

ANNEX A

The Commonwealth of The Bahamas

CSD/RND

Climate-Resilient Coastal Management and Infrastructure Program (BH-L1043) Sustainable Coastal Infrastructure Action Plan

INDICATIVE TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank (“IDB” or “Bank”) is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

Consultancy objective(s)

The objective of this consultancy is to identify needs and opportunities for MOWUD to address coastal and climate risk in the short, medium and long-term; including the necessary tools, training and complementary policy and legislation required to operationalize the plan. While the plan will focus specifically on the MOWUD, it will be important to identify opportunities and synergies for broader advancement of a national ICZM program as a key component of any strategy to address coastal and climate risks.

Main activities

The selected candidate will:

- In consultation with the CPU, PEU and PAC, propose and agree to the appropriate climate change scenarios and projections (key variables, time horizons, etc.). The selected scenarios and projections should strive for maximum applicability in decision-making contexts. This should also include agreement on the key non-climate related stressors that should be included in the assessment
- Based on the agreed scenarios and projections, assess vulnerability and impacts at a national scale. The assessment shall be spatially explicit and of a resolution suitable to the unique archipelagic nature of The Bahamas (e.g. ability to differentiate coastal segments of small islands). The assessment should produce at a minimum hazard maps for The Bahamas.
- Building off the high-level assessment, collaborate with MOWUD to design prioritization tools (processes, methodologies, technical tools) for decision-making on coastal interventions to reduce risk and address climate change. The tools should enable prioritization at a national scale, as well as at a site-specific scale to facilitate prioritization of individual infrastructure projects or coastal segments.

- In collaboration with MOWUD, implement the prioritization tools to develop a prioritized program of works and recommended strategies to address coastal risk and climate change over the short, medium and long term. This process should include training MOWUD on the use of the tools, in order for future updating of the program (i.e., after a natural disaster). The program of works and recommended strategies shall combined represent the Action Plan and should include SMART performance indicators to monitor progress (i.e., erosion reduction, km of adaption projects implemented, km of coast with shoreline management plans, etc.)
- Identify the institutional reforms and policy and legislation needed to operationalize the plan in order to comprehensively address coastal risk and climate impacts (e.g. the role of the CMPU, research and data collection functions, coastal zone definition, delineation of no-build areas and lateral setbacks, coastal development permitting process and any necessary rules for data collection, management and sharing). At this stage, it will be important to consider and identify synergies through this action plan and policy paper to advance the broader context of a national ICZM program
- This consultancy will require extensive consultation with key stakeholders in The Bahamas (MOWUD, MOEH, MoF, OPM, etc., private sector, international NGOs, etc.) to collect information, build consensus around recommendations, ensure the strategy fully reflects the unique context of The Bahamas and gather data. This will include at a minimum, XX trips to The Bahamas, in-person interviews, focus groups, remote interviews and kick-off and wrap-up workshops.

Reports / Deliverables

- Work Plan, including detailed methodology
- Vulnerability and Impact Assessment Report
- Prioritization Tools Report / Guidance Materials
- Sustainable Coastal Infrastructure Action Plan, including policy paper

Payment Schedule

[to be added]

Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:*
- *Languages:*
- *Areas of Expertise:*
- *Skills:*

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual, Lump Sum
- Contract duration: *[In months] or [In days for retainers]*
- Place(s) of work: External consultancy
- Division Leader or Coordinator:

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 contractuels, will not be eligible to provide services for the Bank.

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ANNEX A

The Commonwealth of The Bahamas

CSD/RND

Climate-Resilient Coastal Management and Infrastructure Program (BH-L1043) Building Codes and Coastal and Natural Infrastructure Design Guidance

INDICATIVE TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank (“IDB” or “Bank”) is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

Consultancy objective(s)

The objective of this consultancy is to produce (i) updated building codes for The Bahamas and (ii) design guidance for coastal and natural infrastructure.

