal and ocean activities." (Cicin-Sain and Knecht 1998).

[2] Natural capital is defined as the "living and non-living components of ecosystems – other than people and what they manufacture – that contribute to the generation of goods and services of value for people" (Guerry et al 2015). For example, biodiversity hot spots, such as coral reefs, attract international tourism in snorkeling and scuba-diving.

[3] Coastal Conservation Pre-Investment Program (Loan 571/OC-BA); Coastal Conservation Program – Phase I (856/OC-BA); Coastal Infrastructure Program (1386/OC-BA); Coastal Risk Assessment and Management Program (2463/OC-BA, under implementation).

[4] For example, six years after the completion of coastal infrastructure works in the south coast of Barbados, under 1386/OC-BA, including a 1.2 km boardwalk, shoreline restaurants and hotels reported up to 60% increase in business. It is reported that real estate values also increased. The boardwalk is also a major recreational area. Preliminary impact assessment results show tourist visitors and resident users of some of these beaches value the improvements at BB$20.7 million and BB$4.5 million annually, respectively.

(ES) benefits. One component of the IA-ESSA is a contingent valuation study, including primary data collection through beach visitor tourism surveys. It is hoped that quantification of the IA-ESSA's results could contribute to a business case for increased ICZM investment in vulnerable coastal regions, including private sector involvement.

2.4. This ICZM success model highlights the Bank's leadership role and competitive edge and has already attracted interest from several member countries for Bank support in implementing permanent, sustainable, innovative and state-of-the art solutions to coastal management. In response, new Bank-financed projects, ranging from the economic valuation of ES to the prioritization of ES for ecosystem-based risk reduction and climate change adaptation (CCA) (e.g. coral reef restoration to protect beaches, green/soft coastal engineering, real-time ocean and coastal monitoring and community science for CCA) are being piloted in The Bahamas,[5] Jamaica,[6] Trinidad and Tobago[7] and Haiti.[8] In The Bahamas, disaster and climate-resilient ICZM combined with a pilot ecosystem-based development plan for Andros Island, the first of its kind in the Caribbean and the Bank, are being developed as a comprehensive approach. This package of complementary projects will be coordinated at a high-level within the framework of the National Economic Development Plan for The Bahamas. The latter approach in particular has the potential to yield new investment operations for small island and low-lying developing states.

2.5. Similar initiatives are also being implemented in Latin America. For example in 2013, the Bank approved the "Program to Support the Sustainable Development of the Department of San Andrés, Providencia and Santa Catalina Archipelago" (3104/OC-CO), which includes a component for "improving coastal infrastructure and incorporating coastal erosion risk management in physical planning." This followed a bilateral knowledge exchange visit to the coastal zone management program in Barbados by government officials from the State of Providenciales in Colombia.[9] In Belize ICZM approaches are being integrated into tourism planning in coastal areas and low carbon development planning for islands.[10]

2.6. The increasing interest in these groundbreaking interventions in ICZM in LAC reflects the growing number of threats to coastal development and sustainable economic growth, such as: (i) unplanned urban expansion and industrial development; (ii) ecosystem degradation and associated ES loss; (iii) land use conflicts; and (iv) natural disasters and climate change impacts including sea level rise. In addition, Bank interventions in ICZM, including the pilot projects in ¶2.4, face challenges related to: (i) effectively assessing and valuing the services of coastal and marine

[5] Feasibility Studies for a Climate Risk Resilient Coastal Zone Management Program (ATN/OC-14251-BH; ATN/OC-14250-BH) and Ecosystem-based Development for Andros Island (ATN/OC-14719-BH).

[6] The "Adaptation Program and Financing Mechanisms for the Pilot Program for Climate Resilience Jamaica" (3381-SX-JA) and "Integrated Management of the Yallahs River and Hope River Watersheds" (GRT/FM-14607-JA) both include climate-resilient integrated watershed management. In the context of small island states, this approach is very closely aligned with ICZM.

[7] Feasibility Studies for a Risk-Resilient Coastal Zone Management Program (ATN/OC-13961-TT).

[8] The "Sustainable Coastal Tourism Program" (3383/GR-HA) includes beach and mangrove restoration and technical studies to assess vulnerability to natural disasters and climate change and water availability.

[9] The Governments of Trinidad and Tobago and Grenada have also conducted such visits, and a request from the Government of The Bahamas is being processed.

[10] Sustainable Tourism Program II (BL-L1020, in preparation) and Caribbean Climate Smart Islands Program (ATN/OC-14811-RG).

ecosystems for ICZM; (ii) innovation in engineering for coastal resilience; (iii) coastal risk governance; (iv) financial sustainability of coastal investments; and (v) a lack of knowledge and capacity to effectively execute ICZM programs. In order to address these threats and challenges, emerging ICZM trends focus on resilience and ecosystems-based management, a multifunctional approach that promotes: (i) CCA and disaster risk management; and (ii) provisioning of ES co-benefits, such as mangroves' ability to both act as a carbon sink and stabilize coastlines.

2.7. This approach also has wide ranging applications and high potential replicability throughout the coastal regions of LAC. However, the technical knowledge, lessons learned and successes of the Bank's ICZM experience in LAC have not to date been documented and published in a comprehensive or systematic manner to facilitate increased demand for investment in ICZM. In order to address this challenge and to keep pace with the latest science and innovation in this dynamic field, it is timely to: (i) document the Bank's contribution to date and share the relevant technical knowledge, including empirical evidence in ICZM; and (ii) develop and promote the use of new instruments (an ICZM Performance Index and a proposal for an incentive mechanism for investment in disaster and climate-resilient ICZM) that may secure the Bank's long-term leadership in the field and catalyze greater demand for state-of-the-art investment innovation in LAC.

2.8. The proposed TC will contribute to the following GCI-9 lending program priority targets: (i) supporting development in small and vulnerable countries (GN-2616-2), specifically in small-island and coastal states that are highly vulnerable to climate change; and (ii) climate change, sustainable (including renewable) energy, and environmental sustainability, specifically through CCA in priority coastal sectors and improving comprehensive risk management. The TC is also fully consistent with: (i) the IDB's Integrated Strategy for CCA and Mitigation and Sustainable Renewable Energy (GN-2609-1) and its Action Plan (2012-2015 GN-2609-3), specifically its strategic line to strengthen institutional capacity through the economic assessment of climate change vulnerabilities to the Region and benefits of alternative CCA measures;[11] (ii) the Biodiversity and Ecosystem Services (BIO) program, specifically its objective to strengthen and foster environmental governance;[12] and (iii) the Multi-Donor Disaster Prevention Fund (MDP), related to the objective to support environmental management and land use planning for vulnerability reduction.[13] Project activities will be carried out in accordance with the provisions of the above-mentioned MDP and BIO documents.

III. Description of activities/components and budget

3.1 **Component 1: ICZM Knowledge Consolidation and Dissemination.** This component will document the scientific, economic and social evidence for best practice in the sustainable use of coastal and marine resources through ICZM in LAC and disseminate that information to key stakeholders and audiences through two strategic events. First, peak-season tourism surveys of beaches enhanced under the Coastal Infrastructure Program (1386/OC-BA) will be conducted in order to inform the ongoing contingent valuation study (see ¶2.3) that is estimating the value that

[11] http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36938123
[12] http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=37250949
[13] http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=810672 and Operating Guidelines

tourists and residents derive from the coastal infrastructure investments. These results will complement those from similar low-season surveys (in progress, see also paragraph 2.3). Second, information and empirical evidence on the Bank's experience in ICZM in the Caribbean, including the results of the aforementioned contingent evaluation study, will be collected and assessed in order to prepare an IDB Technical Note and a Working Paper, including case studies, best practice, lessons learned, future directions for disaster and climate-resilient ICZM, and specific applications for Latin America. This will include support for background research and analysis; peer review; publication on the IDB's Repository of Institutional Knowledge and the BIO and disaster prevention funds' websites; blog posts; hard copies for distribution at IDB headquarters, country offices and the high-level flagship event (see below) and other dissemination activities. Third, supplementary support (travel and accommodation) will be provided for participation of LAC countries in a Regional Workshop and Policy Dialogue on disaster and climate-resilient ICZM.[14] Fourth, the Bank will organize a high-level flagship event on disaster and climate-resilient ICZM, including production of high-impact multimedia materials, dissemination of the Working Paper in both English and Spanish and Bank travel expenses[15] to supervise, participate in and conduct outreach for the event. The travel constitutes a specific technical function to ensure quality and impact of event implementation. It is expected that these activities will consolidate and increase knowledge and capacity for ICZM programs that consider natural disasters and climate change impacts.

3.2 **Component 2: Support for Sustainable, Replicable and Innovative ICZM Investment**. Building on the knowledge documented and disseminated under Component 1, this component will develop and promote new instruments that could contribute to addressing the existing challenges related to governance, financial sustainability and capacity for ICZM program execution. The new instruments include: (i) an ICZM Performance Index methodology, to be piloted in at least two countries. Once applied at the national and/or regional level, the methodology can assist countries and the Bank to measure and monitor ICZM progress in small island and low-lying coastal states and regions of LAC; and (ii) an incentive mechanism proposal for investment in disaster and climate-resilient ICZM (e.g. water/energy discounts, development incentives and matching grant financing for green infrastructure commitments), which is expected to facilitate greater involvement of additional stakeholders (i.e., the private sector).[16] It is expected that these activities will increase the availability of tools to support investment in innovative ICZM.

3.3 **Component 3: Project Coordination**. This component will provide technical support (through a Defined Term Contractual [DTC]) for the implementation of the TC and will finance IDB staff travel, registration fees and accommodation for strategic ICZM technical conferences and meetings. This travel constitutes a critical technical function to achieve the TC's objectives through dissemination of and knowledge building on the TC's knowledge product outputs. These activities will help to ensure

[14] To be implemented under ATN/OC-13923-BA.

[15] Bank staff travel expenses (Component 1, Flagship Event and Component 3,– Presentations) financed via BIO (funds eligible to cover Bank travel expenses). Expenses will not supplement administrative budget.

[16] The private sector is a major stakeholder in terms of coastal resource use and a beneficiary of coastal infrastructure work. However, as in Barbados, the need for private sector collaboration and participation in ICZM is sometimes poorly understood. This applies especially to the tourism private sector.

coordination between the various components of the TC and create additional opportunities to disseminate information and reach a larger audience.

