##

## **Consultancy to conduct an Integrated Vulnerability and Adaptation Assessment for the Coastal Zone, Water, Agriculture and Fisheries Sectors in Central Belize and South-Central Belize**

### **Project Title:** Fourth National Communication and First Biennial Update Report to

###  the UNFCCC

##### **Project Description**

The Fourth National Communication (FNC) and First Biennial Update Report (BUR) Project aims to provide Belize with the Enabling Activities necessary to prepare and report its FNC and BUR to the United Nations Framework Convention on Climate Change (UNFCCC), with the overall goal to strengthen and maintain the national capacity of the country for continuous fulfilment of its commitments under the Convention and to provide updates on activities undertaken to implement the Convention.

The FNC will supplement the development of institutional climate change responses and enhance national capacities, contributing to raising and incorporating climate change issues into the national development agenda. Additionally, the project will enhance the production of knowledge and information based on national priorities and it will create effective policy dialogue. Strengthening of Belize’s national technical and institutional capacity will assist in mainstreaming climate change activities into sectoral and national development planning priorities identified by sector experts. Furthermore, it will expand and improve on the work carried out for the First, Second, and Third National Communications.

The main components of the FNC project are the: a) national greenhouse gas inventory for the reference years 2015, 2017, and 2019 utilizing the IPCC guidelines; b) integrated vulnerability and adaptation assessments of the impacts of climate change and adaptation measures for key productive/principal growth sectors and priority areas using updated and detailed country specific climate scenarios; c) socialization and mainstreaming of climate change adaptation and mitigation issues and activities; d) preparation of the Fourth National Communication Report for Belize to the Conference of the Parties to the UNFCCC and e) preparation of the First Biennial Update Report for Belize to the UNFCCC. objective of the GEF PPG is to develop the project concept into a full project: Integrated management of production landscapes to deliver multiple global environmental benefits. As described in the project concept (PIF/child project concept note), this project aims to mainstream biodiversity conservation and sustainable land/water management into production landscapes in Belize and build resilience to climate change and addressing threats to biodiversity, and land and freshwater resources degradation.

##### **Scope of Work**

The FNC is partly focused on the assessment of potential impacts of climate change on the most vulnerable development sectors, along with the integration of adaptation measures into the process of national planning and policy formulation to address impacts and vulnerabilities. The assessment will also incorporate development of downscaled climate models with updated climate change vulnerability and impact scenarios, including a socio-economic baseline.

In undertaking this assessment, a strategy will be designed, as applicable, to link and improve the Vulnerability and Adaptation studies with relevant projects or activities that have taken place or are ongoing in order to build upon previous knowledge. Documents on V & A and related works will be reviewed and will form a baseline for the V & A assessment.

The consultancy team is expected to lead a multi-sectoral team in assessing Belize’s vulnerability and developing impact scenarios for the study areas while proposing potential adaptation options and policy options for addressing vulnerability in key sectors. This team is also expected to provide an assessment of possible impacts of climate change on the natural and human resources of Belize based on projected changes in regional and global climate.

Assessment and analysis should utilize the latest scientific methodologies and approaches that are well documented and provide transparent and accessible information. This also includes methods identified in the UNFCCC Secretariat’s Compendium of Decision Tools to Evaluate Strategies for Adaptation to Climate Change which is available from the UNFCCC web site. Additional sources are the regional MACC and CPACC documentation. The relevant regional and global climate models should be used to develop and build climate change scenarios for the vulnerability studies, and to develop downscaled climate models to make projections at local scales.

The analysis is expected to highlight inter alia

* Vulnerabilities to existing weather and climate variability and to projected future climate change.
* Scenarios for future climate based on IPCC and other data, tools and models for the Caribbean.
* Scenarios for future socio-economic and environmental conditions.
* Identification of ecosystems, communities and sectors in Belize likely to be at higher risk to climate change.
* Identification of highly vulnerable zones for each sector.
* Difficulties or barriers to adaptation in critical areas or sectors.
* Opportunities and priorities for enabling adaptation to climate change.