Main activities

The selected candidate will:

- Review the current building codes for The Bahamas; Lands and Subdivision Act, 2010¹, The Building Regulations Act 1971 and the Subsidiary Legislation and MOWUD coastal infrastructure design materials and practice.
- Review international best practice in climate resilient building code standards and design guidance, including Regional Energy Efficiency Building Code and Minimum Energy Performance Standards that are currently underway via CARICOM, British Standards (various Parts), The Rock manual - the use of rock in hydraulic engineering (2007), the Shore Protection Manual (1984) and Coastal Engineering Manual (2002, 2011). Additional scientific sources will be used to provide new developments and increased knowledge in this field. Identify local sources of information required for the design of coastal and maritime structures in Bahamas and recommend alternative options. Obtain the basic data relevant to the design of coastal and maritime structures in Bahamas and recommend alternative options.
- Consult with MOWUD, including the PEU, Coastal Protection Unit, DPP and Buildings Department. Consult with other key stakeholders, including: MOEH-BEST and BNGIS. This consultancy should also seek to understand the key issues on Family Islands and

¹ Revisions to the Lands and Subdivision Act are currently pending. The consultant shall coordinate with MOWUD, particularly DPP, to ensure that the documents produced under this consultancy are consistent with latest legislative developments

the procedural differences (both in practice and in law) for development on the Family Islands

- Develop draft recommendations for building code updates and an outline of critical content for design guidance. Building code updates should include legally defensible reference points and information on disaster risk management and climate change
- Conduct a workshop
- Prepare final building codes and design guidance

Reports / Deliverables

- Work Plan
- Draft Report, including draft training materials and workshop materials (agenda, etc.)
- Training Workshops Report
- Final Report, consolidating all training materials and recommendations

Payment Schedule

[to be added]

Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:*
- *Languages:*
- *Areas of Expertise:*
- *Skills:*

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual, Lump Sum
- Contract duration: *[In months] or [In days for retainers]*
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ANNEX A

The Commonwealth of The Bahamas

CSD/RND

Climate-Resilient Coastal Management and Infrastructure Program (BH-L1043) Nearshore Monitoring Program and Information Management System

INDICATIVE TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank (“IDB” or “Bank”) is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

Consultancy objective(s)

The objective of this consultancy is to design and implement: (i) a nearshore monitoring program, (ii) information management plan for coastal risk data and (iii) baseline studies, including the digitization and collation of existing data. It is expected that this consultancy shall collaborate closely with University of The Bahamas to ensure transfer of knowledge and involvement in data generation activities.

Main activities

The selected candidate will:

Task 1: Design and Implement Nearshore Monitoring Program

- Design protocol
 - The consultant shall produce a nearshore data monitoring plan. The consultant shall identify data collection locations, monitoring frequency, parameters, data collection and processing methodologies to be employed along with estimated costs. The monitoring plan should be designed to allow short-term measurements for the purposes of hydrodynamic/wave model calibration/validation covering seasonal variations. It should also recommend long-term measurements. For such long-term measurements, remote access via a telemetry system should be considered (e.g. for access to wave measurements in near real-time). This plan should be developed in close collaboration with MOWUD to ensure it is consistent with existing and planned technical capacity and resources. Consultation with other agencies, such as NEMA, Department of Meteorology, Department of Lands and Surveys and MOEH will also be required.
 - Preliminary hydrodynamic and wave modelling should be undertaken or existing models reviewed by the consultant if it is felt that this will aid the determination of

the most appropriate location for data collection. The consultant should propose an appropriate methodology if this approach is deemed to be unnecessary.