Table 1. Indicative Results Matrix

Project Component	Outputs	Results
General		TC General Result: *Increased demand for ICZM investment*
Component 1: ICZM knowledge consolidation and dissemination	Output 1A: Tourism surveys of three beaches implemented and analyzed (*1,600 surveys*) Output 1B: Integrated Coastal Zone Management Technical Note and Working Paper published and disseminated (*one Working Paper*) Output 1C: Stakeholders trained through Regional Workshop and Policy Dialogue (*25 stakeholders*) Output 1D: High-level flagship event executed and dissemination materials produced (*one event and one video*)	Increased knowledge and capacity for disaster and climate-resilient coastal development for executing agencies and Bank staff
Component 2: Support for sustainable, replicable and innovative ICZM investment	Output 2A: Integrated Coastal Zone Management Index developed and piloted (*one index*) Output 2B: Proposal for an Incentive Mechanism for increased investment in integrated coastal zone management developed (*one proposal*)	Increased availability of analytical and financial tools to support new investments in integrated coastal zone management
Component 3: Project coordination	Output 3A: Technical support and execution coordination across Components 1 and 2 (*one DTC*) Output 3B: Presentations by Bank Staff delivered to disseminate Integrated Coastal Zone Management Working Paper (*five presentations*)	Increased dissemination of best practice in integrated coastal zone management and coordination of activities under Components 1 and 2

3.4 The total budget for this TC has been estimated at US$675,000 as shown in the following table.

Table 2. Indicative Budget

Activity/ Component	Description	IDB Funding US$	Total Funding US$	MDP	BIO
1.1 Technical studies and dissemination	Tourism Surveys	40,000		40,000	0
	Preparation of Technical Note and Working Paper on disaster and climate resilient ICZM (Technical Report to inform Technical Note and Working Paper, peer-review and publication)	80,000		45,000	35,000
	Support for Regional Workshop and Policy Dialogue	70,000		50,000	20,000
	Organization of a high-level flagship event and production of multimedia materials	200,000	390,000	90,000	110,000
2.1 Development and promotion of new instruments for investment	Development of an index for disaster and climate-resilient ICZM	111,000		77,000	34,000
	Development of an incentive mechanism for disaster and climate-resilient ICZM	46,000	157,000	23,000	23,000
3.1 Technical and administrative support	DTC for 18 months	108,000		75,000	33,000
	IDB Staff Travel	20,000	128,000	0	20,000
TOTAL		**675,000**	**675,000**	**400,000**	**275,000**

IV. Executing agency and execution structure

4.1 Given the strategic objectives of the TC in consolidating and disseminating Bank experience in disaster and climate-resilient ICZM and developing and promoting new instruments for investment, the Bank will execute the TC and will be responsible for the administration of the procurement of the consulting services. The Bank has: (i) the regional convening capacity to ensure effective dissemination of the knowledge consolidated under this TC; and (ii) over three decades of experience in ICZM investment and technical support.

4.2 The Bank will contract individual consultants, consulting firms and non-consulting services in accordance with the Bank's current procurement policies and procedures. The Bank will contract the services of two individual consultants (Janice Cumberbatch, Survey Specialist Contractual and Kevin Boyle, Natural Resource Economist Contractual) by single-source selection (SSS) to complete the peak season tourism surveys described under Component 1, on the basis of continuity of service. The two consultants are currently conducting low season tourism surveys (implemented under ATN/OC 13923-BA). The peak season tourism surveys to be implemented under this TC will use the same technical approach (i.e. survey instruments, economic analysis) and require the same experience as the low season tourism surveys. Thus, the consulting services represent a natural continuation of previous work. The Bank will contract the services of two individual consultants by SSS to provide peer review for the Working Paper to be produced under Component 1, on the basis of experience of exceptional worth in ICZM and small assignments.

4.3 The Bank's Country Office in Barbados will monitor and supervise the TC under the team leader's overall guidance and with INE/RND's technical support. Prior to the initiation of any of the TC activities in any of the countries, the Bank will obtain the corresponding non-objection from the Bank's liaison entity in each country. The project team with country office and beneficiary feedback is responsible for preparing a completion report within six months after the expiration of the TC's execution period and forwarding an electronic copy to the MDP administrator.

V. Major Issues

5.1 There is a risk that key stakeholders will not receive or engage with the knowledge produced by this research. This is mitigated by a robust dissemination strategy and resources for communications and outreach. There is also a risk of lack of coordination across the various components and activities. This risk is mitigated by the contracting of a DTC to provide coordination on a technical level.

VI. Exceptions to Bank policy

6.1 There are no exceptions to Bank policy.

VII. Environmental and Social Strategy

7.1 It is not anticipated that the activities to be financed under 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", as: (i) there are no environmental or social risks; and (ii) there is direct contribution to solve environmental issues.

Required Annexes:

- Terms of Reference (TOR) (1) (2) (3) (4) (5) (6)
- Procurement Plan

KNOWLEDGE AND INNOVATION: DISASTER AND CLIMATE RESILIENT COASTAL ZONE MANAGEMENT

RG-T2702 US$275,000 (BIO)
RG-T2675 US$400,000 (MDP)

CERTIFICATION

I hereby certify that this operation was approved for financing under the Special Program for Biodiversity and Ecosystem Services (BIO), and the Multidonor Disaster Prevention Trust Fund (MDP) through a communication signed on August 18, 2015 by Mr. Felipe Caicedo, ORP/GCM, respectively. Also, I certify that resources from both funds are available for up to **US$275,000** for the Special Program for Biodiversity and Ecosystem Services (BIO) and for up to **US$400,000** for the Multidonor Disaster Prevention Trust Fund (MDP) in order to finance the activities described and budgeted in this document.This certification reserves resources for the referenced project for a period of four (4) calendar months counted from the date of eligibility from the funding source. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount, may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk.

ANNEX A

Regional

CCB/CBA

Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management, (RG-T2675; RG-T2702)

Preparation of a Technical Report to inform a Technical Note and a White Paper on Disaster and Climate-Resilient ICZM

TERMS OF REFERENCE

1. Background

1.1 For over three decades, the Inter-American Development Bank (IDB) has been at the forefront of policy development and public sector investments in Integrated Coastal Zone Management (ICZM) in the Caribbean. For example, through a collaboration with the Government of Barbados (GOB) since 1982, coastal management in Barbados has undergone a significant evolution that has contributed to a thriving tourism industry that is the core of the country's economy. Through support provided by four investment programs,[1] technical assistance and knowledge products, the GOB has established the legal and institutional framework needed to protect its coast; acquired the technical know-how to assess, monitor and manage complex physical processes that shape its shoreline; and implemented coastal infrastructure works that have successfully controlled coastal erosion, reduced vulnerability to storms, stabilized beaches, and improved public coastal access. The latter impacts were realized primarily through the Coastal Infrastructure Program (1386/OC-BA). These interventions have had significant impact and provided tangible economic and social benefits both to its international tourism product and to local Barbadians.[2] Barbados now has one of the most comprehensive ICZM programs in developing countries, and the program is recognized as a regional best practice model.

1.2 This ICZM success model has already attracted interest from several member countries in LAC for Bank support in the implementation of permanent, sustainable, innovative and state-of-the art solutions to coastal management. In response, new Bank-financed projects, ranging from the economic valuation of ES, prioritization of these services for ecosystem-based risk reduction and climate change adaptation (CCA) (e.g. coral reef restoration to protect beaches, green/soft coastal engineering, real-time ocean and coastal monitoring and community science for CCA) are being piloted in The Bahamas,[3] Jamaica,[4] Trinidad and

[1] Coastal Conservation Pre-Investment Program (Loan 571/OC-BA); Coastal Conservation Program – Phase I (856/OC-BA); Coastal Infrastructure Program (1386/OC-BA); Coastal Risk Assessment and Management Program (2463/OC-BA, under implementation).

[2] For example, six years after the completion of coastal infrastructure works in the south coast of Barbados, under 1386/OC-BA, which included a 1.2 km boardwalk, restaurants and hotels along the shoreline have reported up to 60% increase in business; and it is reported that real estate values have also increased. The boardwalk is also a major recreational area.

[3] Feasibility Studies for a Climate Risk Resilient Coastal Zone Management Program (ATN/OC-14251-BH; ATN/OC-14250-BH) and Ecosystem-based Development for Andros Island (ATN/OC-14719-BH).

Tobago[5] and Haiti.[6] In the case of The Bahamas, disaster and climate-resilient ICZM combined with a pilot ecosystem-based development plan for Andros Island, the first of its kind in the Caribbean, are being developed as a comprehensive approach to national economic development planning. The latter approach in particular has the potential to yield new investment operations for small island and low-lying developing states through a package of complementary projects that will be coordinated at a high-level within the framework of the National Economic Development Plan for The Bahamas.

1.3 Similar initiatives are also being implemented in Latin America. For example in 2013, the Bank approved the "Program to Support the Sustainable Development of the Department of San Andrés, Providencia and Santa Catalina Archipelago" (3104/OC-CO), which includes a component for "improving coastal infrastructure and incorporating coastal erosion risk management in physical planning." This followed a bilateral knowledge exchange visit to the coastal zone management program in Barbados by government officials from the State of Providenciales in Colombia.[7] In Belize ICZM approaches are being integrated in tourism planning in coastal areas and low carbon development for islands.[8]

1.4 The increasing interest in these groundbreaking interventions in ICZM in LAC reflects the growing number of threats to coastal development and sustainable economic growth, such as: (i) unplanned urban expansion and industrial development; (ii) ecosystem degradation and associated loss of ES; (iii) land use conflicts and (iv) natural disasters and climate change impacts including sea level rise. In addition, Bank interventions in ICZM, including those pilot projects referenced in para 2.4, face challenges related to: (i) effectively assessing and valuing the services of coastal and marine ecosystems for ICZM, (ii) innovation in engineering for coastal resilience, (iii) coastal risk governance, (iv) financial sustainability of coastal investments and (v) a lack of knowledge and capacity required to effectively execute ICZM programs. In order to address these threats and challenges, emerging trends in ICZM focus on resilience and ecosystems-based management, a multifunctional approach that promotes (i) CCA and disaster risk management; and (ii) the provisioning of ES co-benefits, such as the ability of mangroves to both mitigate climate change as a carbon sink and to stabilize coastlines.

1.5 This approach also has wide ranging applications and high potential replicability throughout the coastal regions of LAC. However, the technical knowledge, lessons learned and successes of the Bank's experience in ICZM in LAC have not to date been documented and published in a comprehensive or systematic manner. In order for the Bank to highlight and maintain its leadership role, competitive edge and to keep pace with the latest science and innovation in this dynamic field, it is timely to: (i) document the Bank's contribution to date and share the relevant technical knowledge, including empirical evidence in ICZM; and (ii) develop and promote the use of new instruments (an ICZM Performance Index and a proposal for an incentive mechanism for investment in disaster and climate-resilient ICZM)

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[4] The "Adaptation Program and Financing Mechanisms for the Pilot Program for Climate Resilience Jamaica" (3381-SX-JA) and "Integrated Management of the Yallahs River and Hope River Watersheds" (GRT/FM-14607-JA) both include climate-resilient integrated watershed management. In the context of small island states, this approach is very closely aligned with ICZM.

[5] Feasibility Studies for a Risk-Resilient Coastal Zone Management Program (ATN/OC-13961-TT).

