Empowered lives.
Resilient nations.

GOVERNMENT OF GRENADA

MINISTRY OF AGRICULTURE, LANDS, FORESTRY, FISHERIES AND THE ENVIRONMENT

TERMS OF REFERENCE (TOR)

for the

PREPARATION OF GRENADA'S SECOND NATIONAL COMMUNICATION REPORT TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

(UNDP PIMS # 3340)

TABLE OF CONTENTS

Contents

Acronyms

CCCCC	Caribbean Community Climate Change Centre
CDEMA	Caribbean Disaster Emergency Management Agency
CDMP	Caribbean Disaster Management Programme
CIMH	Caribbean Institute for Meteorology and Hydrology
COP	Conference of the Parties
CPACC	Caribbean Planning for Adaptation to Climate Change Project
CREDP	Caribbean Renewable Energy Development Programme
CRMI	Caribbean Risk Management Initiative
FNC	First National Communication
GCOS	Global Climate Observation System
GEF	Global Environment Facility
GHG(s)	greenhouse gas(es)
GRENLEC	Grenada Electricity Services Ltd
IPCC	Inter-governmental Panel on Climate Change
KP	Kyoto Protocol
LEAP	Long range Energy Alternatives Planning System
MACC	Mainstreaming Adaptation to Climate Change
MEAs	Multilateral Environmental Agreements
MALFFE	Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment
MP	Montreal Protocol
NaDMA	National Disaster Management Agency
NAWASA	National Water and Sewage Authority
NCCC	National Climate Change Steering Committee
NCSA	National Capacity Self-Assessment Project
NCSP	National Communications Support Programme
NEA	National Executing Agency
NGOs	Non-governmental organisations
RCC	UNFCCC's Regional Collaboration Centre in Grenada
SIDS	Small Island Developing States
TNA	Technology Needs Assessment
UNCCD	United Nations Convention on Desertification and Drought
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UWI	University of the West Indies
V&A	Vulnerability and adaptation
VCA	Vulnerability and Capacity Assessment

MINISTRY OF AGRICULTURE, LANDS, FORESTRY, FISHERIES AND THE ENVIRONMENT

PREPARATION OF GRENADA'S SECOND NATIONAL COMMUNICATION (SNC) REPORT TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

TERMS OF REFERENCE FOR CONSULTING FIRM

1 Background

Global warming and the impacts associated with climate change have been gaining increasing recognition as a phenomenon of significant concern particularly to small island developing states (SIDS) like Grenada. Emissions of greenhouse gases (GHGs) from the combustion of fossil fuels, and from other sources, have been identified and acknowledged as the main causative agents.

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992 and entered into force on March 21, 1994 as an international response to global warming and climate change. The Convention sets out a framework for action aimed at stabilizing atmosphere concentration of GHGs in order to avoid "dangerous anthropogenic interference" with climate system. As a supplement to the UNFCCC, the Kyoto Protocol (KP) was entered into force on February 16, 2005. The Protocol sets legal binding targets and timetables for cutting GHG emissions and establishes flexible mechanisms to assist countries in meeting their national targets.

Cognizant of the implications of climate change in its pursuit of sustainable development, Grenada became a signatory to the UNFCCC on 3 December, 1992 and ratified the Kyoto Protocol on 6 August, 2002. Article 4, paragraph 1 and Article 12, paragraph 1, of the UNFCCC provide for each Party to report to the Conference of the Parties (COP) information on national activities related to climate change. The scope of the information to be provided in the national communication includes:

1) information on its emissions by sources and removal by sinks of all greenhouses gases not controlled by the Montreal Protocol (greenhouse gas inventory);

2) national or, where appropriate, regional programmes containing measures to mitigate, and to facilitate adequate adaptation to climate change; and

3) Other information that the Party considers relevant to the achievement of the objectives of the Convention.

Grenada utilised decision 10/CP.2 to prepare its First National Communication (FNC) Report. This was completed and submitted to the UNFCCC in November 2000[1] with the aid of technical and financial support from the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF). Preparation of the Communication occurred in two phases.

[1] Available at http://unfccc.int/resource/docs/natc/grnnc1.pdf

2 Review of the First National Communication (FNC) Report

Chapter 1 details relevant information with regards to national circumstances and for the most part it complies with the guidelines for National Communications in 10CP/2.

Chapter 2 presents the National Greenhouse Gas Inventory and Abatement Strategy. These were undertaken in accordance with Article 4.1 (a) of the UNFCCC which requires all parties to the Convention to carry out a complete assessment of their anthropogenic emissions and removals of greenhouse gases (GHGs). Grenada has calculated anthropogenic GHG emissions and removals by sinks with a base year of 1994 based on the Inter-governmental Panel on Climate Change (IPCC) Revised 1996 Guidelines for National Greenhouse Gas Inventories. Estimations of GHG emissions were made for the following sectors:

- Power/electricity
- Road transport
- Marine transport
- Manufacturing and construction
- Residential, institutional and commercial
- Forestry reserves
- Waste disposal

It was recommended the following actions be undertaken to improve subsequent GHG inventories:

- Initiate appropriate measures to ensure that the information gaps identified are filled with the relevant and updated information/data. This could be achieved by the improvement of existing databases at the Customs and Excise Department, the Central Statistical Office and the Inland and Revenue Departments.
- Assess the options for capturing annual production and consumption data on primary fuels (firewood, charcoal, coconut and nutmeg shells, sugar cane products, and the like). This assessment can be done by the Energy Unit, working along with the Ministry of Finance (Central Statistics Department) and the MALFFE. This can include a survey to determine with greater accuracy the levels of fuel wood and charcoal consumption, and the impact that this is having on Grenada's natural forest reserves.
- Collaborate with other regional countries in the development of emissions factors for activities that emit greenhouse gases, which will more accurately reflect the practices in the region. This will include a review of emissions factors for activities already reported in this initial inventory, as well as the development of emissions factors for activities not included in this initial inventory.