Information should include the direct and indirect effects arising from climate change, allowing for an integrated analysis of the country’s vulnerability to climate change. The outputs of the impact assessments and scenarios will be used to examine the effects of climate change on ongoing national development strategies and plans and develop appropriate policy responses and strategies.

**Specific Tasks and Responsibilities**

Specific tasks will be undertaken in four development sectors, **agriculture, fisheries, coastal zone and water**. The focus of the assessment will be in areas recognized to be the most vulnerable to climate change impacts. Under direct supervision of the Environmental Programme Analyst who at his/her discretion may delegate the responsibility to the Chief Climate Change Officer of the National Climate Change Office for the day to day in-country supervision and monitoring of the consultancy to ensure that the expected outputs are achieved.

The Consultancy Team will perform the following tasks, among others:

* Conduct literature review of existing information that relate to climate vulnerability and impacts in the identified sectors/areas.
* Carry out an Inception workshop and prepare a report based on the findings
* Review and analyse existing policies, programmes, strategies, inter alia, relating to the study sectors/areas in order to determine their effectiveness in addressing the effects of climate variability and climate change.
* In consultation with national stakeholders assess the impacts (positive and negative) of the many disaster and climate change adaptation related interventions both past and current, on the respective sectors/areas and analyse their effectiveness.
* Provide technical assistance and guidance to the sector technical experts and the National Meteorological Service of Belize and gather information from them for compilation in the final output report.
* Collaborate with other sectors conducting/ planning to conduct vulnerability and adaptation assessments of their own, namely the Tourism and Agriculture sectors and Ministry of Works, to avoid replication and provide support wherever possible.
* Assemble and downscale national climate models/ scenarios modelling (2030/2050/2070/2090) for the identified sectors/ areas; downscaled from regional climate scenarios that developed from one global model, GCM. Incorporate results of climate models/scenarios into the V&A Assessment Report.
* Assess the climate change impacts on the four sectors, while identifying their unique and cross-sectoral vulnerabilities to climate risks, including biophysical and socioeconomic impacts
* Assess climate change impacts on gender in the key sectors while identifying their different vulnerabilities to climate risks and their approach to adapting to climate change. (Refer to Gender Responsive National Communication Toolkit)
* Identify necessary adaptation measures and technologies relevant to the studied sectors/areas, in consultation with Key Stakeholders.
* Develop potential adaptation measures and policy recommendations, including possible regulatory measures, based on the results of the vulnerability and impact assessment exercises on the study areas.
* Identify gaps and make recommendations on any adjustments if needed to enhance future V&A studies, both at the organizational and technical levels, for its successful implementation.
* Produce preliminary draft of the Vulnerability and Adaptation Assessment Report detailing the results of the assessment.
* Execute one (1) validation workshop with the participation of key national stakeholders to acquire comments and recommendations regarding the draft report.
* Produce the final draft of the Vulnerability and Adaptation Assessment Report which should include the comments and recommendations acquired from stakeholders.

Information should include the strengths; meaning resilience, as well as weaknesses and vulnerabilities of the baseline (current) conditions of the sectors. Climate model downscaling will also be carried out in site specific regions/areas and the resulting information used to make projections at the local level. These must be linked to climate, environment and socioeconomic baseline conditions of the different national sectors; namely coastal zone, water, agriculture and fisheries. There should be a focus on the identification of traditional knowledge as it relates to adaptation and technology options. The review of existing policies and other legal frameworks will also aid in identifying appropriate adaptation technologies and options. These options will be evaluated and prioritised where appropriate. The vulnerability and adaptation assessments will involve consultation with a variety of stakeholders. Thus, public involvement is important in highlighting vulnerabilities and selecting appropriate adaptation measures.