- Consultation is to be undertaken with organization such as NOAA, the UK Met Office or other institutions to determine if a common goal can be achieved when collecting such oceanographic data. For example long-term wave monitoring may prove useful for validation of hindcast and forecasting wave models used by these organizations.
 - Investigation of potential funding streams for long-term monitoring should be investigated and a plan put forward with a breakdown of future funding, maintenance and data processing requirements
 - Based on prior analysis of priority data gaps, the monitoring plan shall cover, at a minimum: (i) wave and current data, (ii) water-level/tidal data, (iii) beach profiles and (iv) sediment analysis.
 - Determine temporal and spatial resolution of beach profile surveys required. The temporal resolution should be at least twice a year to capture seasonal changes. The spatial resolution will likely vary based on the beach characteristics and management requirements. Develop a risk index using consideration of examples from international best practice.
 - Define a consistent datum to be used for all topography and water level information
 - Determine the standard tidal levels to allow the position of parameters such as Mean Water Level, Mean High Water Springs and Mean Low Water Springs etc. on the beach profile to be identified. This will allow the movement of a defined shoreline position to be tracked over time.
 - Determine how the collection of grain size data can be best incorporated into the beach profile surveys.
 - Consider how LIDAR and aerial photographs can be used to supplement beach profile data.
 - Identify an appropriate geodatabase software to collate all the beach surveys, sediment size, aerial photographs and LIDAR data. Determine best practice for the processing and analysis of beach profile and shoreline position data. Consider DSAS (Digital Shoreline Analysis System) or similar to track temporal changes in shoreline position. (See Task 2)
- Implement the program, in close collaboration with MOWUD and UoB.
 - The program shall be implemented at a minimum of three pilot sites, over a period of 3-4 years.

Task 2: Information Management Plan for Coastal Risk Data

- Design information management protocols in close collaboration with BNGIS
- Work with MOWUD and BNGIS to design solution for consolidation of coastal data that is also compatible with MOWUD analytic and software approaches
- Update and maintain information management system over course of program execution (XX years) based on data collection, including under other consultancies
- Conduct a project inception mission to The Bahamas to meet with BNGIS Center in addition to other key stakeholders. The consultants should arrange meetings with local specialists to provide insights into specific issues, to identify potential users of CMIS, to discuss the desired functionality of CMIS, and to facilitate access to critical knowledge, expertise and documentation.

- Review recent studies, data, maps and reports available on hazard, vulnerability and risk assessments completed for The Bahamas. Furthermore, undertake a review of the projects undergoing or that are programmed to be undertaken as part of The Bahamas ICZM Program to ensure potential future uses are understood.
- Review existing spatial Geographic Information Systems (GIS) with respect to their potential relevance for inclusion in CMIS, including software, data attributes and updated protocols, etc. Identify where the key gaps are in existence of hardware and software within the key target institutions.

Task 3: Baseline Studies

- Collate and digitize the following existing data sets:
 - Met. Department
 - Aerial photography
 - Satellite imagery
 - Topographic Data
- Build on existing bathymetric data (MOEH, as well as TNC's set from nautical charts?)
- Coastal Asset survey (inventory of existing GOBH-owned coastal infrastructure assets, including ecological assets)
- Sediment resource study

Reports / Deliverables

- Work Plan
- Draft Nearshore Monitoring Program Report
- Final Nearshore Monitoring Program Report
- Draft Information Management Plan
- Final Information Management Plan
- Annual Report 1
- Annual Report 2
- Annual Report 3

Payment Schedule

[to be added]

Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:*
- *Languages:*
- *Areas of Expertise:* Coastal Scientists, local experts,
- *Skills:*

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual, Lump Sum
- Contract duration: *[In months] or [In days for retainers]*
- Place(s) of work: External consultancy

- Division Leader or Coordinator:

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ANNEX A

The Commonwealth of The Bahamas

CSD/RND

Climate-Resilient Coastal Management and Infrastructure Program (BH-L1043) Sustainable Finance for Coastal Risk Management

INDICATIVE TERMS OF REFERENCE

Background

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Consultancy objective(s)

The objective of this consultancy is to produce an actionable finance strategy for sustainable financing of long-term coastal risk management and climate adaptation in The Bahamas.