Chapter 3 deals with the vulnerability and adaptation to climate change issues. This section identified potential impacts on the water resources, agriculture and fisheries, coastal zone, tourism and human health as the main areas of Grenada's vulnerability to climate change, noting the latter required particular attention in future research. Adaptation measures and options were also presented. It notes that there is a need for investigation of the effects of a changing climate on human health, and the

socioeconomic impacts of climate change, including more comprehensive examination of effects on the tourism sector. Also an examination of the impacts of climate change on the insurance sector, both local and global, needs to be carried out since the region as a whole has seen increases in premiums, and refusals of the industry to cover certain types of coastal structures.

Chapter 4 considers institutional arrangements for environmental management in the country, specifically the legislative and policy framework. The FNC reported that there was no coordinated policy framework for the management of natural resources in the country at the time[2].

Chapter 5 examined national response measures in the context of future socioeconomic development of the country, recognising the critical need for Grenada to expedite the analysis and implementation of its options to adapt to the adverse impacts of climate change, while fulfilling its obligations under the Convention to reduce greenhouse gas emissions. Identified priorities include:

1. Strengthening the institutional framework
2. Strengthening of the data collection and monitoring systems to facilitate the collection and analysis of data relevant to climate change
3. Development and implementation of a National Energy Plan
4. Provision of tariff and fiscal incentives for the use of renewable technologies
5. Development of national standards for vehicle and industrial emissions
6. Reducing the volume of solid waste going to landfill
7. Elaboration and implementation of a Land Use Policy
8. Implementation of the Forestry Policy
9. Research into flood control technologies
10. Compulsory inclusion of climate change considerations into all national projects being developed in the sensitive sectors
11. Public awareness and education on the climate change in general and the role of the individual in mitigating and adapting to climate change
12. Continuation of the analysis of Grenada's vulnerability to the adverse impacts of climate change with the objective of informing policy response measures

3 Priorities for the Second National Communication (SNC) Report

A number of critical activities to be undertaken as part of the SNC priorities were identified through a national stocktaking exercise. These include:

a) Vulnerability and social impact assessments of:
   - The tourism sector
   - The coastal zone, particularly in relation to sea-level rise. Data available from TNC coastal resilience project and through Climate Change Risk Atlas. [3]

[2] http://www.gov.gd/egov/docs/other/DVRP_%20EIA_March_2011.pdf pages 2-7
[3] http://maps.coastalresilience.org/gsvg/

- The water supply sector, particularly with regards to the vulnerability of the water mains, treatment processes, and private supply wells
- The agricultural sector
- The health sector

b) With regards to disaster risk reduction and susceptibility to extreme events, relevant outcomes from the following and other relevant projects should be included:
   i. Caribbean Disaster Management Project (CDMP), implemented by the Caribbean Disaster Emergency Management Agency (CDEMA)
   ii. Caribbean Risk Management Initiative (CRMI) completed by the United Nations Development Programme (UNDP), particularly noting the Post-Ivan case study and others[4]
   iii. Community Alerts Project: An effective implementation in the Caribbean through integrated Early Warning Systems (UNDP)
   iv. Preserving Nature. Protecting Lives (The Nature Conservancy and the Grenada Red Cross Society), noting the Vulnerability and Capacity Assessments (VCAs) conducted in Marquis, Soubise, Grenville and Telescope
   v. Grenada Disaster Vulnerability Reduction Project (WB – PPCR project)

c) There is a need to review the methane statistics, with the examination of all the landfill deposit sites. A GHG trend analysis should also be performed using 2000 as the base and with inventory data for 2002, 2004, 2006, 2008 and 2010. An abatement analysis should also be conducted.

d) There is a need to improve data collection and analysis and to build capacity for conducting vulnerability analyses. Adaptation was highlighted as key in terms of documented traditional practices for adaptation as well as identifying suitable adaptation options for Grenada as it relates to a changing climate. Public education and awareness was highlighted as key, and it was noted that there may be a need to incorporate mandatory climate change information into the school syllabus.

e) The implementation of the SNC should take into account other related initiatives being undertaken within the MALFFE and in other departments across Government. The MALFFE is the focal point for the United Nations Convention to Combat Desertification (UNCCD) and the Convention on Biological Diversity (CBD), and was responsible for implementing the National Capacity Self-Assessment (NCSA) project. These initiatives should include:
   i. Programme on Integrated Climate Change Adaptation Strategies in Grenada (GIZ/UNDP)
   ii. Pilot Programme on Climate Resilience (PPCR/WB)
   iii. Implementing a Ridge to Reef Approach to Protecting Biodiversity and Ecosystem Functions within and around Protected Area Systems in Grenada (UNDP/GEF)

[4] "Post-disaster Early Recovery in a Caribbean SIDS - The case of Hurricane Ivan in Grenada (2004): Best practices and lessons learned" and "Needs Assessment for Capacity Building in Risk Management and Vulnerability Reduction in the Caribbean Islands of Antigua and Barbuda, Barbados, Cuba, Dominica, and Grenada" http://crmi-undp.org/en/index.php/document-center

f) Linkages with other regional projects should also been exploited. Technical and financial resources available through the Caribbean Community Climate Change Centre (CCCCC) will also be explored, so that all issues are effectively incorporated in to the SNC process.