[6] The "Sustainable Coastal Tourism Program" (3383/GR-HA) includes beach and mangrove restoration, as well as technical studies to assess vulnerability to natural disasters and climate change and water availability.

[7] The Governments of Trinidad and Tobago and Grenada have also conducted such visits, and a request from the Government of The Bahamas is being processed.

[8] Sustainable Tourism Program II (BL-L1020, in preparation) and Caribbean Climate Smart Islands Program (ATN/OC-14811-RG).

that may secure the Bank's long-term leadership in the field and catalyze state-of-the-art investment innovation in LAC through the application of emerging approaches in ICZM.

1.6 The general objective of the Technical Cooperation (TC) is to catalyze sustainable, replicable and innovative investments in disaster and climate-resilient ICZM.[9] The specific objectives are to: (i) consolidate and disseminate the IDB's successful experience in supporting the sustainable use of coastal and marine resources in LAC through ICZM; and building on this, (ii) create new tools to secure the Bank's long-term leadership in the field and support state-of-the-art ICZM investment innovation (i.e. natural capital approaches,[10] ecosystem-based disaster and climate resilience, financial sustainability).

1.7 This consultancy refers to the services of a contractual to implement the following activities under Component 1 of the TC: information and empirical evidence on the Bank's experience in ICZM in the Caribbean will be collected and assessed in order to prepare a Technical Note and a Working Paper.

2. Consultancy objective(s)

2.1 The objective of this consultancy is to collect and assess empirical evidence of the Bank's experience in ICZM in the Caribbean. The specific objectives are to: (i) document the Bank's experience and contributions to ICZM, best practice and lessons learned through at least five (5) relevant case studies and (ii) propose future directions in the sustainable management of LAC's coastal and marine resources, including specific recommendations for transferring lessons learned from the Caribbean to Latin America.

2.2 The consultancy will complete a Technical Report that will form the basis for a Technical Note and Working Paper, which will be published by the Bank.

3. Main activities

3.1 The selected candidate firm will:

a) Work collaboratively with the Bank project team and other consultancies implemented under this TC in order to identify empirical evidence of the Bank's contributions to ICZM, including but not limited to, the consultancy to conduct peak-season tourism surveys of

[9] ICZM is defined as "a continuous and dynamic process by which decisions are made for the sustainable use, development and protection of coastal and marine areas and resources...multipurpose oriented: it analyzes implications of development, conflicting use, and interrelationships among physical processes and human activities, and it promotes linkages and harmonization between sectoral coastal and ocean activities." The main goals of ICZM are: "sustainable development of coastal and marine areas, to reduce vulnerability of coastal areas…and to maintain essential ecological processes, life support systems and biological diversity" (Cicin-Sain and Knecht 1998).

[10] Natural capital is defined as the "living and non-living components of ecosystems – other than people and what they manufacture – that contribute to the generation of goods and services of value for people" (Guerry et al 2015). For example, biodiversity hot spots, such as coral reefs, attract international tourism in snorkeling and scuba-diving.

beaches enhanced under the Coastal Infrastructure Program in Barbados (1386/OC-BA);[11]

b) Develop an appropriate case study research methodology, incorporating collection of both primary and secondary data and building off a Comparative analysis Study of ICZM in Barbados and Belize (BA-T1025, in implementation), in order address the following questions: (i) what is ICZM in the Caribbean context, (ii) how has ICZM evolved in the Caribbean, (iii) what constitutes best practice in Caribbean ICZM, (iv) what are the success factors and lessons learned and (v) what are the potential future directions for the sustainable management of marine and coastal resources in LAC?;
c) Review all project documents and annexes (e.g. TC Documents, Proposals for Operation Development, Project Completion Reports) as well as any written final deliverables from related Bank projects in The Bahamas, Barbados, Belize, Haiti, Jamaica and Trinidad and Tobago and Regional TCs, as indicated in Appendix I;
d) Develop a working definition of ICZM best practice in the Caribbean region, this definition will build on an ICZM best practice template that will be developed based on a Comparative Analysis Study of ICZM experiences in Barbados and Belize (BA-T1025, in implementation);
e) Submit an annotated outline and/or table of contents for the Final Technical Report, including list of case studies;
f) Conduct technical visits to at least five (5) countries, these countries will be discussed and agreed with the Bank project team and will supplement (i.e. not reproduce) the technical visits to Barbados and Belize conducted for the Comparative Analysis Study (BA-T1025, in implementation);
g) Describe in detail at least five (5) case studies, which reflect best practice in key thematic areas of ICZM (i.e. legal/institutional frameworks and sustainability, science-based coastal and marine engineering, disaster risk management and climate change adaptation, incorporation of ecosystem services valuation, information management and monitoring and evaluation), these areas will be discussed and agreed with the Bank project team and take into consideration the format and content of the Barbados and Belize case studies developed for the Comparative Analysis Study (BA-T1025, in implementation);
h) Based on the annotated outline and detailed case studies, prepare a Draft Technical Report summarizing the regional analysis and making recommendations for future directions for the sustainable management of marine and coastal resources in LAC;
i) Prepare a Final Technical Report, incorporating the comments of the Bank project team

4. Reports / Deliverables

4.1 Every report must be submitted to the Bank in an electronic file. The report should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations. The final deliverable will be modified, peer reviewed and designed and published internally by the Bank project team.

[11] Through "Capacity Building for Ecosystem Services Valuation and ICZM Best Practices Dissemination" (ATN/OC 13923 BA) the Bank (RND in collaboration with SPD) and the GOB are implementing an impact evaluation and ecosystem services supply assessment of the coastal infrastructure investments completed under the Coastal Infrastructure Program (1386/OC-BA) in order to assess the impact on economic growth and social enhancement. It is hoped that the quantification of the results of the impact evaluation could contribute to making the case for increased investment in ICZM in vulnerable coastal regions

4.2 The selected candidate will submit the following deliverables:

a) Inception Report, inclusive of detailed research methodology and work plan, to be submitted two (2) weeks after signing of contract
b) Draft Preliminary Report, inclusive of annotated outline, list of case studies, definition of best practice in ICZM and list of project documents for verification, to be submitted eight (8) weeks after signing of contract
c) Final Preliminary Report, incorporating comments of Bank Project Team, to be submitted twelve (12) weeks after signing of contract
d) Draft Final Technical Report, inclusive of at least five (5) detailed case studies, to be submitted eighteen (18) weeks after signing of contract
e) Final Technical Report, incorporating all comments of the Bank project team, to be submitted twenty-four (24) weeks after signing of contract

5. Payment Schedule

- 20% upon submission and approval of deliverable (a)
- 30% upon submission and approval of deliverable (c)
- 50% upon submission and approval of deliverable (e)

6. Qualifications

- *Academic Degree / Level & Years of Professional Work Experience*: A minimum of Master's degree in coastal zone management, environmental science, economics, natural resource management, disaster risk management, climate change adaptation, with a least ten (10) years of demonstrated relevant experience and in-depth expertise in research design and analysis of ICZM. Previous experience working on projects financed by multi-lateral or bilateral organizations in the Caribbean is necessary.
- *Languages:* Fluency in English is required. Proficiency in Spanish is desired.
- *Areas of Expertise:* Coastal and marine resource management, ICZM, research design and implementation, data collection and management, monitoring and evaluation.
- *Skills*: Excellent writing and analytical skills.

7. Characteristics of the Consultancy

- *Consultancy category and modality*: Products and External Services Firm, Lump Sum
- *Contract duration*: February/2016 to August/2016 (90 discontinuous days)
- *Place(s) of work*: External consultancy
- *Division Leader or Coordinator*: The Contractual will report to the IDB Project Team Leader, Cassandra Rogers, RND/CBA (cassandrar@iadb.org). The work will also be monitored by INE/RND and the Bank project team.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

Appendix I

List of Relevant Projects

I. The Bahamas

a. Feasibility Studies for a Climate Risk Resilient Coastal Zone Management Program (ATN/OC-14251-BH; ATN/OC-14250-BH);
b. Ecosystem-based Development for Andros Island (ATN/OC-14719-BH).

II. Barbados

a. Coastal Conservation Pre-Investment Program (Loan 571/OC-BA);
b. Coastal Conservation Program – Phase I (856/OC-BA);
c. Coastal Infrastructure Program (1386/OC-BA);
d. Coastal Risk Assessment and Management Program (2463/OC-BA);
e. Capacity Building for Ecosystem Services Valuation and ICZM Best Practices Dissemination" (ATN/OC 13923 BA).

III. Belize

a. Sustainable Tourism Program II (BL-L1020);
b. Mainstreaming Biodiversity, Ecosystem Services and Coastal Resilience in Tourism (ATN/OC-14724-BL).

IV. Haiti

a. Sustainable Coastal Tourism Program (3383/GR-HA);
b. Sustainable Management Upper Watersheds South Western Haiti-Macaya National Park (HA-G1023);
c. Sustainable Land Management of Upper Watersheds in Haiti (HA-X1002);
d. National Disaster Mitigation Program in Priority Watersheds, I (HA-L1041).

V. Jamaica

a. Adaptation Program and Financing Mechanisms for the Pilot Program for Climate Resilience Jamaica (3381-SX-JA);
b. Integrated Management of the Yallahs River and Hope River Watersheds (GRT/FM-14607-JA).

VI. Trinidad and Tobago

a. Feasibility Studies for a Risk-Resilient Coastal Zone Management Program (ATN/OC-13961-TT);
b. Piloting the Integration of Coastal Zone Management and Climate Change Adaptation in Tobago.

VII. Regional

a. Caribbean Climate Smart Islands Program (ATN/OC-14811-RG);
b. Establishment of the Caribbean Coastal Capital Center of Excellence (RG-T2489);
c. Coral Reef Restoration Program (RG-M1238)

ANNEX A

Regional

CCB/CBA

Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management, (RG-T2675; RG-T2702)

Tourism Surveys - Survey Specialist Contractual *(HIGH SEASON FOLLOW-UP to the Impact Evaluation and Ecosystem Services Supply Assessment of Barbados Coastal Infrastructure Investments [ATN/OC-13923-BA; BA-T1025])*

TERMS OF REFERENCE

I. Background

1.1 Since the 1980s, the Government of Barbados (GOB) has collaborated with the Inter-American Development Bank (IDB) in integrated coastal zone management (ICZM) in an effort to safeguard the island's tourism industry, which in 2013 directly and indirectly contributed 36.2% of Gross Domestic Product (GDP), 48.6% of export earnings and 35.7% of employment.

1.2 Through IDB support, the GOB has: established the legal and institutional framework needed to protect its coast including the establishment of the Coastal Zone Management Unit (CZMU) as the provider of a permanent CZM function fully integrated in public administration; approved a CZM Act, and an ICZM Plan; acquired the technical know-how to assess, monitor and manage complex physical processes that shape its shoreline and contribute to the scenic beauty and recreational value of its beaches; implemented coastal infrastructure works that have successfully controlled coastal erosion, stabilized beaches, improved public coastal access, and; provided tangible economic and social benefits, both by enhancing its international tourism product and direct benefits to local Barbadians. Today Barbados has one of the most comprehensive coastal and marine management programs in the Caribbean and is a recognized best practice model and regional leader.