Main activities

The selected candidate will:

- Consult extensively with key stakeholders in The Bahamas (MOWUD, MOEH, MoF, OPM, etc., private sector, international NGOs, etc.) to collect information, build consensus around recommendations and ensure the strategy fully reflects the unique context of The Bahamas. This will include at a minimum, XX trips to The Bahamas, in-person interviews, focus groups, remote interviews and kick-off and wrap-up workshops.
- Analyze and identify needs and opportunities for financing long-term coastal risk and climate adaptation, including facilitating private sector participation in finance, cost recovery/offset mechanism, and international climate finance and other grant resources
 - Based on the program of works and monitoring program developed under this loan, identify and summarize the cost of addressing coastal and climate risk in The Bahamas over a fixed period of time. This shall include a typology for projects requiring financing
 - Evaluate international and local best practices for sustainable project finance models that can be applied in the context of GOBH, taking into account the particular characteristics of identified priority projects (type, complexity, magnitude, technical complexity and commercial attributes). Best practices should include incorporation of the private sector, cost recovery and strategic use of grant finances.
 - Assess current GOBH policies, institutional and legal frameworks and existing sources of finance
 - Identify finance gaps

- Develop detailed and actionable recommendations for long-term, sustainable finance
 - Procurement and management options for private finance
 - Evaluation models for optimum finance structuring and procurement for coastal interventions
 - Specific finance sources for community-based monitoring and management of natural infrastructure and restoration projects (see for more detail Component 2 – Andros)
 - Reference materials, strategic recommendations and priorities to pursue grant financing
 - Identifies finance targets
- Present the strategy to relevant stakeholders, including development of any associated dissemination materials

Reports / Deliverables

- Work Plan, including detailed methodology
- Draft Report
- Final Report, including PowerPoint presentation and any dissemination materials

Payment Schedule

[to be added]

Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:*
- *Languages:*
- *Areas of Expertise:*
- *Skills:*

Characteristics of the Consultancy

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ANNEX A

The Commonwealth of The Bahamas

CSD/RND

Climate-Resilient Coastal Management and Infrastructure Program (BH-L1043) **Shoreline Management Plans**

INDICATIVE TERMS OF REFERENCE

Background

Established in 1959, the Inter-American Development Bank (“IDB” or “Bank”) is the main source of financing for economic, social and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors of its borrowing countries.

Integrated Coastal Zone Management Framework refers to a national plan that outlines the approach that brings together all decision-making agencies to resolve issues so as to ensure integration among their existing policies and plans to ultimately maintain, restore, and improve the quality of coastal ecosystems and communities they support.

Island Plan refers to a “Land Use Plan” that is required under statute (Planning and Subdivision Act 2010 and Revision in 2015) that is consistent with all National Land Use Development Policies. Article 16 (2c) clearly states the need for each Land Use Plan to designate areas which, for (amongst others) reasons of flooding, erosion, subsidence, instability, other hazards, conservation or other environmental considerations including wetlands, should not be developed. The SMP (see below) shall provide this required information.

Shoreline Management Plan (SMP) is a report that clearly outlines and assesses the risks associated with coastal processes for a specific island. It represents a subset of the Island Plan (Planning and Subdivision Act 2010 Article 16 (2c)). Its aim is to help the Island Plan to identify areas of flooding and erosion risks to people, property and the historic and natural environment. The main objective of a SMP is therefore to propose sustainable long-term management policies for the defined coastal area of each island. These policies are likely to be split into: Improve coastal resilience, Maintain coastal resilience, Set-back or Realignment and Do Nothing approach.

Option Development Reports are reports that will then focus on a specific section of coastline that has been identified within the SMP (ideally if one has been done) as an area which has a lot of interacting processes and requires specific coastal management intervention. The key aim of these reports is to define the best management solution to enact the policy defined in the SMP. The solutions (soft and hard), modelling and development of designs need to be undertaken in a coordinated manner. These solutions will require more detailed cost benefit assessments to justify the preferred management intervention (defined as both soft and hard engineering). If a SMP has been undertaken for this section, the risk/hazard mapping should exist to enable consideration of this in more detail. If an SMP does not (as in some of the cases under the initial loan proposal) risk and hazard mapping will need to be undertaken at this stage.