g) As the MALFFE is the focal point for the UNFCCC and several other Conventions, consideration of cross-cutting issues should be incorporated into the SNC. This should include consideration of information sharing and exchange mechanisms across the various committees responsible for implementation of activities related to multilateral environmental agreements (MEAs). The stakeholder matrix outlines the interest and the role of various ministries and institutions *(Appendix 1).*

4 Project Objectives

The principal objective of the current project is to prepare Grenada's Second National Communication Report (SNC) to the UNFCCC in keeping with Article 12 of the Convention. In so doing, it will reflect on the findings and recommendations contained in the FNC and revealed through the national stocktaking exercise. In particular the project will, inter alia:

a) Prepare a national communication report consistent with the requirements of the UNFCCC;
b) Formulate a national data collection, reporting and analysis framework that would institutionalise the GHG assessment process and the ease of preparation of future Communications to the UNFCCC; and
c) Propose further developmental activities and climate change projects for implementation.
d) Facilitate capacity building between the Consultant and the relevant government agencies.

4.1 Project Sub-Components and Scope of Services

The scope of SNC project and the required outputs are detailed in the six (6) sub-components which follow.

Chapter 1: National circumstances

The SNC will provide climate data, environmental data and the latest socioeconomic data of Grenada. The development plans of Grenada will also be included in the national circumstances chapter[5]. The background data on Grenada is necessary as it will provide the basis for understanding the vulnerability

[5] E.g. Grenada's Growth and Poverty Reduction Strategy 2014-2018 http://www.gov.gd/egov/pdf/GPRS_Draft_2014.pdf

of Grenada to a changing climate. Information related to the institutional arrangements for the preparation of communications will be included along with population data (growth rates, density etc) and the latest data on the economy. There will also be an analysis of the incorporation of climate change activities into local policies activities, and development priorities. The national circumstances will be consistent with decision 17.CP8 of the UNFCCC.

Chapter 2: Greenhouse gas (GHG) inventory

The GHG inventory is one of the major components of the SNC. It provides the background for climate change mitigation activities, and can aid in providing the correct data for the implementation of various government projects.

The GHG inventory for Grenada **has been completed** utilising decision 17/CP.8, with 2000 as the base year for the inventory. GHG inventories will also be conducted for 2002, 2004, 2006, and 2008. This will occur so as to get a comprehensive trend analysis for GHG emissions and will cover all of sources and sinks of the following gases CO_2, N_2O, CH_4, NO_x, SO_x, NMVoC. In addition there will be estimates of HFCs, PFCs and SF_6. The GHG inventory will be determined on the basis of the most recent guidelines of the IPCC. With regards to bunker fuels these will be reported separately as instructed in the Guidelines. The sector and reference approach to estimating emissions will be used.

The IPCC Good Practice Guidance in Uncertainty Management in National Greenhouse Gas Inventories will also be used, so that estimates of the key sources and any uncertainty will be addressed. The IPCC Good Practice Guidance for Land Use Change and Forestry will be used where appropriate. Both sector and reference approaches will be used to improve the inventory, to aid in the removal of uncertainty

There will be cooperation with key organisations such as the MALFFE, Grenada Electricity Services Ltd (GRENLEC), the Energy Division of the Ministry of Finance, the Ministry of Communications, Works and ICT, and the Ministry of Economic Development, Trade, Planning and Cooperatives as they are sources of key data. There are considerable data gaps which have to be filled as there is some private generation of electricity in Grenada.

With regards to emission factors, country specific emission factors will not be developed and IPCC emission factors will be utilised. There will be cooperation with the CCCCC, RCC with regards to emission factors and if regional emission factors are available they will be utilised. RCC has estimated the grid emission factor for the electricity sector of Grenada, this work has been carried out in cooperation with the Energy Division of the Ministry of Finance. The pack with the calculations are being revised by UNFCCC[6].

Training will be important with regards to the inventory. All training opportunities which are available regionally and internationally will be utilised, especially those which are being facilitated through the UNDP National Communications Support Programme (NCSP). Preparation of the SNC will also focus on

[6] https://cdm.unfccc.int/methodologies/standard_base/new/sb8_index.html

enhancing technical and institutional capacity as it relates to the inventory, and establishing an appropriate data collection, reporting and analysis framework with the assistance of RCC.

The major outputs of this component will include inter alia:

- An updated improved greenhouse gas inventory for the years 2000, 2002, 2004, 2006, 2008 and 2010;
- An improved methodology and management framework for the collection, annual reporting, storage and analysis of data;
- Strengthening institutional capacity for greenhouse gas inventories;
- Identification of issues related to inventories, IPCC guidelines and small island developing states;
- Recommendations on areas for improvement for future inventories

The GHGI should be examined to ensure that the recommendations from the FNC were taken into account in its development.

Chapter 3: Vulnerability and adaptation (V&A) analysis

This section should undertake a comprehensive assessment of climate change impacts, vulnerabilities and adaptation options and priority actions on critical ecosystems, sectors and localities.

As a SIDS the vulnerability and adaptation component of this the SNC is extremely important, as it will aid with the identification of possible national climate change adaptation options. The SNC will improve upon previous and current work done through Grenada's Climate Change Policy and Action Plan (2007-2011), Caribbean Planning for Adaptation to Climate Change project (CPACC), and recent development of NAP process. The vulnerability and adaptation outputs of the Mainstreaming Adaptation to Climate Change (MACC) project will also be used.