1.3 Between 2002 and 2009 the GOB implemented the Coastal Infrastructure Program (CIP 1386/OC-BA). The principal objective of the CIP was to ensure a healthy environment and continued economic development of Barbados through improved management and conservation of the coastal zone. The Program had four specific objectives: (i) to create and/or enhance the amenity value of beaches for local and tourist use through the implementation of shoreline stabilization and erosion control projects; (ii) to restore and protect affected ecosystems through the implementation of coastal infrastructure recovery projects; (iii) to encourage safe and increased access to the waterfront through coastal access improvement projects, and; (iv) to upgrade capabilities and support the

process of innovating coastal management, through the implementation of institutional strengthening activities for the CZMU.

1.4 Under the TC ATN/OC-13923-BA; BA-T1025, an Impact Evaluation and Ecosystem Services Supply Assessment study (IE-ESSA) was developed to implement a rigorous impact evaluation of the CIP using several distinct evaluation tools, following the logic of the theory of change described below: first, the overall impact on coastal resilience and economic growth is measured with luminosity analysis, where an historical time series of satellite images is used to assess changes in the level of development through time. Second, the effect on the tourism and real estate sector as channels of impact are examined with a focus on increased revenues, occupancy rates, and employment in the tourism and recreation industry, and increases in property values in the real estate sector. Lastly, the assessment of CIP impacts on the supply of ecosystem services, as the output needed to bring about all consequent impacts, relies on a Contingent Valuation (CV) stated preference approach. This approach serves to assess and quantify the benefits, some non-market in nature, which tourists and residents derive from the three sites, particularly those benefits directly related to CIP.[1] Surveys with business owners at CIP and control sites are used to assess changes to regulatory ecosystem services resulting from CIP

1.5 The theory of change (a theory of change represents how a sequence of program inputs, activities and outputs establishes pathways through which impacts are achieved) for this study is described as follows:

1.6 **Activities and Inputs.** The CIP provided investments on three core infrastructure projects, which are the: (i) Rockley to Coconut Court Waterfront Improvement Project; (ii) Holetown Beach Improvement Project, and; (iii) Welches Beach Improvement Project. These infrastructure works are discussed in turn.

1.7 The Rockley to Coconut Court Project included the construction of five landscaped headlands, 1.2 km of boardwalk, revetment and steps, beach sand recharging (10,677 m^3), and 38 meters of breakwater constructed. Through the Coastal Risk Assessment and Management Program (2463/OC-BA; BA-L1014) currently under implementation, a study to assess the feasibility of extending the boardwalk (named the Richard Haynes Boardwalk) by 1.4 km along the shore will be undertaken.

1.8 The Holetown Beach Improvement Project involved the construction of two headlands, a new walkway protected by boulder revetment and recharge of 2,698 m^3 of beach sand. Under BA-L1014, the Holetown Beach boardwalk has since been extended by 1.5 km.

[1] It should be emphasized that the mixed method approach here aims to demonstrate different dimensions of social, economic and environmental value, providing a richer characterization of the impacts of CIP. The values estimated through each analytical approach are not to be summed as this would constitute the double counting of benefits. Furthermore, specifically with regards to the tourism/revenue-based approach and that of contingent valuation (CV), these distinct methods may be used to reality check one another, while the CV study may provide additional insights in a qualitative sense as to what may be driving increased tourism/recreation revenues.

1.9 The Welches Beach Improvement Project included the construction of a retaining wall with a walkway along the seaward edge; access steps to the beach; construction of a revetment along the seaward edge of the roadway and fronting the retaining wall; construction of three new groynes and refurbishing of one existing groyne, and; recharge of 12,000 m^3 of sand.

1.10 **Outputs.** Based on these inputs and activities, the three beaches are expected to have higher coastal resilience in terms of improved protection against erosion and storm damage at targeted beaches. Furthermore, beaches are expected to offer higher quality in terms of physical appearance and available amenities, and increased and safe access to the waterfront.

1.11 **Outcomes.** Outcomes of this higher coastal resilience and improved quality of beaches are two-fold: targeted beaches and the surrounding area should be more attractive to residents and tourists alike; a lower risk of storm- and erosion damage makes these areas more attractive and safer to invest in.

1.12 **Channels of Impact.** Therefore, it is expected that both the tourism and real-estate sector will benefit from investments under the CIP: in the tourism sector, a higher demand for these select beach locations by tourists and residents should result in increased revenue of near-shore facilities offering recreational services. Additionally, the attractiveness of targeted beach locations and a higher coastal resilience along these sections of the shoreline are expected to have a positive impact on property values and thereby improve real estate valuations and income.

1.13 **Final Impact.** Due to the positive effects of CIP on coastal resilience and the resulting stimulation of the tourism and real estate sectors, a significant impact on overall economic growth and development is expected.

1.14 In summary, the **overall** IE-ESSA study seeks to verify that the collective works of shoreline stabilization, beach enhancement and improved public access had the desired impacts as identified by the theory of change. The specific objectives of the study were to:

(i) evaluate the overall impact on economic growth using satellite data on night light density;
(ii) examine the distinct channels through which this impact was likely achieved, focusing on increased revenues, occupancy rates, and employment in the tourism and recreation industry, and increases in property values in the real estate sector; and
(iii) explore the central pathways of program outcomes that generated final project impacts. Using an ecosystem services approach, this will include investigating the CIP impacts on the supply of cultural and aesthetic ecosystem services, as well as regulating ecosystem services, specifically, erosion and storm surge control services.

1.15 In July and August of 2015, during the low tourist season, the IA-ESSA was conducted to quantify the economic impact of the CIP interventions and the ecosystem service benefits tourists, residents and business owners enjoy as a result of the interventions. With regards to the Ecosystem Services Supply Assessment, the subject of these Terms of Reference, a Contingent Valuation study was implemented through surveys with tourists and residents at the three main beaches intervened under the CIP to quantify the values they perceived from the improvements, primarily in terms of cultural and aesthetic ecosystem services. In addition, surveys were conducted with business owners at the three CIP sites as well as 3 control sites to quantify the benefits perceived through the regulatory ecosystem services provided the CIP interventions.

II. Consultancy objective(s)

2.1 The objective of the consultancy is to conduct follow-up surveys of tourists and residents at the CIP sites during the tourism high season to compliment the Ecosystem Service Supply Assessment conducted in July and August of 2015.

2.2 The tourist and resident and business surveys are to be conducted at the three (3) CIP sites. The tourist and resident surveys will specifically support a contingent valuation (CV) analysis

III. Main activities

3.1 The selected candidate will be responsible for carrying out, but not limited to, the following activities:

(i) **Work plan and methods report.** The contractual will prepare a brief work plan/timeline and a methods report. The methods report will detail the basis for sample size selection at each of the three (3) sites, provisions for training and supervision, the approach to data capture and processing, and measures for quality control. A timeline will provide detail on the proposed timing of the survey pilot, survey revision, final implementation, data processing, and reporting. The contractual will be provided with the questionnaire (survey instrument), developed by the project's Environmental Economist, and will provide critical input into: minimizing bias, and enhancing its operationalization in the field.

(ii) **Pilot study.** Conduct a pilot study at each of the three (3) CIP sites to calibrate the survey team; and prepare a brief preliminary report, jointly with the Environmental Economist, documenting the experience and any adjustments made to the methodology or survey instrument as a result of the pilot.

(iii) **Survey implementation.** Implement the final surveys at the three (3) CIP sites.

(iv) **Data processing and Final report.** Process the collected data and prepare a brief final report. The level of data processing will be agreed upon between the

IDB and the contractual prior to the implementation of the surveys. The final report shall describe all steps taken in the generation of the data, include processed and unprocessed data collected through survey implementation, and identify challenges faced and lessons learned, especially where these may affect the quality/reliability of data generated

IV. Reports / Deliverables

4.1 The contractual will submit the following reports to the Bank.

- Work plan and methods report due…….;
- Preliminary report of the pilot study, prepared jointly with the Natural Resource Economist Contractual……; and
- Final report, due…...

4.2 The contractual will submit all supporting documents, reports, tables, databases used for the analysis. All products, reports and documents resulting from this consultancy will be property of the IDB.

V. Payment Schedule

5.1 The consultancy includes consulting fees, fares, taxes and any other costs or expenses necessary for the development of the consultancy

5.2 The payment schedule will be as follows:

- 30% on submission and approval of work plan/timeline and methods report.
- 30% on submission and approval of preliminary report.
- 40% on submission and approval of final report.

VI. Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:* Master's Degree and 15 years' experience or the equivalent combination of education and experience.
- *Languages*: English
- *Areas of Expertise*: Social scientist/economist/environmental specialist
- *Skills*: Survey design and implementation. Excellent oral and written communication skills in English.

Characteristics of the Consultancy

- *Consultancy category and modality*: Products and External Services Contractual, Lump Sum
- *Contract duration*: December/2015 to April/2016 (45 discontinuous days)
- *Place(s) of work*: Barbados

- *Division Leader or Coordinator*: Cassandra Rogers, Disaster Risk Management Lead Specialist (RND/CBA) and Leonardo Corral, Natural Resources Principal Specialist (SPD/SDV) will supervise the consultancy. The contractual is expected to work in close consultation with Natural Resource Economist Contractual. Administrative and coordination support will be provided by the IDB Country Office in Barbados, INE/RND.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

ANNEX A

Regional

CCB/CBA

Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management, (RG-T2675; RG-T2702)

Tourism Surveys – Natural Resource Economist Contractual *(HIGH SEASON FOLLOW-UP to the Impact Evaluation and Ecosystem Services Supply Assessment of Barbados Coastal Infrastructure Investments [ATN/OC-13923-BA; BA-T1025])*

TERMS OF REFERENCE

I. Background

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1.2 Through IDB support, the GOB has: established the legal and institutional framework needed to protect its coast including the establishment of the Coastal Zone Management Unit (CZMU) as the provider of a permanent CZM function fully integrated in public administration; approved a CZM Act, and an ICZM Plan; acquired the technical know-how to assess, monitor and manage complex physical processes that shape its shoreline and contribute to the scenic beauty and recreational value of its beaches; implemented coastal infrastructure works that have successfully controlled coastal erosion, stabilized beaches, improved public coastal access, and; provided tangible economic and social benefits, both by enhancing its international tourism product and direct benefits to local Barbadians. Today Barbados has one of the most comprehensive coastal and marine management programs in the Caribbean and is a recognized best practice model and regional leader.

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process of innovating coastal management, through the implementation of institutional strengthening activities for the CZMU.

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1.10 **Outputs.** Based on these inputs and activities, the three beaches are expected to have higher coastal resilience in terms of improved protection against erosion and storm damage at targeted beaches. Furthermore, beaches are expected to offer higher quality in terms of physical appearance and available amenities, and increased and safe access to the waterfront.