Assessment of each sector will focus on priority areas/ services/ commodities identified by technical experts for each sector in the Central and South-Central Regions. The consultancy team is expected to adhere to the priorities chosen by the different sectors, as adaptation measures to the vulnerabilities identified are to be adopted to increase resilience against climate change in each sector and make informed decisions for future development plans in terms of these priorities.

Specific tasks will be undertaken in the development sectors to be addressed in the assessment. The consultancy team shall work in collaboration with the different sector experts to integrate any new information, gaps and uncertainties or priorities that may arise or change. The consultants and sector leads must also work along with the National Meteorological Service of Belize in order gather climatic data needed for the assessment and downscaling. Specific activities for each sector include, but are not limited to, those outlined below.

For the Agriculture sector, the consultancy team should:

Review and update agricultural data collected during the preparation of the TNC;

Undertake vulnerability and adaptation studies on economically important crops and other agricultural products, including, but not limited to vegetables and livestock;

Use appropriate models to analyse data collected;

Take into consideration agricultural zones and areas chosen by the Ministry of Agriculture for possible climate models downscaling;

Identify the biophysical and socioeconomic impacts of climate change on food security and demand, and agricultural production and yield;

Identify potential adaptation technology improvements and practical adaptation measures that can be adopted to minimize the effects of climate change on crop and livestock production.

For the Fisheries sector, the consultancy team should:

Review and update fisheries data collected during the TNC;

Review and incorporate priorities identified in the Community Disaster Risk Reduction Fund (CDRRF) revised project application document;

Use appropriate models to analyse data collected;

Take into consideration vulnerable fishing communities identified by the Fisheries Department for possible climate model downscaling;

Identify the biophysical and socioeconomic impacts of climate change on the fisheries sector, especially as it relates to production and yields of the main two commercial species (spiny lobster and queen conch);

Identify possible technological and adaptation measures that can be implemented to minimize climate change effects on the fisheries sector.

For the Water sector, the consultancy team should:

Review and update available hydrology data for ground and surface water;

Collect available data on surface and groundwater potentials and evaluate the biophysical and socioeconomic impacts of climate change on the hydrology in catchment areas, watersheds and rivers in terms of water availability and quality;

Identify the biophysical and socioeconomic impacts of climate change on water demand and security;

Identify and evaluate the most vulnerable watersheds, freshwater, coastal waters and aquifers for possible climate model downscaling;

Identify possible technological and adaptation measures that can be implemented to minimize climate change effects on the water sector;

For the Coastal Zone sector, the consultancy team should:

Review and update data related to coastal zone, coastal ecosystems and services collected for the TNC and other related studies;

Evaluate the biophysical and socioeconomic impacts of climate change on coastal zone development in Belize;

Identify possible technological and adaptation measures, including ecosystem-based adaptation measures that can be implemented to minimize climate change effects on coastal communities and infrastructure to improve coastal protection;

Take into consideration critically vulnerable coastal communities identified by the Coastal Zone Management Authority and Institute for possible climate model downscaling;

Take into consideration the most vulnerable coastal communities to evaluate for vulnerabilities and possible adaptation measures that can be implemented, as well as technological improvements that can be implemented;

Incorporate any previous data that has been collected in terms of vulnerability and adaptation, especially data related to the Sustainable Tourism Program of Belize.

##### **Expected Outputs and Deliverables**

The activities undertaken by the consultancy team will result in the following deliverables:

* Inception Workshop and Report stating methodology, results/findings and conclusions/recommendations for the initial review of the sectors/areas along with a detailed work-plan
* Monthly progress report
* Draft and final report of the V&A assessment for coastal zone, agricultural, water, and fisheries sectors that will include, but not limited to, impact assessment, policy and institutional issues, technical issues, scenarios development, and technical assistance needed
* In soft copy format, submit all raw data and maps acquired from the climate modelling exercise detailing downscaled national climate models/scenarios (2030/2050/2070/2090) for the identified sectors/areas to the NCCO
* Based on the V&A Assessment Final report mentioned above the consultant should provide an Executive Summary of not more than five to ten (5-10) pages in length.
* Submission of a Stakeholder Validation Workshop report