Capacity building data collection and vulnerability assessment will be key feature of this in this chapter. Cooperation with the CCCCC, the UNDP-NCSP and other international organisations will be considered and utilised to facilitate training of local stakeholders in the development of the required national vulnerability assessments.

The vulnerability studies will be done utilising the latest scientific methodologies. The relevant regional and global models will be used to compose and construct climate change scenarios for the vulnerability and impact studies. Currently there are a number of initiatives through the Caribbean Institute for Meteorology and Hydrology (CIMH), CCCCC and the University of the West Indies (UWI) looking at regional climate scenarios. The outputs of these initiatives will be used to aid in the impact assessments. Where possible quantification of impacts will occur especially as it relates to the impact on social structures and economic activities. The outputs of the impact assessments will be used to examine the effect of climate change on ongoing national development strategies and plans and appropriate policy responses and strategies will be developed closely with the current NAP development and the revised Climate Change policy in 2015.

Appropriate methodological tools will be used for the impact analysis as well as for the identification of adaptation options. Examples of these include:

- IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation
- UNDP Adaptation Policy Framework
- UNEP Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies

Programmes containing measures to facilitate adequate adaptation to climate change

From the stocktaking process and review of the FNC a number of areas have been highlighted for further work, these include inter alia:

- The coastal sector
- The water sector
- The agricultural sector
- The tourism sector
- The social sector and human settlements
- The health sector

Information should include the strengths (resilience) and weaknesses (vulnerability) of the baseline (current) conditions in the country, and the links between climate, environment and socioeconomic baseline conditions of the country such as: agriculture, water resources, coastal resources and marine, food security, energy, industry, terrestrial ecosystems, waste and wastewater, public health, tourism, gender and human settlements/urbanisation/infrastructure.

With regards to the coastal sector there needs to be further and more detailed analysis of the possible effects of sea level rise particularly as it relates to storm surge and coastal erosion. The effect of climate change and its impacts on the social sector in terms of dislocation of human settlements also needs further and more comprehensive analysis, particularly as it relates to the impact of climate-related disasters. The need to define a possible coastal zone management plan since a coastal zone policy has now been developed.

There will be an impact analysis of climate change on the water sector, particularly as it relates to the vulnerability of public supply wells, private supply wells and the mains and treatment processes (waste-water management). In terms of agriculture there will be detailed analysis of the amount of water used in agriculture, and the impacts of climate change and various crops which are cultivated in Grenada particularly as this relates to food security. [7]The impact of climate change and fisheries in SNC for Antigua (2011) and Dominica (2012) include specific chapter on Fisheries should also be examined[8].

[7] http://ccafs.cgiar.org/publications/climate-smart-agriculture-grenada#.VNtuUObF_-o
[8] http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php

The economy of Grenada is now mainly based on services[9] (tourism) thus the impacts of a changing climate on this sector will be examined, not only from the biophysical effects of climate change but from the impact of changing patterns of arrival of tourists due to climatic change.

There will be an analysis of the impacts of climate change and health[10], building on the outputs of regional projects which have looked at the linkages between a changing climate and dengue fever, as well as work of the Pan American Health Organisation (PAHO) as it relates to climate change and health in Grenada and the rest of the Caribbean, further noting the output of the global Climate Change Adaptation to Protect Human Health project[11].

In recent times the Caribbean has developed a methodological approach to climate change adaptation which will be used where appropriate. There will be a focus on the identification of traditional knowledge practices as it relates to adaptation options, and technologies for adaptation. In addition a review of policy and legal frameworks will occur to aid the identification of appropriate adaptation technologies and options. Adaptation options will be evaluated and prioritised where appropriate. There will also be a focus on policy framework for risk reduction as it relates to climate-related disasters.

The vulnerability and adaptation studies will involve consultation with a variety of stakeholders. Public involvement will be important in highlighting vulnerabilities and selecting appropriate adaptation options. The development of the climate change policy was based on FNC, CPACC, NSA, consultations in all parishes, radio shows etc). To avoid a consultation fatigue at community level, the SNC should build as much as possible on the existing and current plans. Capacity building and training will also be an important element in this Project sub-component.

The major outputs of this component will include inter alia:

- Capacity building and training in climate models and various sector impact assessment models
- Vulnerability analysis in key sectors such as energy, tourism, agriculture, health, human settlements and coastal infrastructure
- Capacity building and training related to vulnerability assessment

Programmes containing measures to mitigate climate change

Grenada is not required to undertake emissions reduction commitments; however mitigation activities could provide significant benefits in terms of sustainable development, and energy security. The purpose of this sub-component is to conduct an abatement analysis as well to document initiatives which are already underway to reduce greenhouse gas emissions.

[9] 2013, Global Finance https://www.gfmag.com/global-data/country-data/grenada-gdp-country-report

[10] http://www.who.int/mediacentre/factsheets/fs266/en/
[11] http://www.who.int/globalchange/projects/adaptation/en/

As with many other SIDS Grenada is dependent on imported fossil fuels, which has high associated financial costs and vulnerability to volatile global oil prices. Thus viable options for mitigating climate change will aid in reducing the dependence on imported fuels as well as promoting sustainable energy alternatives.

There will be an updated analysis of Grenada's GHG emission trends and the identification of activities which can aid in emissions reduction. Computer modelling and analysis will be performed using programmes such as Long range Energy Alternatives Planning System (LEAP) with an appropriate capacity building and training element for local stakeholders.