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1.13 **Final Impact.** Due to the positive effects of CIP on coastal resilience and the resulting stimulation of the tourism and real estate sectors, a significant impact on overall economic growth and development is expected.

1.14 In summary, the **overall** IE-ESSA study seeks to verify that the collective works of shoreline stabilization, beach enhancement and improved public access had the desired impacts as identified by the theory of change. The specific objectives of the study were to:

(i) evaluate the overall impact on economic growth using satellite data on night light density;
(ii) examine the distinct channels through which this impact was likely achieved, focusing on increased revenues, occupancy rates, and employment in the tourism and recreation industry, and increases in property values in the real estate sector; and
(iii) explore the central pathways of program outcomes that generated final project impacts. Using an ecosystem services approach, this will include investigating the CIP impacts on the supply of cultural and aesthetic ecosystem services, as well as regulating ecosystem services, specifically, erosion and storm surge control services.

1.15 In July and August of 2015, during the low tourist season, the IA-ESSA was conducted to quantify the economic impact of the CIP interventions and the ecosystem service benefits tourists, residents and business owners enjoy as a result of the interventions. With regards to the Ecosystem Services Supply Assessment, the subject of these Terms of Reference, a Contingent Valuation study was implemented through surveys with tourists and residents at the three main beaches intervened under the CIP to quantify the values they perceived from the improvements, primarily in terms of cultural and aesthetic ecosystem services. In addition, surveys were conducted with business owners at the three CIP sites as well as 3 control sites to quantify the benefits perceived through the regulatory ecosystem services provided the CIP interventions.

II. Consultancy objective(s)

2.1 The objective of the consultancy is to conduct a follow-up CV study of tourists and residents at the three (3) CIP sites during Barbados' tourism high season to compliment the Ecosystem Service Supply Assessment conducted in July and August of 2015.

III. Methodological Approach

2.2 As in the study conducted in July and August of 2015, an ecosystem service-based approach will be taken. The assessment will involve a CV study to estimate the benefits of enhanced cultural and aesthetic ecosystem services, and regulatory ecosystem services where applicable. The methodology will follow that developed in the Work Plan and Methods Report for the first study submitted by the contractual Professor Kevin Boyle (June, 2015), and the survey to be implemented will be the same (subject to confirmation by the IDB Team) as that implemented in the first study. Surveys will be implemented by another contractual, the survey specialist, at the three CIP improvement sites identified above.

IV. Main activities

The selected candidate will be responsible for carrying out, but not limited, the following activities. All activities will be undertaken in close consultation with the IDB Project team.

(i) *Work plan and methods report.* The report will include a work plan with timeline and a description of methods following Boyle (2015). With regards to the cultural and aesthetic services and the CV study, the methods report will provide detail of the experimental design including the policy scenario, attributes to be considered, payment vehicle and how the pilot and final survey will be coordinated with the survey specialist. The report will include a draft of the full CV study questionnaire, which will follow that developed by Boyle (2015).

(iii) *Pilot survey and preliminary report.* The contractual will collaborate with the survey specialist to implement a pilot study to calibrate the survey team. Actual implementation of the pilot will be undertaken by the survey specialist. A brief preliminary report will be drafted by the contractual with input from the survey specialist documenting any adjustments to the methodology as a result of the pilot.

(iv) *Conduct surveys and process data.* The contractual will collaborate with the survey specialist as needed for the surveys to be implemented. The survey specialist will provide the contractual with an excel file of the survey data.

(v) *Data analysis.* The contractual will analyze the data to estimate values held by tourists and local residents of the CIP improvements.

(vi) *Final report.* The final report will document the methodological approach, analysis of the data, results and key messages. The final report will include guidance on how the approach developed and applied here could be applied to other tourism and coastal infrastructure investments in the region, ex-post.

V. Reports / Deliverables

4.1 As detailed under in Section III, the contractual will produce the following:

(a) Work plan and methods report due…..

(b) Preliminary report due…….

(c) Final report due……..

4.2. The contractual will provide all supporting documents, questionnaires, reports, tables, databases used for the analysis.

4.3. All products, reports and documents resulting from this consultancy will be property of the IDB and the dates established for product delivery.

VI. Payment Schedule

The consultancy includes consulting fees, fares, tolls, taxes and any other costs or expenses necessary for the development of the consultancy, to be paid as follows:

- 20% of submission and approval of the work plan and methods report.
- 35% on submission and approval of the preliminary report.
- 45% on submission and approval of the final report.

VII. Qualifications

- A*cademic Degree / Level & Years of Professional Work Experience*: Master's Degree or equivalent and a minimum of fifteen years of relevant experience or the equivalent combination of education and experience. PhD in the Social Sciences/Economics preferred.
- *Languages*: English
- *Areas of Expertise*: Social scientist/economist with international experience in quantitative and qualitative research methods, environmental/ecosystem service valuation, specifically, stated preference and choice modelling, as well as avoided cost/damage approaches.

VIII. Characteristics of the Consultancy

- *Consultancy category and modality*: Products and External Services Contractual, Lump Sum

- *Contract duration*: December/2015 to April/2016 (23 discontinuous days)
- Place(s) of work: The contractual's home base with one field visit to Barbados.
- *Division Leader or Coordinator*: Cassandra Rogers, Disaster Risk Management Lead Specialist (RND/CBA) and Leonardo Corral, Natural Resources Principal Specialist (SPD/SDV) will supervise the consultancy. The contractual is expected to work in close consultation with Survey Specialist Contractual. Administrative and coordination support will be provided by the IDB Country Office in Barbados and INE/RND.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

ANNEX A

Regional

CCB/CBA

Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management (RG-T2675; RG-T2702)

Development of an Index and Incentive Mechanism for Disaster and Climate Resilient Integrated Coastal Zone Management

TERMS OF REFERENCE

1. Background

1.1. For over three decades, the Inter-American Development Bank (IDB) has been at the forefront of policy development and public sector investments in Integrated Coastal Zone Management (ICZM) in the Caribbean. For example, through a collaboration with the Government of Barbados (GOB) since 1982, coastal management in Barbados has undergone a significant evolution that has contributed to a thriving tourism industry that is the core of the country's economy. Through support provided by four investment programs,[1] technical assistance and knowledge products, the GOB has established the legal and institutional framework needed to protect its coast; acquired the technical know-how to assess, monitor and manage complex physical processes that shape its shoreline; and implemented coastal infrastructure works that have successfully controlled coastal erosion, reduced vulnerability to storms, stabilized beaches, and improved public coastal access. The latter impacts were realized primarily through the Coastal Infrastructure Program (1386/OC-BA). These interventions have had significant impact and provided tangible economic and social benefits both to its international tourism product and to local Barbadians.[2] Barbados now has one of the most comprehensive ICZM programs in developing countries, and the program is recognized as a regional best practice model.

1.2. This ICZM success model has already attracted interest from several member countries in LAC for Bank support in the implementation of permanent, sustainable, innovative and state-of-the art solutions to coastal management. In response, new Bank-financed projects, ranging from the economic valuation of ES, prioritization of these services for ecosystem-based risk reduction and climate change adaptation (CCA) (e.g. coral reef restoration to protect beaches, green/soft coastal engineering, real-time ocean and coastal monitoring and community science for CCA) are being piloted in The Bahamas,[3] Jamaica,[4] Trinidad and

[1] Coastal Conservation Pre-Investment Program (Loan 571/OC-BA); Coastal Conservation Program – Phase I (856/OC-BA); Coastal Infrastructure Program (1386/OC-BA); Coastal Risk Assessment and Management Program (2463/OC-BA, under implementation).

[2] For example, six years after the completion of coastal infrastructure works in the south coast of Barbados, under 1386/OC-BA, which included a 1.2 km boardwalk, restaurants and hotels along the shoreline have reported up to 60% increase in business; and it is reported that real estate values have also increased. The boardwalk is also a major recreational area.

[3] Feasibility Studies for a Climate Risk Resilient Coastal Zone Management Program (ATN/OC-14251-BH; ATN/OC-14250-BH) and Ecosystem-based Development for Andros Island (ATN/OC-14719-BH).

Tobago[5] and Haiti.[6] In the case of The Bahamas, disaster and climate-resilient ICZM combined with a pilot ecosystem-based development plan for Andros Island, the first of its kind in the Caribbean, are being developed as a comprehensive approach to national economic development planning. The latter approach in particular has the potential to yield new investment operations for small island and low-lying developing states through a package of complementary projects that will be coordinated at a high-level within the framework of the National Economic Development Plan for The Bahamas.

1.3. Similar initiatives are also being implemented in Latin America. For example in 2013, the Bank approved the "Program to Support the Sustainable Development of the Department of San Andrés, Providencia and Santa Catalina Archipelago" (3104/OC-CO), which includes a component for "improving coastal infrastructure and incorporating coastal erosion risk management in physical planning." This followed a bilateral knowledge exchange visit to the coastal zone management program in Barbados by government officials from the State of Providenciales in Colombia.[7] In Belize ICZM approaches are being integrated in tourism planning in coastal areas and low carbon development for islands.[8]

1.4. The increasing interest in these groundbreaking interventions in ICZM in LAC reflects the growing number of threats to coastal development and sustainable economic growth, such as: (i) unplanned urban expansion and industrial development; (ii) ecosystem degradation and associated loss of ES; (iii) land use conflicts and (iv) natural disasters and climate change impacts including sea level rise. In addition, Bank interventions in ICZM, including those pilot projects referenced in para 2.4, face challenges related to: (i) effectively assessing and valuing the services of coastal and marine ecosystems for ICZM, (ii) innovation in engineering for coastal resilience, (iii) coastal risk governance, (iv) financial sustainability of coastal investments and (v) a lack of knowledge and capacity required to effectively execute ICZM programs. In order to address these threats and challenges, emerging trends in ICZM focus on resilience and ecosystems-based management, a multifunctional approach that promotes (i) CCA and disaster risk management; and (ii) the provisioning of ES co-benefits, such as the ability of mangroves to both mitigate climate change as a carbon sink and to stabilize coastlines.

1.5. This approach also has wide ranging applications and high potential replicability throughout the coastal regions of LAC. However, the technical knowledge, lessons learned and successes of the Bank's experience in ICZM in LAC have not to date been documented and published in a comprehensive or systematic manner. In order for the Bank to highlight and maintain its leadership role, competitive edge and to keep pace with the latest science and innovation in this dynamic field, it is timely to: (i) document the Bank's contribution to date and share the relevant technical knowledge, including empirical evidence in ICZM; and (ii) develop and promote the use of new instruments (an ICZM Performance Index and a proposal for an incentive mechanism for investment in disaster and climate-resilient ICZM)

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[4] The "Adaptation Program and Financing Mechanisms for the Pilot Program for Climate Resilience Jamaica" (3381-SX-JA) and "Integrated Management of the Yallahs River and Hope River Watersheds" (GRT/FM-14607-JA) both include climate-resilient integrated watershed management. In the context of small island states, this approach is very closely aligned with ICZM.