Individual Coastal Management Interventions covers the specific detailed design and construction or operation of a coastal management intervention.

With reference to the above definitions, there are no examples of an island wide strategy/plan which integrates climate change adaptation and ICZM. However, new planning legislation now includes provision for land use planning, environmental management and the protection of natural resources for New Providence and the Family Islands. This includes the provision of infrastructure and services to the built environment that address the issues of the coastal zone vulnerability and sensitivity to habitat protection, and the establishment of a Town Planning Committee to support this. The Act stipulates that land use plans shall be prepared for each island of The Bahamas and be available for public viewing. The Department of Physical Planning is tasked with creating a comprehensive sustainable plan that balances economic growth, meets the needs of communities and conserves biodiversity of various ecosystems.

It is proposed that in the long term, each Family Island, in addition to New Providence, should have a Shoreline Management Plan which ties into the Planning and Subdivision Act. Initial studies proposed here include undertaking two of these plans, one for New Providence and one for Long Island. These sites have been selected to provide exemplar Shoreline Management Plans which can then be used to develop Shoreline Management Plans for other Family Islands. New Providence and Long Island have been chosen as exemplar islands due to:

- Significant amount of data available (New Providence has the highest concentration of centrally collated data and Long Island has recent data that has been collated post Hurricane Joaquin;
- The contrasting environments and objectives for both sites. This will provide a range of receptors, pathways and outcomes to be explored during development of the Shoreline Management Plans which can then be applied to other sites; and
- New Providence has been identified as a key priority due to its high population density and importance for the national economy.

Consultancy objective(s)

The objective of this consultancy is to produce two separate and fully endorsed Shoreline Management Plans for New Providence and Long Island. The key aim of the Shoreline Management Plans is to provide the shared knowledge base and analytical capacity to support stakeholder interaction, planning and decision making for integrated coastal risk management and climate adaptation. In other words, the Shoreline Management Plans should be a forward planning document to enable climate risk management in the coastal zone.

Main activities

The selected candidate will:

Task 1: Data review, data gap analysis and topographic data collection

- Building on the work that has been undertaken by BNGIS Centre and other GOBH ministries and NGOs, review recent studies, data, maps and reports available on hazard, vulnerability and risk assessments completed for New Providence and Long Island, for the hazards under consideration. Collect and assemble all existing applicable physical,

social and economic data required to complete the assessments, including both relevant hard and digital data (reports and GIS base data). The information collected under other consultancies financed by this Program may also serve as important inputs.

- Collate data on historical natural and anthropogenic hazardous event, their impacts and other data in collaboration with relevant national and regional agencies. Review and assess existing information, drawings, ecological data, hydrological data and monitoring activities that relate to the study area.
- In those instances where the information available to analyze a key issue is insufficient (in availability and/or quality) and where collecting the required information is outside the time and resource scope of this consultancy, the First Interim Report should: (i) clearly identify the encountered information gaps, (ii) briefly describe the nature and scope of the studies required to provide the missing information, and (iii) indicate the importance and urgency of acquiring this information for adequate completion of the risk assessment.
- Definition of the island into Shoreline Management Units (SMUs) based on similar process, environment, issues, land use and interrelated processes.
- Determination of overall objectives of the Shoreline Management Policies for each Island.