An analysis of the linkage between economic growth and energy costs, as well as of the feasibility of renewable energy technology options for Grenada will be conducted, particularly those which are suitable for small islands. This will include economic and financial analysis, along with market feasibility studies. Issues related to energy conservation and efficiency will also be addressed, including consideration of the outputs generated under the Caribbean Renewable Energy Development Programme (CREDP).

This component will involve key inputs from GRENLEC, the Energy Division, non-governmental organisations (NGOs), UNFCCC-Regional Collaboration Centre (RCC) and the CCCCC. Suitable mitigation projects will be identified.

The outputs of this component will include inter alia:

- Capacity building and training related to mitigation analysis
- Identification of appropriate mitigation technologies, programmes and policies
- Analysis of the true competitiveness of renewable technologies

Chapter 4: National response measures

This section will contain proposed actions for mitigation of and adaptation to climate change based on the findings of the V&A analysis. The outputs of this component will include inter alia:

- Identification of appropriate adaptation policy options and technologies
- An assessment of mitigation options, based on least cost scenarios
- Identification of possible financing options, including GEF6 and the Green Climate Fund (GCF) readiness programme with GIZ/CDB.

Chapter 5: Other information considered relevant to the achievement of the objectives of the Convention

This chapter will provide information on other activities being implemented that contribute to meeting national commitments under the UNFCCC. Work in the areas of the UNCCD and CBD which relate to climate change will be included. The outputs of the NCSA and work related to the Montreal Protocol (MP) will also be discussed. Through the FNC initial issues related to technology needs assessments

have been identified. Information as to how the transfer of technology is occurring in Grenada will be documented. Issues arising from the technology needs assessment will be addressed, and gaps will be filled.

Local efforts with regards to improving climate data related to systematic observation systems will also be considered. The FNC identified technology need requirements related to improving systematic monitoring and observation systems. There are a number of climate modelling efforts which are underway in the Caribbean, which should be documented. There is a need to look at rainfall data and extreme events and the relationship with the El Niño Southern Oscillation (ENSO) under certain climate change scenarios, and this work will be linked to the vulnerability and adaptation components of the SNC.

Local and regional environmental, social and economic legislation and policies will also be examined with regards to their consideration and integration of climate change concerns. Sustainable development plans and policies will also be examined. Capacity building measures at the local and regional levels will also be mention and examined in the context of the capacity building framework under the UNFCCC.

An important area which has been identified in the FNC for further work is that of public awareness and education. One activity currently being developed by UNDP ICCAS and UNEP is the establishment of a website to facilitate information as it relates to climate change and the environment. There will also be a need for the production of climate change information materials. Given that tourism is a key sector of the economy a local hotel will be adopted and an awareness programme for guests and employees on the issue of climate change will occur. This will be related to the overall regional strategy for public education and awareness in the MACC and the CCCCC.

In consultation with the Government the outputs of this component should include inter alia:

- Production of suitable non-existent climate change education material and website
- Additional work on technology related issues
- Information related to integration of climate change into local and regional policies in close collaboration with UNDP ICCAS support through the promotion of CCORAL developed by CCCCC.
- Identification of efforts to improve systematic observation

Chapter 6: Constraints and gaps, and related financial, technical and capacity needs

This component of the SNC will highlight the difficulties and provide information on the constraints and gaps related to the financial, technical and capacity needs of Grenada as it relates to the SNC. Special consideration will be given to those areas which have been reported in the FNC. Technical and financial constraints identified in other chapters will also be presented and expanded upon in this section. Issues related to barriers to the implementation of the UNFCCC and its processes will also be included.

This component will thus look at the status of constraints and gaps from previous work, and new constraints and gaps which may have arisen. Constraints related to technology transfer, and capacity building will also be considered. Ways to overcome these constraints will be identified, along with suggested improvements for the national communications process.

Project proposals, ideas, capacity and technological needs will be documented, along with an analysis drawing from the outputs of other sub-components and other related process such as the NCSA and enabling activities conducted under biodiversity and in other national programme areas. National resources used in the SNC will also be documented.

4.2 Project Duration

The duration of the project is expected to range between 6-8 months aligned with NAP process as illustrated in the indicative project schematic attached *(Appendix 2)*. Accordingly, simultaneous execution of the components is desirable since considerable overlap, interdependencies and complementarities exist among them. The key project outputs to be delivered are referenced in Section 6 and more specifically detailed under the various chapters *(Section 4.1)*.

4.3 Project Execution

To execute the project as described, UNDP will contract a consulting firm that is adequately qualified and with proven experience in relevant environmental disciplines. Key prerequisites include:

- A good understanding of climate change and sustainable development issues;
- Demonstrated knowledge of and capacity to perform assessments in accordance with IPCC guidelines;
- The capacity to conduct climate change vulnerability, adaptation, and mitigation assessments;
- Familiarity with UNFCCC and IPCC technical guidelines, climate models and their application; and
- Previous experience in preparing national communication reports and climate related research.
- Familiarity or experience with the Grenadian context with regards to Climate Change.

The consulting firm will assign the required number of consultants with the appropriate professional profiles to ensure accomplishment of the project, and will designate a Team Leader who will manage and coordinate inputs and activities across all subcomponents.

5 Proposal Preparation and Evaluation

The Consulting Firm is requested to submit a proposal written in English.

The Technical Proposal Form in **Appendix 3** must be signed. Further information required using the forms/formats in the same Appendix and providing the following information:

- A description of the methodology and work plan for performing the assignment;
- Any comments or suggestions on the Terms of Reference including outputs and scheduling; and
- Detailed curriculum vitae for all members of the project team.