[5] Feasibility Studies for a Risk-Resilient Coastal Zone Management Program (ATN/OC-13961-TT).

[6] The "Sustainable Coastal Tourism Program" (3383/GR-HA) includes beach and mangrove restoration, as well as technical studies to assess vulnerability to natural disasters and climate change and water availability.

[7] The Governments of Trinidad and Tobago and Grenada have also conducted such visits, and a request from the Government of The Bahamas is being processed.

[8] Sustainable Tourism Program II (BL-L1020, in preparation) and Caribbean Climate Smart Islands Program (ATN/OC-14811-RG).

that may secure the Bank's long-term leadership in the field and catalyze state-of-the-art investment innovation in LAC through the application of emerging approaches in ICZM.

1.1 The general objective of the Technical Cooperation (TC) is to catalyze sustainable, replicable and innovative investments in disaster and climate-resilient ICZM.[9] The specific objectives are to: (i) consolidate and disseminate the IDB's successful experience in supporting the sustainable use of coastal and marine resources in LAC through ICZM; and building on this, (ii) create new tools to secure the Bank's long-term leadership in the field and support state-of-the-art ICZM investment innovation (i.e. natural capital approaches,[10] ecosystem-based disaster and climate resilience, financial sustainability).

1.2 This consultancy refers to the services of a consulting firm to implement the following activities under Component 2 of the TC: (i) development of an ICZM performance index to measure and monitor ICZM performance of individual countries throughout the region and (c) preparation of a proposal for an incentive mechanism to catalyze investment in disaster and climate-resilient ICZM in member countries.

2. Consultancy objective(s)

2.1 The objective of the consultancy is to produce two new mechanisms to help generate demand for innovative ICZM investments: (1) an ICZM Performance Index and (2) a proposal for incentive mechanism. The consultancy will build upon the work conducted under Component 1 ("ICZM Knowledge Consolidation and Dissemination") of this TC, which will document and disseminate evidence of best practice in ICZM through survey work, technical reports and dissemination events.

2.2 The ICZM Performance Index and proposal for an incentive mechanism will be developed in close collaboration with Bank staff; and will be guided by a technical advisory committee (TAC) consisting of a panel of regional and national experts and stakeholders in ICZM.

3. Main activities

3.1 The consultant will:

a) Review the Technical Report, Technical Note and Working Paper on disaster and climate-resilient ICZM in the Caribbean prepared under Component 1 of the TC and other documentation related to the consultancy;

[9] ICZM is defined as "a continuous and dynamic process by which decisions are made for the sustainable use, development and protection of coastal and marine areas and resources...multipurpose oriented: it analyzes implications of development, conflicting use, and interrelationships among physical processes and human activities, and it promotes linkages and harmonization between sectoral coastal and ocean activities." The main goals of ICZM are: "sustainable development of coastal and marine areas, to reduce vulnerability of coastal areas…and to maintain essential ecological processes, life support systems and biological diversity" (Cicin-Sain and Knecht 1998).

[10] Natural capital is defined as the "living and non-living components of ecosystems – other than people and what they manufacture – that contribute to the generation of goods and services of value for people" (Guerry et al 2015). For example, biodiversity hot spots, such as coral reefs, attract international tourism in snorkeling and scuba-diving.

Design an ICZM Performance Index:

i. Review relevant regional and international indices (e.g. Ocean Health Index[11], Indicators of Disaster Risk and Risk Management[12], Environmental Democracy Index[13], Environmental Performance Index[14] and The Coastal Resilience Tool[15]);
ii. On the basis of the review, prepare a draft research methodology for designing the index. The index is to be developed on the basis of several justifiable indicators of best practice ICZM and is to be validated through implementation in two (2) pilot countries;
iii. Participate in an inception workshop in order to present the methodology to the TAC to obtain feedback and to agree on the design process;
iv. Implement the agreed methodology; as part of this process the consultant will participate in at least two (2) workshops organized by the Bank in order to provide periodic updates and obtain technical feedback on progress from the TAC and Bank project team;
v. Present a draft version of the index to Bank staff and the TAC;
vi. Prepare a second draft of the index incorporating the comments of the TAC and Bank staff;
vii. Apply the second draft index to two pilot countries to be agreed with the Bank and the TAC. The consultant will prepare a guidance document including TOR to carry out the assessment in individual countries;
viii. Prepare the final version of the index, incorporating the lessons learned from the pilot testing, as well as a proposal for the development of a digital and interactive platform to host the index. The final versions will be in English and Spanish.

b) Design an incentive mechanism:
i. Review relevant examples of incentive mechanisms to catalyze investment in disaster and climate-resilient ICZM, this review may include incentive mechanism examples from outside of the ICZM field, provided those lessons learned are applicable to sustainable coastal and marine resource management and engage the private sector;
ii. On the basis of the review, prepare a draft research methodology for designing the incentive mechanism. The mechanism is to be designed based on several justifiable characteristics of effective incentive structures for sustainable investment in ICZM, supported by empirical evidence and validated by key stakeholders and experts;
iii. Participate in an inception workshop in order to present the methodology to the TAC to obtain feedback and agree on the design process;

[11] A collaborative effort from more than 65 scientists/ocean experts and organizations such as the National Center for Ecological Analysis and Synthesis, Sea Around Us, Conservation International, National Geographic and the New England Aquarium: http://www.oceanhealthindex.org/
[12] Developed by the IDB: http://www.iadb.org/en/topics/natural-disasters/disaster-risk-indicators/disaster-risk-indicators,1456.html
[13] Developed by the Access Initiative and World Resources Institute: http://www.environmentaldemocracyindex.org/
[14] A joint project of the Yale Center for Environmental Law & Policy and the Center for International Earth Science Information Network at Columbia University: http://epi.yale.edu/
[15] A collaborative effort lead by the Nature Conservancy: http://coastalresilience.org/

iv. Implement the agreed methodology, as a part of this participate in at least two (2) workshops organized by the Bank in order to provide periodic updates and obtain technical feedback on progress from the TAC and Bank staff;.
v. Present a draft version of the mechanism to Bank staff and the TAC;
vi. Prepare the final version of the mechanism, incorporating comments from the Bank staff and TAC, as well as a proposal for outreach, dissemination and next steps to successfully implement the mechanism in at least two (2) countries. The final versions will be in English and Spanish.

4. Reports / Deliverables

4.1 Every report must be submitted to the Bank in an electronic file. The report should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

a) Work plan, to be submitted two (2) weeks after signing of contract;
b) Draft research methodology for ICZM Performance Index, to be submitted four (4) weeks after signing of contract;
c) Final ICZM Performance Index methodology, incorporating feedback from the inception workshop to be submitted eight (8) weeks after signing of contract.
d) Draft version of the ICZM Index, to be submitted sixteen (16) weeks after signing of contract;
e) Second draft of the ICZM Index, to be submitted twenty (20) weeks after signing of contract;
f) Final ICZM Index, including application to two countries, guidance document, TOR for carrying out assessment and proposal for the development of a digital and interactive platform to host the index, to be submitted twenty-eight (28) weeks after signing of contract;
g) Draft research methodology for incentive mechanism to be submitted thirty (30) weeks after signing of contract;
h) Final research methodology for incentive mechanism, incorporating feedback from the inception workshop to be submitted thirty-four (34) weeks after signing of contract;
i) Draft incentive mechanism to be submitted forty-two (42) weeks after signing of contract;
j) Final incentive mechanism, to be submitted forty-eight (48) weeks after signing of contract.

Payment Schedule

- 10% upon submission and approval of deliverable (a)
- 15% upon submission and approval of deliverables (b-c)
- 30% upon submission and approval of deliverables (d-f)
- 15% upon submission and approval of deliverables (g-h)
- 30% upon submission and approval of deliverables (i-j)

Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:* Consulting firm with at least eight (8) years of demonstrated experience in research design and

implementation and ICZM. Previous experience working in projects financed by multi-lateral or bilateral organizations in the Caribbean is desirable.
- *Languages:* Fluency in English is required. Proficiency in Spanish is desired.
- *Areas of Expertise:* Research design and implementation, ICZM, monitoring and evaluation, design of indices and incentive mechanisms.
- *Skills:* Excellent writing and analytical skills.

Characteristics of the Consultancy

- *Consultancy category and modality:* Products and External Services Firm, Lump Sum
- *Contract duration:* September/2016-September/2017
- *Place(s) of work:* The consulting firm's place of work
- *Division Leader or Coordinator:* The Contractual will report to the IDB Project Team Leader, Cassandra Rogers, RND/CBA (cassandrar@iadb.org). The work will also be monitored by INE/RND and the Project Team.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

ANNEX A

Regional

CCB/CBA

Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management (RG-T2675; RG-T2702)

Organization of a High-level Flagship Event and Production of Multimedia Materials

TERMS OF REFERENCE

1. Background

1.1 For over three decades, the Inter-American Development Bank (IDB) has been at the forefront of policy development and public sector investments in Integrated Coastal Zone Management (ICZM) in the Caribbean. For example, through a collaboration with the Government of Barbados (GOB) since 1982, coastal management in Barbados has undergone a significant evolution that has contributed to a thriving tourism industry that is the core of the country's economy. Through support provided by four investment programs,[1] technical assistance and knowledge products, the GOB has established the legal and institutional framework needed to protect its coast; acquired the technical know-how to assess, monitor and manage complex physical processes that shape its shoreline; and implemented coastal infrastructure works that have successfully controlled coastal erosion, reduced vulnerability to storms, stabilized beaches, and improved public coastal access. The latter impacts were realized primarily through the Coastal Infrastructure Program (1386/OC-BA). These interventions have had significant impact and provided tangible economic and social benefits both to its international tourism product and to local Barbadians.[2] Barbados now has one of the most comprehensive ICZM programs in developing countries, and the program is recognized as a regional best practice model.

1.2 This ICZM success model has already attracted interest from several member countries in LAC for Bank support in the implementation of permanent, sustainable, innovative and state-of-the art solutions to coastal management. In response, new Bank-financed projects, ranging from the economic valuation of ES, prioritization of these services for ecosystem-based risk reduction and climate change adaptation (CCA) (e.g. coral reef restoration to protect beaches, green/soft coastal engineering, real-time ocean and coastal monitoring and community science for CCA) are being piloted in The Bahamas,[3] Jamaica,[4] Trinidad and

[1] Coastal Conservation Pre-Investment Program (Loan 571/OC-BA); Coastal Conservation Program – Phase I (856/OC-BA); Coastal Infrastructure Program (1386/OC-BA); Coastal Risk Assessment and Management Program (2463/OC-BA, under implementation).