Final Deliverables:

* + Inception Workshop and Report stating methodology, results/findings and conclusions/recommendations for the initial review of the sectors/areas along with a detailed work-plan
	+ Draft report of the V&A assessment for coastal zone, agricultural, water, and fisheries sectors that will include, but not limited to, impact assessment, policy and institutional issues, technical issues, scenarios development, and technical assistance needed
	+ A final report of the V&A assessment for coastal zone, agricultural, water, and fisheries sectors that will include, but not limited to, impact assessment, policy and institutional issues, technical issues, scenarios development, and technical assistance needed
	+ Submission of the following:
		- 1. a Stakeholder Validation Workshop report
			2. Executive Summary of not more than five to ten (5-10) pages in length.
			3. raw data and maps acquired from the climate modelling exercise detailing downscaled national climate models/scenarios (2030/2050/2070/2090) for the identified sectors/areas to the NCCO

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| **Deliverables/ Outputs** | **Estimated Due Date** |  | **Review & Approvals**  |
| Upon receipt and approval by UNDP Belize CO of an Inception Workshop and Report stating methodology, results/findings and conclusions/recommendations for the initial review of the sectors/areas along with a detailed work-plan | **15 Dec 2018** | **20%** | UNDP Programme Analyst  |
| Upon receipt and approval by UNDP Belize CO of a Draft report of the V&A assessment for coastal zone, agricultural, water, and fisheries sectors that will include, but not limited to, impact assessment, policy and institutional issues, technical issues, scenarios development, and technical assistance needed. | **28 Feb 2019** | **35%** | UNDP Programme Analyst  |
| Upon receipt and approval by UNDP Belize CO the submission of the following:* a Stakeholder Validation Workshop report
* Executive Summary of not more than five to ten (5-10) pages in length.
* raw data and maps acquired from the climate modelling exercise detailing downscaled national climate models/scenarios (2030/2050/2070/2090) for the identified sectors/areas to the NCCO
 | **30 Apr2019** | **20%** | UNDP Programme Analyst  |
| Upon receipt and approval by UNDP Belize CO of a A final report of the V&A assessment for coastal zone, agricultural, water, and fisheries sectors that will include, but not limited to, impact assessment, policy and institutional issues, technical issues, scenarios development, and technical assistance needed | **30 Jun 2019** | **25%** | UNDP Programme Analyst  |

##### **Institutional Arrangement**

The consulting firm will be responsible to and report to the Environmental Programme Analyst of UNDP for all correspondence related to this work. The Environmental Programme Analyst at his/her discretion may delegate the responsibility to the Chief Climate Change Officer of the National Climate Change Office for the day to day in-country supervision and monitoring of the consultancy to ensure that the expected outputs are achieved.

The consulting firm, will produce the reports/ deliverables as indicated above. The firm will incorporate comments and inputs from stakeholders, including the Vulnerability and Adaptation Sub-Committee, who will serve as the Technical Working Group. All comments and inputs should be incorporated into the draft report within 15 days of receipt from the contractor. In the absence of comments within the set deadline, the reports are deemed to be approved as recommended by the Technical Working Group.

##### **Duration of the Work**

The consulting firm will work for a period of Sixty working days (60) over a period of Eight (8) months.

##### **Duty Station**

Home Based with two planned missions (estimated ten days in Belize)

##### **Qualifications**

The assignment is expected to be completed by a consulting firm, within its submission the firm must specify the qualifications and experience of each specialist assigned to the team. It is proposed that the team comprise of a team leader with at a minimum of a Master’s Degree in any of the following disciplines: Climatology, Environmental Technology/Sciences, Environmental Management and Policy, Environmental Economics with at least five (5) years working experience in the climate change field and vulnerability and adaptation assessments. Experience in the country sector will be an asset.