The Technical Proposal shall **not** include any financial information.

The Price Proposal, using the forms/formats in **Appendix 4**, shall take into account the requirements and conditions in the TOR and include in their entirety:

- Remuneration
- Reimbursable expenses

The Price Proposal shall be expressed in United States Dollars (USD).

Proposals shall contain no interlineations or overwriting except as necessary to correct errors made by the consultant firm. The persons signing the proposal shall initial any such corrections.

A two-stage procedure shall be used in evaluation of submitted proposals. First, the Technical Proposal will be evaluated.

Technical proposals will be evaluated based on the following criteria:

- Understanding of Services to be Performed (0-15 points)
- Type of Approach and Proposed Methodologies (0-20 points)
- Work Programme and Execution Schedule, and (0-15 points)
  Qualifications and Experience (0-20 points)

Only candidates obtaining a minimum of 49 of 70 points (70%) in the technical evaluation will be considered for the financial evaluation (30%).

The bidder obtaining the highest combined weighted score shall be awarded a contract.

Special attention will be paid to clearly defining the inputs required to ensure satisfactory implementation of the assignment.

The contract will be awarded following evaluation and approval from the Government of Grenada.

6 Schedule of Deliverables

Inception report and detailed work plan: Within 2 weeks of signing the contract and initiation of the consultancy, the firm will submit for the consideration of UNDP and the Government of Grenada (Ministry of Agriculture, Lands, Forestry, Fisheries & Environment) an inception report detailing the

work plan, schedule of activities to be undertaken for the duration of the project, as well as a strategy to involve relevant stakeholders. The work plan will specify the methodologies to be employed in pursuit of satisfying the various objectives and the expected output from each activity; it should expand upon the information provided in the Technical Proposal, and include information on additional research and consultations undertaken.

Inception Workshop: The consultants will conduct an Inception workshop in Grenada after allowance for a period of review of the Inception Report (2 weeks) and, on the basis of the consultation, prepare an updated Inception Report for further review and approval.

Technical Reports: The consultants shall prepare and submit a series of Technical Reports that fit with and deliver on the outputs of the various project sub-components, for review, comment, and acceptance by the SDC. The average review period shall be 2 weeks.

Second National Communication Report: Following review and acceptance of all Technical Reports the consultants shall prepare a draft final SNC Report, including an Executive Summary, for review and acceptance by the SDC with the view of submission to the UNFCCC. Following review the final SNC Report shall be submitted.

Workshops and Training: The consultants shall propose and deliver a series of workshops/training sessions to fulfil the capacity development requirements embedded in the Terms of Reference. Summary reports shall be prepared for each such session.

Progress Reports: The consultants will prepare and submit monthly progress reports to UNDP highlighting progress in project delivery and identifying the major constraints.

In preparation, the consultants shall review:

- UNFCCC reference and training materials for the preparation of national communications[12]
- Grenada's FNC
- Draft chapters of the SNC and the completed GHG inventory
- All relevant existing and draft regulations
- Climate models and scenarios developed by CIMH and CCCCC for the region and relevant analysis for Grenada

All documents must be submitted in English. Deliverables must be submitted in Microsoft Word in English, and the final report in pdf for e-publishing and 3 hard copies.

[12] V&A http://unfccc.int/resource/cd_roms/na1/v_and_a/index.htm
Mitigation assessment http://unfccc.int/resource/cd_roms/na1/mitigation/index.htm
GHG inventory http://unfccc.int/resource/cd_roms/na1/ghg_inventories/index.htm

7 Team profile

The **Team Leader** must satisfy the following *minimum* requirements:

Qualifications

- An advanced degree (PhD preferred) in climate change, environmental technology/sciences, energy, or other directly related fields

Experience

- 10 years' field and/or research experience relevant to the environment field
- 5 years project management experience
- Familiarity with national communication processes under the UNFCCC, preferably having engaged in a similar process previously
- Knowledge of technical guidelines of IPCC on climate change in all aspects of vulnerability and adaptation processes
- Scientific publications in the corresponding area are an asset
- Good knowledge of the institutional framework of infrastructure risk management and the policy framework in Grenada

Skills

- Demonstrated analytical and technical reporting skills
- Excellent written and oral English
- The ability to work with a wide variety of people from government, agencies, NGOs and research institutions

The team leader will also responsible for, in addition to his/her assigned tasks as part of the expert consortium:

- Drawing up work schedules for related activities in consultation with the SNC team
- Promoting and encouraging active participation of local stakeholders in the activities
- Reporting any implementation problems to the MALFFE/UNDP oversight team in a timely manner
- Prepare and submit monthly progress report for submission to the MALFFE/UNDP oversight team
- Conduct other project related duties, which shall be determined by MALFFE/UNDP (prepare presentations, participating and attending relevant workshops/seminars, etc.)

The **group of experts** responsible for supporting the Team Leader in drafting the SNC Report should include expertise in the following or closely related areas:

- Environmental/development economics and policy
- Social development policy
- Climatology/climate modelling

- Agrohydrometeorology
- Energy/industrial engineering

The team of proposed experts must demonstrate their adherence to the following *minimum* requirements:

Qualifications

- An advanced degree (PhD preferred) in climate change related, environmental technology/sciences/engineering or other directly related fields

Experience

- At least 5 years of relevant field and/or research experience
- Familiarity with national communications processes under the UNFCCC
- Substantial knowledge of vulnerability, adaptation and mitigation (including assessment models, methods and tools)
- Sound and broadly-recognised international/regional scientific expertise on climate change research relevant to the different sectors

Skills

- Demonstrate ability of analytical and drafting work
- Have good understanding of the institutional framework in the country
- Have the ability to work with a wide variety of people from government, agencies, NGOs and research institutions
- Excellent written and oral English

The consultant firm shall propose middle level or junior staff as deemed necessary to satisfactorily and efficiently complete the required tasks.