Task 2: Hazard Assessment and preparations of Hazard Maps

- The Hazard Assessment will include consideration of both the natural and anthropogenic hazards identified for the study areas and where applicable will take into consideration climate change impacts. These include (but are not limited to) :
 - Storm surges – the consultant will look at the minimum of 1 in 5, 1 in 25, 1 in 50, 1 in 75 and 1 in 200 year return period events. The analysis must be completed at a sufficiently detailed level, so as to enable mapping at a maximum 1:5,000 scale for the entire study area. In addition to the return period events, the analysis will also evaluate an envelope of worst-case scenarios for Category 3 to 5 Hurricanes, with varying parameters such as radius to maximum wind speed, forward speed and track. Storm surge hazard maps that depict predicted inundation areas will be prepared in GIS format for each of the scenarios studied.
 - Coastal erosion – the hazard assessment will consider coastal erosion over the short term (0-20 years), medium term (20-50 years) and long term (50-100 years) including the impacts of project global sea level rise values. Predicted coastal erosion values will be mapped in a GIS-environment.
 - Coastal and inland flooding – will be assessed at the minimum five return periods 1 in 5, 1 in 25, 1 in 50, 1 in 75 and 1 in 200 year return period events. The potential for varying rainfall event scenarios, based on projections from appropriate regional climate change models (downscaling) and differential effects due to the El Niño Southern Oscillation (ENSO) must be taken into account. Flood maps will be prepared in GIS format for each of the scenarios studied at a maximum scale of 1:5000.
- Hazard maps will be produced at the required resolutions (maximum 1:5000 scale maps) in GIS format for the hazard scenarios considered.
- A Hazard Assessment Report will be prepared, describing (i) the methodology utilized to assess the hazards; (ii) a summary of the results and main conclusions of the assessment, and (iii) including the individual hazard maps. In all cases, the consultant shall document the models used, any formula that determine their operation, and their

theoretical basis in the form of a technical reference section in the Hazard Assessment Report.

Task 3: Vulnerability Assessment and preparation of Vulnerability Maps

- Describe the demographic profiles, household characteristics, community structure and other social variables in each of the study areas.
- Using data collated, undertake assessment of potential economic exposure and loss associated with social, economic and environmental characteristics of each area. This is to include (but not be limited to) consideration of the of the following:
 - Residential properties
 - Commercial properties
 - Roads, Airports and other key transport locations
 - Critical infrastructure/services including gas/electricity/water
 - Agriculture
 - Ecological Habitats including an ecosystem service assessment.
- A Geographic Information System (GIS) will be used to compile datasets for overlaying, interpretation and map production.
- The Vulnerability Assessment Report and Maps should convey the analyses, findings and recommendations of the assessment as a well-integrated and logically structured whole. The Report should be strategically oriented, strongly analytical, well-supported, concise and clear.

Task 4: Risk Assessment and preparation of Risk Maps

- Based on the hazards and vulnerabilities determined for different hazard types in Task 2 and Task 3, risks will be computed using damage relations or functions. Results shall be presented as probable damage expressed in a variety of measures, including Average Annual Damage (AAD) and as Damage Exceedance Curves (DEC).
- Preparation of a Hazard Risk Assessment Report. By applying the damage and casualties relations, probable damages and losses for each hazard scenario can be computed.
- The consultant will prepare the risk maps in GIS format at a maximum scale of 1:5,000 for each of the hazard scenarios considered, and for overall multi-hazard risk for each of the identified socioeconomic/industrial sectors.

Task 5: Habitat Process Study and Strategic Environmental Assessment

- When implementing any Coastal Management Activities it is essential that any damage to local habitat is minimized. To achieve this it is important to baseline the existing habitat. The consultant is required to undertake investigations in the form of a Habitat and Process Study, to inform the SEA Environmental Reporting. The consultant should determine the scope of the Study which should include but not be limited to:
 - An assessment of coastal process management sites throughout the study area;
 - An assessment of the hydrodynamic and geomorphological impacts of the suggested policies on the surrounding water bodies;
 - An analysis of habitat extents; and,
 - An assessment of future evolution of the coastal areas and impacts on the relevant habitats.
- The consultant shall undertake a Strategic Environment Assessment to ensure that environmental and possibly other sustainability aspects are considered effectively in the Shoreline Management Plan. This shall be in line with the requirements of the IDB

Environment and Safeguards Compliance Policy (OP-703) in addition to the IDB Disaster Risk Management Policy (OP-760).