The team shall include at a minimum expertise in the fields of (a) Climate Change, (b)Climate Change Modelling, (c) Climate Model Downscaling, (d) Climate Finance or Policy Development. For each specialist proposed, a curriculum vitae must be provided setting out their relevant qualifications and experience. The firm will be able to demonstrate - through the curriculum vitae of its team– its experience with the professional preparation of Vulnerability and Adaptation assessments in different sub-sectors of the coastal zone/water/agriculture/fisheries sectors. At least one member of the team should have experience with the analysis of gender issues.

In selection UNDP will consider:

* Prior Experience in executing Vulnerability and Adaptation assessments for National Communications required.
* Experience in the four key development sectors is preferred (coastal zone/water/agriculture/fisheries)
* Knowledge of climate change, vulnerability and adaptation assessment, downscaling to produce national climate change scenarios and their applications to developing countries.
* Familiarity or experience in using climate modelling software/application required, GCM/MAGIC/SCENGEN/PRECIS application preferred.
* A solid understanding of the gaps and needs for developing/improving vulnerability assessments and technical expertise in the formulation of adaptation options.
* A solid understanding of the institutional arrangements and resources required to carry out the V&A work, and experience utilizing Integrated Vulnerability Assessment methodologies and tools.
* Understanding of climate change and sustainable development issues.
* Strong ability to generate, share and advise on various climate data models for technical and personnel.
* Demonstrated and substantive knowledge on climate change policy and climate finance issues.
* Experience in preparing policy and strategy reports for government officials and provide technical review of reports and relevant documents.
* Ability to work with government and non-government entities, private sector and other stakeholders.
* Involvement in the preparation of National Communications in Developing Countries is preferred but not mandatory (V&A).
* Demonstrated ability of analytical and drafting work.
* Experienced in technical report writing and presentation.
* Excellent oral and written communication skills in English.

**Competencies**

* Ability to conduct research and analysis and strong synthesis skills;
* Ability to think strategically; to express ideas clearly; to work independently or in teams with strong sense of initiative, discipline and self-motivation; to demonstrate a sense of self-assuredness combined with political, cultural and gender sensitivity.
* Must be a team player with excellent interpersonal, communication; report writing and organizational skills and commitment to teamwork.
* Excellent English drafting and communication skills; Spanish would be considered an asset.
* Regional and national knowledge is highly desirable;
* Computer skills including a working knowledge of Word, Power Point, Excel and Access software.

**Criteria for Sellection of best offer**

Combined Scoring method – where the qualifications and experience of the team will be weighted a max. of 70%, and combined with the price offer which will be weighted a max of 30%.

##### **REFERENCE MATERIALS**

**May include but are not limited to**:

* UNFCCC Secretariat’s Compendium of Decision Tools to Evaluate Strategies for Adaptation to Climate Change
* IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation
* UNDP Adaptation Policy Framework
* Gender Responsive National Communications Toolkit

Belize’s Third National Communication to the UNFCCC

A National Adaptation Strategy to Address Climate Change in the Agriculture Sector in Belize

Belize’s Integrated Vulnerability and Adaptation Assessment (2014)

Belize National Climate Change Policy, Strategy and Action Plan (2014)

**RECOMMENDED PRESENTATION OF TECHNICAL PROPOSAL**

For purposes of generating proposals whose contents are uniformly presented and to facilitate their comparative review, a Service Provider here below is given a proposed Table of Contents. Accordingly; your Technical Proposal document must have at least the preferred content as outlined in the RFP Standard Bid Document (SBD).

**S****ubmission of application package**

Proposals are required to submit by email or in 1 sealed envelope clearly labeled **Consultancy to conduct an Integrated Vulnerability and Adaptation Assessment for the Coastal Zone, Water, Agriculture and Fisheries Sectors in Central Belize and South-Central Belize**

**United Nations Development Programme**

**Attn:** Procurement Associate

3rd Floor, Lawrence Nicholas Building. Belmopan

Cayo District, Belize, C.A.