[2] For example, six years after the completion of coastal infrastructure works in the south coast of Barbados, under 1386/OC-BA, which included a 1.2 km boardwalk, restaurants and hotels along the shoreline have reported up to 60% increase in business; and it is reported that real estate values have also increased. The boardwalk is also a major recreational area.

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Tobago[5] and Haiti.[6] In the case of The Bahamas, disaster and climate-resilient ICZM combined with a pilot ecosystem-based development plan for Andros Island, the first of its kind in the Caribbean, are being developed as a comprehensive approach to national economic development planning. The latter approach in particular has the potential to yield new investment operations for small island and low-lying developing states through a package of complementary projects that will be coordinated at a high-level within the framework of the National Economic Development Plan for The Bahamas.

1.3 Similar initiatives are also being implemented in Latin America. For example in 2013, the Bank approved the "Program to Support the Sustainable Development of the Department of San Andrés, Providencia and Santa Catalina Archipelago" (3104/OC-CO), which includes a component for "improving coastal infrastructure and incorporating coastal erosion risk management in physical planning." This followed a bilateral knowledge exchange visit to the coastal zone management program in Barbados by government officials from the State of Providenciales in Colombia.[7] In Belize ICZM approaches are being integrated in tourism planning in coastal areas and low carbon development for islands.[8]

1.4 The increasing interest in these groundbreaking interventions in ICZM in LAC reflects the growing number of threats to coastal development and sustainable economic growth, such as: (i) unplanned urban expansion and industrial development; (ii) ecosystem degradation and associated loss of ES; (iii) land use conflicts and (iv) natural disasters and climate change impacts including sea level rise. In addition, Bank interventions in ICZM, including those pilot projects referenced in para 2.4, face challenges related to: (i) effectively assessing and valuing the services of coastal and marine ecosystems for ICZM, (ii) innovation in engineering for coastal resilience, (iii) coastal risk governance, (iv) financial sustainability of coastal investments and (v) a lack of knowledge and capacity required to effectively execute ICZM programs. In order to address these threats and challenges, emerging trends in ICZM focus on resilience and ecosystems-based management, a multifunctional approach that promotes (i) CCA and disaster risk management; and (ii) the provisioning of ES co-benefits, such as the ability of mangroves to both mitigate climate change as a carbon sink and to stabilize coastlines.

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[4] The "Adaptation Program and Financing Mechanisms for the Pilot Program for Climate Resilience Jamaica" (3381-SX-JA) and "Integrated Management of the Yallahs River and Hope River Watersheds" (GRT/FM-14607-JA) both include climate-resilient integrated watershed management. In the context of small island states, this approach is very closely aligned with ICZM.

[5] Feasibility Studies for a Risk-Resilient Coastal Zone Management Program (ATN/OC-13961-TT).

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[7] The Governments of Trinidad and Tobago and Grenada have also conducted such visits, and a request from the Government of The Bahamas is being processed.

[8] Sustainable Tourism Program II (BL-L1020, in preparation) and Caribbean Climate Smart Islands Program (ATN/OC-14811-RG).

that may secure the Bank's long-term leadership in the field and catalyze state-of-the-art investment innovation in LAC through the application of emerging approaches in ICZM.

1.6 The general objective of the Technical Cooperation (TC) is to catalyze sustainable, replicable and innovative investments in disaster and climate-resilient ICZM.[9] The specific objectives are to: (i) consolidate and disseminate the IDB's successful experience in supporting the sustainable use of coastal and marine resources in LAC through ICZM; and building on this, (ii) create new tools to secure the Bank's long-term leadership in the field and support state-of-the-art ICZM investment innovation (i.e. natural capital approaches,[10] ecosystem-based disaster and climate resilience, financial sustainability).

1.7 This consultancy refers to the services of a consulting firm to implement the following activities under Component 1 of this TC: organize a high-level flagship event on disaster and climate-resilient ICZM, including the production of high-impact multi-media materials.

2. Consultancy objective(s)

2.1 The objective of the consultancy is to conceptualize and execute a high-level flagship event to showcase the Bank's experience in ICZM in the Caribbean. The flagship event is expected to sensitize policy makers of the Bank's contribution to ICZM in the Caribbean as well as to increase country knowledge and capacity to effectively implement ICZM programs that consider natural disasters and climate change impacts. The consulting firm will be responsible for the conceptualization and implementation of a flagship event to be identified, including the production of high impact multimedia dissemination materials. Accordingly, close coordination with the project team's communication specialist is critical.

3. Main activities

3.1 The consulting firm will work in close collaboration with the IDB project team including its communication specialist:

a) Review available documentation (e.g. project documents, technical reports, publications) on the Bank's involvement in ICZM in the Caribbean;
b) Participate in an inception meeting with the project team at which options and scope of a flagship event will be discussed;
c) Prepare a detailed draft concept note, implementation plan and budget for the flagship event, including proposed speakers, venue, target audience, dates, etc.;

[9] ICZM is defined as "a continuous and dynamic process by which decisions are made for the sustainable use, development and protection of coastal and marine areas and resources...multipurpose oriented: it analyzes implications of development, conflicting use, and interrelationships among physical processes and human activities, and it promotes linkages and harmonization between sectoral coastal and ocean activities." The main goals of ICZM are: "sustainable development of coastal and marine areas, to reduce vulnerability of coastal areas…and to maintain essential ecological processes, life support systems and biological diversity" (Cicin-Sain and Knecht 1998).

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d) Prepare a final concept note, implementation plan and budget, incorporating the feedback from the project team;
e) Submit draft materials including draft agenda, outline of multimedia materials for the event;
f) Prepare final multimedia materials in English and Spanish, incorporating the Bank's comments;
g) Provide all logistical support prior to and during the event, this includes arranging panels and panelists, invitations to participants, rapporteurs etc.;
h) Prepare a brief report of the major decisions and outcomes of the event and recommendations for future events.

4. Reports / Deliverables

4.1 Every report must be submitted to the Bank in an electronic file. The report should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

a) Work plan, to be completed two (2) weeks after signing of contract;
b) Final concept note, implementation plan and budget, to be completed eight (8) weeks after signing of contract
c) Final agenda and multimedia materials, to be completed sixteen (16) weeks after signing of contract
d) Summary workshop package, including all presentations, agendas and dissemination materials; to be completed thirty-two (32) weeks after signing of contract.

5. Payment Schedule

- 10% upon submission and approval of deliverable (a)
- 20% upon submission and approval of deliverable (b)
- 30% upon submission and approval of deliverable (c)
- 40% upon submission and approval of deliverable (d)

6. Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:* Consulting firm with at least ten (10) years of experience of organizing high-level events. Previous experience working in projects financed by multi-lateral or bilateral organizations in the Caribbean is desirable.
- *Languages:* Fluency in English is required. Proficiency in Spanish is desired.
- *Areas of Expertise:* Event planning and coordination, dissemination and communications, production of multimedia materials

7. Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Firm, Lump Sum
- Contract duration: December/2015 to July/2016
- Place(s) of work: Consulting firm's place of work and at least two (2) visits to the event venue (TBD)

- Division Leader or Coordinator: The Contractual will report to Michele Lemay, INE/RND (michelel@iadb.org). The work will also be monitored by INE/RND and the Project Team.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDB member country.

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

ANNEX A

Regional

CCB/CBA

Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management, (RG-T2675; RG-T2702)

Defined Term Contractual

TERMS OF REFERENCE

1. Background

1.1. For over three decades, the Inter-American Development Bank (IDB) has been at the forefront of policy development and public sector investments in Integrated Coastal Zone Management (ICZM) in the Caribbean. For example, through a collaboration with the Government of Barbados (GOB) since 1982, coastal management in Barbados has undergone a significant evolution that has contributed to a thriving tourism industry that is the core of the country's economy. Through support provided by four investment programs,[1] technical assistance and knowledge products, the GOB has established the legal and institutional framework needed to protect its coast; acquired the technical know-how to assess, monitor and manage complex physical processes that shape its shoreline; and implemented coastal infrastructure works that have successfully controlled coastal erosion, reduced vulnerability to storms, stabilized beaches, and improved public coastal access. The latter impacts were realized primarily through the Coastal Infrastructure Program (1386/OC-BA). These interventions have had significant impact and provided tangible economic and social benefits both to its international tourism product and to local Barbadians.[2] Barbados now has one of the most comprehensive ICZM programs in developing countries, and the program is recognized as a regional best practice model.

1.2. This ICZM success model has already attracted interest from several member countries in LAC for Bank support in the implementation of permanent, sustainable, innovative and state-of-the art solutions to coastal management. In response, new Bank-financed projects, ranging from the economic valuation of ES, prioritization of these services for ecosystem-based risk reduction and climate change adaptation (CCA) (e.g. coral reef restoration to protect beaches, green/soft coastal engineering, real-time ocean and coastal monitoring and community science for CCA) are being piloted in The Bahamas,[3] Jamaica,[4] Trinidad and

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[2] For example, six years after the completion of coastal infrastructure works in the south coast of Barbados, under 1386/OC-BA, which included a 1.2 km boardwalk, restaurants and hotels along the shoreline have reported up to 60% increase in business; and it is reported that real estate values have also increased. The boardwalk is also a major recreational area.

[3] Feasibility Studies for a Climate Risk Resilient Coastal Zone Management Program (ATN/OC-14251-BH; ATN/OC-14250-BH) and Ecosystem-based Development for Andros Island (ATN/OC-14719-BH).

Tobago[5] and Haiti.[6] In the case of The Bahamas, disaster and climate-resilient ICZM combined with a pilot ecosystem-based development plan for Andros Island, the first of its kind in the Caribbean, are being developed as a comprehensive approach to national economic development planning. The latter approach in particular has the potential to yield new investment operations for small island and low-lying developing states through a package of complementary projects that will be coordinated at a high-level within the framework of the National Economic Development Plan for The Bahamas.

1.3. Similar initiatives are also being implemented in Latin America. For example in 2013, the Bank approved the "Program to Support the Sustainable Development of the Department of San Andrés, Providencia and Santa Catalina Archipelago" (3104/OC-CO), which includes a component for "improving coastal infrastructure and incorporating coastal erosion risk management in physical planning." This followed a bilateral knowledge exchange visit to the coastal zone management program in Barbados by government officials from the State of Providenciales in Colombia.[7] In Belize ICZM approaches are being integrated in tourism planning in coastal areas and low carbon development for islands.[8]

1.4. The increasing interest in these groundbreaking interventions in ICZM in LAC reflects the growing number of threats to coastal development and sustainable economic growth, such as: (i) unplanned urban expansion and industrial development; (ii) ecosystem degradation and associated loss of ES; (iii) land use conflicts and (iv) natural disasters and climate change impacts including sea level rise. In addition, Bank interventions in ICZM, including those pilot projects referenced in para 2.4, face challenges related to: (i) effectively assessing and valuing the services of coastal and marine ecosystems for ICZM, (ii) innovation in engineering for coastal resilience, (iii) coastal risk governance, (iv) financial sustainability of coastal investments and (v) a lack of knowledge and capacity required to effectively execute ICZM programs. In order to address these threats and challenges, emerging trends in ICZM focus on resilience and ecosystems-based management, a multifunctional approach that promotes (i) CCA and disaster risk management; and (ii) the provisioning of ES co-benefits, such as the ability of mangroves to both mitigate climate change as a carbon sink and to stabilize coastlines.