Task 6: Option Development

- The consultant shall develop a range of potential options and will score the options on a number of criteria considering economic, social, environmental and technical impacts. This will include as a minimum a high level ecosystem service assessment.
- An economic assessment will be undertaken to determine the leading option(s) for each Shoreline Management Unit (defined under Task 1). This will include consideration of a benefit cost assessment.
- The Consultant is to produce an implementation plan for the preferred policy. This will include but not be limited to:
 - An assessment of the strategic risks and how these are to be managed over the timescale of the strategy.
 - A plan for monitoring this implementation and inform future review and, if necessary, environmental mitigation.
 - Timing of activities including significance of sequencing of works, identification of any triggers for strategic risks and recommended responses to those.
- Each Shoreline Management Unit will also have a financial implementation plan associated which will include:
 - A detailed activity and cost plan for implementation of the proposed works;
 - Consideration of constraints, including present and foreseeable capital funding allocation procedures and local government funding limits; and
 - Identification of any funding contributions required to deliver the policy, determining any risks to implementing long-term capital improvements.

Task 7: Shoreline Management Plans and Stakeholder Engagement

- Produce two Shoreline Management Plans (one for Long Island and one for New Providence) summarizing all the information from the tasks above.
- It is critical that the options and designs are developed with effective participation of key stakeholders throughout the project. To this end, the GOBH intends to conduct a set of consultations that will take place concurrent to the various phases of the consultancy. These will be moderated consultations that will provide opportunities to canvas opinions from communities, non-governmental organizations, private sector associations and potential investors. The consultation is to prepare for a minimum of 3 consultation events

Reports / Deliverables

- Work Plan
- First Interim Report
- Hazard Assessment Report and Maps
- Vulnerability Assessment Report and Maps
- Hazard Risk Assessment Report
- Habitat Process Study and Strategic Environmental Assessment
- Shoreline Management Policies

Payment Schedule

[to be added]

Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:*
- *Languages:*
- *Areas of Expertise:* Shoreline management and strategic coastal planning; Integrated Coastal Zone Management; Coastal engineering and management; Marine and coastal ecology; Economic analysis; Land use and urban planning; Public consultation and facilitation of public participation; Computer modelling specializing in coastal modelling, coastal erosion and flood modelling; GIS analysis; Institutional and legal assessments; Design of ICZM-related policies, standards, tools and techniques; and Preparation of training materials for expert and non-expert audiences.
- *Skills:*

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual, Lump Sum
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The Commonwealth of The Bahamas

CSD/RND

Climate-Resilient Coastal Management and Infrastructure Program (BH-L1043) Coastal Resilience Training Program

INDICATIVE TERMS OF REFERENCE

Background

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Consultancy objective(s)

The objective of this consultancy is to design and implement training programs to improve GOBH’s ability to address coastal risk and climate change.

Main activities

The selected candidate will:

- Consult with MOWUD, including the PEU and Coastal Protection Unit to refine key objectives and outcomes
- Design curriculum and materials for training on:
 - Field surveying
 - Use and maintenance of oceanographic equipment
 - GIS
 - Modelling
- Design a MOWUD new hire training scheme
- Conduct at least (x) training workshops

Reports / Deliverables

- Work Plan
- Draft Report, including draft training materials and workshop materials (agenda, etc.)
- Training Workshops Report
- Final Report, consolidating all training materials and recommendations

Payment Schedule

Qualifications

- *Academic Degree / Level & Years of Professional Work Experience:*
- *Languages:*
- *Areas of Expertise:*
- *Skills:*

Characteristics of the Consultancy

- Consultancy category and modality: Products and External Services Contractual, Lump Sum
- Contract duration: *[In months] or [In days for retainers]*
- Place(s) of work: External consultancy
- Division Leader or Coordinator:

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 contractuels, 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.