**Tel:** (501) 822-2688, 0467, 4228

**Email:** procurement.bz@undp.org

**Deadline for submission:** Tuesday, October 23, 2018

**Annex 1. Technical Proposal Evaluation Criteria**

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| --- | --- | --- |
| **Summary of Technical Proposal Evaluation Forms**  | **Score Weight** | **Points Obtainable**  |
| **1** | Expertise of Firm / Organization | 30% | 300 |
| **2** | Proposed Methodology, Approach and Implementation Plan | 40% | 400 |
| **3** | Management Structure and Key Personnel | 30% | 300 |
|  | **T O T A L**  | **100%** | **1000** |
|  |  |  |  |
| **Technical Proposal Evaluation (FORM I)** |   |   |
| **Expertise of the Firm / Organization**  | **Points Obtainable** |
| **1.1** | Reputation of Organization and Staff / Credibility / Reliability / Industry Standing  | **30** |
| **1.2** | General Organizational Capability which is likely to affect implementation | **80** |
|  |  - Financial Stability |
|  |  - Loose consortium, Holding company or One firm |
|  |  - Age/size of the firm |
|  |  - Strength of the Project Management Support |
|  |  - Project Financing Capacity |
|  |  - Project Management Control |
| **1.3** | Extent to which any work would be subcontracted (subcontracting carries additional risks which may affect project implementation, but properly done it offers a chance to access specialized skills.) | **10** |
| **1.4** | Quality assurance procedure, warranty | **30** |
| **1.5** | Relevance of: | **150** |
|   |  - Specialized Knowledge |
|   |  - Experience on Similar Programme / Projects |
|   |  - Experience on Projects in the Region |
|   |  - Work for UNDP/ major multilateral/ or bilateral programmes |
|   | **S U B T O T A L** | **300** |
|   |  |  |  |
| **Technical Proposal Evaluation (FORM II)** |   |   |
| **Proposed Methodology, Approach and Implementation Plan**  |   |
| **2.1** | To what degree does the Proposer understand the task? | **50** |
| **2.2** | Have the important aspects of the task been addressed in sufficient detail? | **20** |
| **2.3** | Are the different components of the project adequately weighted relative to one another? | **10** |
| **2.4** | Is the proposal based on a survey of the project environment and was this data input properly used in the preparation of the proposal?  | **30** |
| **2.5** | Is the conceptual framework adopted appropriate for the task? | **100** |
| **2.6** | Is the scope of task well defined and does it correspond to the TOR? | **100** |
| **2.7** | Is the presentation clear and is the sequence of activities and the planning logical, realistic and promise efficient implementation to the project? | **90** |
|   | **S U B T O T A L** | **400** |
| **Technical Proposal Evaluation (FORM III)** |   |   |
| **Management Structure and Key Personnel** |   |   |
| **3.1** | **Team Leader** |   |
|  | General Qualification |   |
|  | Suitability for the Project |   |
|  |  - International experience  | **30** |
|  |  - Professional experience in the area of specialization | **50** |
|  |  - Knowledge of Belize | **10** |
|  |  - Language qualification | **10** |
|  | **S U B T O T A L** | **100** |
| **3.2** | **Specialist 1** |   |
|  | General Qualification |   |
|  | Suitability for the project |   |
|  |  - International experience | **30** |
|  |  - Professional experience in the area of specialization | **50** |
|  |  - Knowledge of Belize | **10** |
|  |  - Language qualification | **10** |
|  | **S U B T O T A L** | **100** |
| **3.3** | **Specialist 2**  |   |
|   | General Qualification |   |
|   |  Suitability for the project |   |
|   |  - International experience | **30** |
|   |  - Professional experience in the area of specialization | **50** |
|   |  - Knowledge of Belize | **10** |
|   |  - Language qualification | **10** |
|   | **S U B T O T A L** | **100** |
|  | **TOTAL (3.1+3.2+3.3)** | **300** |
|  | **Aggregate**  | **1000** |