1.5. This approach also has wide ranging applications and high potential replicability throughout the coastal regions of LAC. However, the technical knowledge, lessons learned and successes of the Bank's experience in ICZM in LAC have not to date been documented and published in a comprehensive or systematic manner. In order for the Bank to highlight and maintain its leadership role, competitive edge and to keep pace with the latest science and innovation in this dynamic field, it is timely to: (i) document the Bank's contribution to date and share the relevant technical knowledge, including empirical evidence in ICZM; and (ii) develop and promote the use of new instruments (an ICZM Performance Index and a proposal for an incentive mechanism for investment in disaster and climate-resilient ICZM)

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[4] The "Adaptation Program and Financing Mechanisms for the Pilot Program for Climate Resilience Jamaica" (3381-SX-JA) and "Integrated Management of the Yallahs River and Hope River Watersheds" (GRT/FM-14607-JA) both include climate-resilient integrated watershed management. In the context of small island states, this approach is very closely aligned with ICZM.

[5] Feasibility Studies for a Risk-Resilient Coastal Zone Management Program (ATN/OC-13961-TT).

[6] The "Sustainable Coastal Tourism Program" (3383/GR-HA) includes beach and mangrove restoration, as well as technical studies to assess vulnerability to natural disasters and climate change and water availability.

[7] The Governments of Trinidad and Tobago and Grenada have also conducted such visits, and a request from the Government of The Bahamas is being processed.

[8] Sustainable Tourism Program II (BL-L1020, in preparation) and Caribbean Climate Smart Islands Program (ATN/OC-14811-RG).

that may secure the Bank's long-term leadership in the field and catalyze state-of-the-art investment innovation in LAC through the application of emerging approaches in ICZM.

1.6. The general objective of the Technical Cooperation (TC) is to catalyze sustainable, replicable and innovative investments in disaster and climate-resilient ICZM.[9] The specific objectives are to: (i) consolidate and disseminate the IDB's successful experience in supporting the sustainable use of coastal and marine resources in LAC through ICZM; and building on this, (ii) create new tools to secure the Bank's long-term leadership in the field and support state-of-the-art ICZM investment innovation (i.e. natural capital approaches,[10] ecosystem-based disaster and climate resilience, financial sustainability).

1.7. This consultancy refers to the services of a defined term contractual to provide technical and administrative support for the coordination and dissemination of all activities under this TC.

2. Consultancy objective(s)

2.1 The objective of this consultancy is to provide support to the Bank's Environment, Rural Development and Disaster Risk management Division (RND) in the execution of the TC RG-T2675;RG-T2702.

3. Main activities

3.1 The tasks include but are not limited to:

3.2 Provide support for the execution of the TC RG-T2675;RG-T2702. The contractual will work towards three objectives: (i) comparing best practices in disaster and climate-resilient ICZM in the Caribbean, (ii) evaluating the impact and lessons learned from Bank financed investment in ICZM in the Caribbean and (iii) disseminating lessons learned, including via a Regional Workshop and Policy Dialogue and a flagship event. Specific tasks include:

a. Assist in project supervision: this includes the contracting of individual consultants and consulting firms, the coordination and monitoring of activities of firms and individual consultants in line with the Project Execution Plan and Results Matrix; the technical review of project documents; and the updating of Bank monitoring systems;
b. Assist in the preparation of technical studies;
c. Develop presentation material and reports and deliver presentations as requested;
d. Assist in the organizing of meetings, workshops and conferences; and

[9] ICZM is defined as "a continuous and dynamic process by which decisions are made for the sustainable use, development and protection of coastal and marine areas and resources...multipurpose oriented: it analyzes implications of development, conflicting use, and interrelationships among physical processes and human activities, and it promotes linkages and harmonization between sectoral coastal and ocean activities." The main goals of ICZM are: "sustainable development of coastal and marine areas, to reduce vulnerability of coastal areas…and to maintain essential ecological processes, life support systems and biological diversity" (Cicin-Sain and Knecht 1998).

[10] Natural capital is defined as the "living and non-living components of ecosystems – other than people and what they manufacture – that contribute to the generation of goods and services of value for people" (Guerry et al 2015). For example, biodiversity hot spots, such as coral reefs, attract international tourism in snorkeling and scuba-diving.

e. Any other assistance required.

4. Reports / Deliverables [If Applicable]

4.1 Every report must be submitted to the Bank in an electronic file. The report should include cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations.

4.2 The contractual will prepare a work plan every six (6) months, and submit progress reports every three (3) months.

5. Qualifications

- *Academic Degree/ Level & Years of Professional Work Experience*: A minimum of a Master's degree in coastal zone management, disaster risk management, climate change adaptation, coastal engineering, natural resource management, environmental science and policy, economics, biodiversity and ecosystems or a related field, with a least two years of post-graduate relevant experience in analytical research and technical input for projects and programs in coastal zone management/disaster risk management. Experience in the Caribbean in necessary. Previous experience working with multi-lateral development Banks is preferred.
- *Languages*: Fluency in English is required.
- *Skills*: Dynamic individual with capacity to be proactive, work under minimal supervision; strong analytical, planning, organizing and executing skills; attention to detail; ability to work with multicultural and multidisciplinary teams; ability to adjust to multiple demands; ability to write technical reports and excellent communications skills in English.

6. Characteristics of the Consultancy

- *Consultancy category and modality*: Defined Term Contractual, Monthly.
- *Contract duration*: December/2015 to June/2017
- *Place(s) of work*: This consultancy has the option of being developed at IDB Headquarters in Washington, DC or the IDB Country Office in Barbados.
- *Responsible person*: The contractual's work will be monitored by the Bank's Country office in Barbados, under the overall guidance of Cassandra Rogers, Disaster Risk Management Lead Specialist (CASSANDRAR@iadb.org) and with technical support of INE/RND.

Payment and Conditions: Compensation will be determined in accordance with Bank's policies and procedures. The Bank, pursuant to applicable policies, may contribute toward travel and moving expenses. In addition, candidates must be citizens of an IDB member country.

Visa and Work Permit: The Bank, pursuant to applicable policies, may submit a visa request to the applicable immigration authorities; however, the granting of the visa is at the discretion of the immigration authorities. Notwithstanding, it is the responsibility of the candidate to obtain the necessary visa or work permits required by the authorities of the country(ies) in which the

services will be rendered to the Bank. If a candidate cannot obtain a visa or work permit to render services to the Bank the contractual offer will be rescinded

Consanguinity: Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

Diversity: The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

Inter-American Development Bank
VPC/FMP

PROCUREMENT PLAN FOR NON-REIMBURSABLE TECHNICAL COOPERATIONS

Country: Regional	**Executing agency:** Inter-American Development Bank	**Public or private sector:** Public
Project number: RG-T2675; RG-T2702	**Title of Project: Knowledge and Innovation: Disaster and Climate-Resilient Coastal Zone Management**	
Period covered by the plan: 24 months (October 2015 - October 2017)		
Threshold for ex-post review of procurements:	**Non consulting services (in US$):** 0	**Consulting services(in US$): 675,000**

Item Nº	Ref. AWP	Description (1)	Estimated contract cost (US$)	Procurement Method (2)	Review of procurement (3)	Source of financing and percentage		Estimated date of the procurement notice or start of the contract	Technical review by the PTL (4)	Comments
						IDB/MIF %	Local/other %			
		Consulting Services								
		Component 1								
		Tourism Surveys - Survey Specialist	25000	SSS	Ex-Ante	100%	0%	Dec-15		
		Tourism Surveys - Natural Resource Economist	15000	SSS	Ex-Ante	100%	0%	Dec-15		
		Preparation of Technical Note and Working Paper - Technical Report to Inform Technical Note and Working Paper and printing of said Working Paper	74000	IICQ	Ex-Ante	100%	0%	Feb-16		
		Preparation of Technical Note and Working Paper - Working Paper External Peer Reviewers	6000	SSS	Ex-Ante	100%	0%	Dec-16		Two peer reviewers contracted for 5 days each
		Organization of a High-level Flagship Event and Production and Translation of Multimedia Materials	179000	QCBS	Ex-Ante	100%	0%	Dec-15		
		Support for Regional Workshop and Policy Dialogue - 25 country participants' travel and per diem	70000	LCS	Ex-Ante	100%	0%	16-Mar		
		Organization of a High-Level Flagship Event and Production of Multimedia Materials- Staff travel and per diem	6000	LCS	Ex-Ante	100%	0%	16-Apr		
		Organization of a High-Level Flagship Event and Production of Multimedia Materials- Panelists' travel, per diem and honorarium	15000	LCS	Ex-Ante	100%	0%	16-Apr		
		Component 2								
		Development of an Index and Incentive Mechanism for Disaster and Climate-Resilient ICZM	157000	QCBS	Ex-Ante	100%	0%	Sep-16		
		Project Administration								
		Defined Term Contractual (DTC) 18 months	108000	IICQ	Ex-Ante	100%	0%	Dec-15		
		IDB Staff Travel to Conferences - travel, per diem and registration fees	20000	LCS	Ex-Ante	100%	0%	Mar-15		
		Total	**675000**	Prepared by: Kelsey Schueler, INE/RND		Date: 11/4/2015				

(1) Grouping together of similar procurement is recommended, such as computer hardware, publications, travel, etc. If there are a number of similar individual contracts to be executed at different times, they can be grouped together under a single heading, with an explanation in the comments column indicating the average individual amount and the period during which the contract would be executed. For example: an export promotion project that includes travel to participate in fairs would have an item called "airfare for fairs", an estimated total value od US$5,000, and an explanation in the Comments column: "This is for approximately four different airfares to participate in fairs in the region in years X and X1".

(2) **Goods and works:** CB: Competitive bidding; PC: Price comparison; DC: Direct contracting.

(2) **Consulting firms:** CQS: Selection Based on the Consultants' Qualifications; QCBS: Quality and cost-based selection; LCS: Least Cost Selection; FBS: Selection under a Fixed Budget; SSS: Single Source Selection; QBS: Quality Based selection.

(2) **Individual consultants:** IICQ: International Individual Consultant Selection Based on Qualifications; SSS: Single Source Selection.

(2) Country system: include selection Method

(3) **Ex-ante/ex-post review:** In general, depending on the institutional capacity and level of risk associated with the procurement, ex-post review is the standard modality. Ex-ante review can be specified for critical or complex process.

(4) **Technical review**: The PTL will use this column to define those procurement he/she considers "critical "or "complex "that require ex ante review of the terms of reference, technical specifications, reports, outputs, or other items.