8 Administrative arrangements

The Consulting Firm will be required to work from its office and use its equipment in delivery of the requested services. The Team Leader will report to the UNDP Programme Manager for Energy, Environment and Climate Change, and the national focal point for the UNFCCC. UNDP and the focal point will have oversight for the coordination and monitoring of the consultant firm's work.

Additional support from the Government of Grenada will include the sourcing and make available relevant national reports and other documentation where such is required, as well as facilitate all arrangements for meetings and workshops.

Appendix 1: Indicative National Stakeholder Matrix[13]

Name of institutions/stakeholders consulted	Stakeholder interests, official position or mandate	Reasons for inclusion	Role in the SNC process
MALFFE and its Divisions: • Environment • Agronomy • Fisheries • Forestry • Land Use • Biotechnology and research • Pest management	Implementing agency and operational focal point for GEF UNFCCC, CBD and UNCCD focal point Responsible for development of agriculture and collection of data Development of agricultural projects. Assist with rural development Implementation of national Agricultural and Forestry Policies Development of Coastal Zone Policy and draft road map Chair of National Climate Change Committee	Responsible for: • Preparation of the first national communications and submission to the conference of the parties • Daily management of the environment in Grenada • Addressing issues of climate change • Provision of agricultural, environmental and other data on projects and for impact and vulnerability studies	Convening workshop and process Implementation of SNC and assessment process Identification of agricultural data which will be required for SNC VA&A, and capacities required Technical advisory role
Meteorological Office	Collection of meteorological data for analysis. Provision of meteorological services	Required to provide background for vulnerability studies work	Identification of data required for vulnerability studies Technical advisory role Identification of capacity building requirements
Physical Planning Unit, Ministry of Communications, Works, Physical Development, Public Utilities, ICT and Community Development	Implementation of the Physical Development Plan, Building Codes and Guidelines Land development control Maintenance of the GIS	Required for background for land use practices with reference to vulnerability studies	Data collection for vulnerability and adaptation studies

[13] Please refer to Stakeholder Matrix in the Project Document

Grenada Ports Authority	Management of critical infrastructure susceptible to sea level rise, and provision of data as it relates to tourism arrivals	Required for information related to vulnerability studies	Identification of data requirements
GRENLEC	Sole electrical generating utility responsible for production and distribution of electricity	Critical to the greenhouse gas inventory and abatement strategy	Key data provider for greenhouse gas inventory
NAWASA Grenada Solid Waste Management Authority	Management and distribution of water. Maintenance of distribution infrastructure Responsible for the management of human waste	Provision of data for vulnerability studies in the water sector Environmental health matters related to waste treatment and disposal	Provision of data and identification of capacities required for vulnerability work Provision of data regarding waste treatment and disposal
National Disaster Management Agency (NaDMA)	Disaster management, coordination and response	Identification of areas susceptible to climate change, vulnerability and risk	Provision of data, public awareness and preparation for climate change impacts
Ministry of Economic Development	Management of economic issues and affairs	The effect of climate change on the economy	Background data for national circumstances
Civil Society	Major NGO, environmental group	Advocacy and awareness relating to climate change and general environmental issues	Public awareness on climate and identification of local activities related to climate change
Ministry of Education and Human Resources	Management of education issues in Grenada	Education and climate change issues and syllabus requirements	Public awareness and education strategies as it relates to climate change
Energy Division, Ministry of Finance	Responsible for the collection of energy data	Required to provide data in the energy sector. Responsible for renewable energy projects	Provider of data, and identification of capacity requirements
Ministry of Tourism, Civil Aviation and Culture Grenada Airports Authority	Responsible for management of international transport sector	Data on international transport sector - airplanes, shipping, etc	Provision of data on transport sector
Media & Press	National newspaper/tv station	Increasing public awareness with regards to climate change	Public awareness
Caribbean Youth Environment Network (CYEN) Grenada	Promotes environment and development education and awareness in youth	Involved in many projects which relate to environment, development and climate change	Public awareness and education in youth

Centre for Environmental Resource and Management Studies (CERMES), UWI	Provider of post graduate course in climate change	Identification of climate change vulnerability issues and greenhouse gas issues	Identification of capacity requirements and data needs
Food and Agricultural Organisation	Aid in improving agriculture in Grenada	Provision of data and technical services with regards	Identification of capacity requirements for V&AA

Appendix 2: Indicative Project Execution Schedule

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Activity															
Develop workplan and budget															
Form SAP development team and hire consultants															
Training Workshop on the SAP Process		*													
Strategic thinking workshop 1 (Visions and Gaols)		*													
Strategic thinking workshop 2 (Ideas and opportunities and options)				*											
National and regional consultation process															
SAP Drafting process															
Final SAP review meeting												*			
Review by Steering Committee													*		
SAP endorsement															

* Denotes a meeting or workshop

Appendix 3: Technical Proposal

A. Technical Proposal Submission Form
B. Project References
C. Format of Curriculum Vitae (CV)
D. Comments on the Terms of Reference
E. Methodology and Work Plan

Please note that Section 3 is intended for use as the Technical Proposal comprising of the Technical Proposal Submission Form which must be signed; together with References; comments or suggestions on the Terms of Reference; a description of the methodology and work plan for performing assignment; and the consultant teams' CVs.

Please note that the contents of Appendices 3 and 4 must be submitted in electronic format as indicated in the procurement notice guidelines.

A. Technical Proposal Submission Form

[*Location, Date*]

To:

RE: Request for Proposals for the Preparation of Grenada's Second National Communications Report to the United Nations Framework Convention on Climate Change (UNFCCC); Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment

Through the undersigned, [*Name of Consulting Firm*] offers to provide Consultancy Services in accordance with your Request for Proposals. We hereby submit this Proposal, which includes a Technical Proposal, and a Price Proposal as indicated in the procurement notice submission guidelines.

If negotiations are held during the period of validity of the Proposal, i.e., before [*Date*] we agree to undertake to negotiate on the basis of this proposal. This proposal is binding and subject to the modifications resulting from Contract negotiations.

We agree to abide by the Proposal for a period of 90 calendar days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted any time before the expiration of that period.

Unless and until a formal Agreement is prepared and executed this Proposal together with written notification of award and our acceptance thereof shall constitute a binding contract between us and the Government of Grenada.

We understand that UNDP is not bound to accept any Proposal.

Dated this ……..day of ……..2015

Signature ……..in the capacity of ……..

Duly authorised to sign the Proposal for and behalf of:

(NAME, IN CAPITALS) ……..

ADDRESS .....

TELEPHONE NO ……..

B. Project References

Using the format below, provide information on at least three (3) assignments for which you were legally contracted or provided similar services.

<table>
<tr><td colspan="2">Assignment Name:</td><td>Country</td></tr>
<tr><td colspan="2">Location within country:</td><td></td></tr>
<tr><td colspan="2">Name of Client:</td><td>No. Months</td></tr>
<tr><td colspan="2">Address:</td><td></td></tr>
<tr><td>Start Date (Month/Year):</td><td>Completion Date (Month/Year):</td><td>Approx. Value of Services (in US$):</td></tr>
<tr><td colspan="3">Name and contact information of Project Director/Coordinator or Team Leader:</td></tr>
<tr><td colspan="3">Narrative Description of Project:</td></tr>
<tr><td colspan="3">Description of Actual Services Provided:</td></tr>
</table>

C. Format of Curriculum Vitae (CV)

Name: _____

Profession: _____

Date of Birth: _____ Nationality: _____

Membership in Professional Societies: _____

Key Qualifications:

[Give an outline of experience and training most pertinent to tasks on assignment. Describe degree of responsibility held on relevant previous assignments and give dates and locations].

Education:

[Summarize college/university and other specialized education, giving names of schools, dates attended and degrees obtained].

Employment Record:

[Starting with present position, list in reverse order employment held for last 10 years. List all positions giving dates, names of employing organization, title of positions held and location of assignments. For experience in last ten years, also give types of activities performed and client references, where appropriate].

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this biodata correctly describe my qualifications, my experience and myself.

Signature: _____ Day/Month/Year: _____

Appendix 4: Price Proposal

A. Price Proposal Submission Form
B. Summary Cost

Section 4 is intended for use as the Price Proposal comprising of the price proposal form which must be signed along with the summary costs which must be completed.

Please note that Appendices 3 and 4 must be submitted in electronic format as indicated in the procurement notice guidelines.

A. Price Proposal Submission Form

[*Location, Date*]

To:

RE: Request for Proposals for the Preparation of Grenada's Second National Communications Report to the United Nations Framework Convention on Climate Change (UNFCCC); Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment

Through the undersigned, [*Name of Consulting Firm*] offers to provide Consultancy Services in accordance with your Request for Proposals (Technical and Price Proposals submitted separately). The attached Price Proposal is for the sum of [*Amount in words and figures*].

This Price Proposal shall be binding upon [*Name of Consulting Firm*] subject to any modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e. [*Date*].

Deliverables (payment tranches)	No of days	Amount (USD)
Inception report		
National circumstances		
Vulnerability and adaptation analysis		
National response measures		
Capacity building workshops		
Final SNC report		
TOTAL		

The following two forms must be submitted covering the entire project. The totals of both forms should correlate with the total in the above table.

FORM 1 – BREAKDOWN OF REMUNERATION[14]

Position title[15]	**Number of person days[16]**	**Rate per person day in USD[17]**	**Total cost in USD**
	[office]	*[office]*	
	[field]	*[field]*	

[14] Form 1 shall be filled for the same professional and Support Staff listed in your technical proposal.
[15] Key experts should be indicated individually; Other experts and support staff should be indicated per category (e.g.
[16] Position of the professional staff shall coincide with the ones indicated in the technical proposal.
[17] Indicate separately the rate per man day at the office or "in country / field"

Position title[15]	Number of person days[16]	Rate per person day in USD[17]	Total cost in USD

FORM 2 – BREAKDOWN OF OTHER EXPENSES

Quantity	Description[18]	Unit	Unit cost in USD[19]	Total cost in USD
	Per diem allowances	night		
	International flights	trip		
	Equipment, instruments, materials, supplies, etc.			
	Reproduction of reports			

Commissions and gratuities, if any, paid or to be paid by [*Name of Consulting Firm*] to agents relating to this Proposal and Contract execution, if awarded the Contract, are listed below:

[18] Delete items that are not applicable or add other items according to the consultant's technical proposal.
[19] Indicate unit cost and currency

Name and Address of Agents	Amount and Currency	Purpose of Commission or Gratuity

Yours sincerely,

Signature of Team Leader/Head of Company
Address