Government of Guyana

UNDP Project Document

United Nations Development Programme

ENABLING ACTIVITIES FOR THE PREPARATION OF GUYANA'S SECOND NATIONAL COMMUNCIATION TO THE UNFCCC

Brief description

This project will allow Guyana to prepare its Second National Communication to the Conference of Parties of the United Nations Framework Convention on Climate Change. The activities within the second national communication are a continuation of work which was started in the initial national communication. The main components of the project are (a) An inventory of greenhouse gases, (b) Programmes containing measures to facilitate adequate adaptation and mitigation to climate change (c) An analysis of measures for greenhouse gas abatement and (d) Information related to the implementation of the UNFCCC.

The project will aid in building capacity related to climate change in Guyana as well as enhancing public awareness with regards to climate change. It will also facilitate placing climate change issues higher on the national agenda and increase the involvement of all stakeholders on issues related to climate change.

April 2007.

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Acronyms

CARICOM	Caribbean Community
CCCCC	Caribbean Community Climate Change Centre
CDERA	Caribbean Disaster Emergency Response Agency
CPACC	Caribbean Planning for Adaptation to Climate Change
CRDEP	Caribbean Renewable Energy Development Programme
GEF	Global Environmental Facility
GHG	Greenhouse Gas Inventory
INC	Initial National Communication
IPCC	Intergovernmental Panel on Climate Change
MACC	Mainstreaming Adaptation to Climate Change
NCSA	National Capacity Self Assessment
SNC	Second National Communication
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

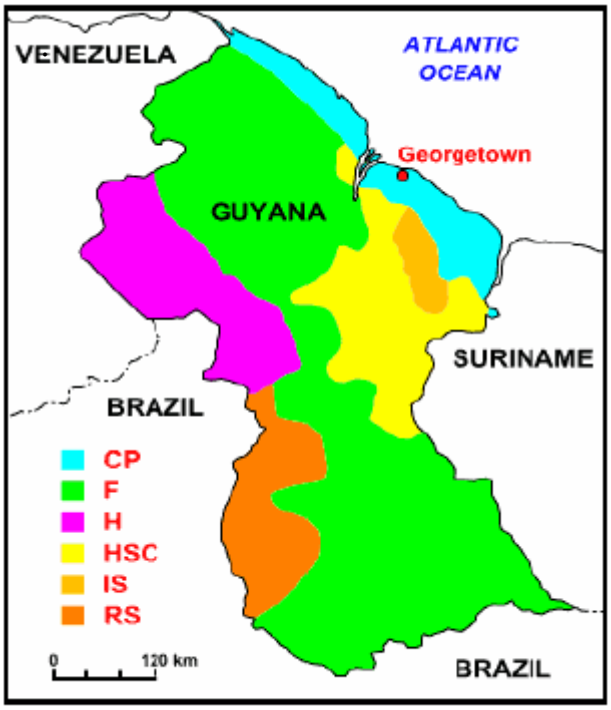
1. Elaboration of the Narrative

1.1 Situation Analysis

Guyana is a tropical country, situated on the northeastern coast of the continent of South America between 1°N-9 °N latitude, and 56°W-62°W longitude. It is bounded on the north by the Atlantic Ocean, on the east by Suriname, on the south and southwest by Brazil and on the west by Venezuela. Guyana occupies a total landmass of approximately 216,000 km^2 and has a coastline that is about 434 km long and a continental extent of about 724 km. The population of Guyana is approximately 750,000, thus Guyana has a very low population density less than 4 persons per km^2.

About 35 percent of the country lies within the Amazon Basin. There are three main rivers –the Essequibo, Demerara and Berbice - which all drain into the Atlantic Ocean. Guyana has five natural geographic regions and these are:

(i) The Coastal Plain, CP
(ii) The Hilly Sand and Clay Region, HSC
(iii) The Highland Region, H
(iv) The Forested Region, F and
(v) The Savannah Regions, Rupununi RS and Intermediate IS



Geographical Regions

The Coastal Plain lies on the northern edge of the country. The width of this region varies from 77 km in the east to 26 km in the western Essequibo region. Topographically this region is virtually flat and, comprising heavy fluvio-marine clays. It is prone to flooding during the rainy season. The coastal plain is the hub of economic activities in Guyana and 90 percent of the total population inhabits this region. The main urban centres are found within the coastal plain. The coastal plain is low-lying and highly vulnerable to sea level rise. The hilly and sandy region starts at an area 40-75 km. south of the coast of Guyana, while the Pakaraima Mountains form a part of the extensive Guiana Highlands that covers an area of 1,300,000 km^2 in Guyana, Venezuela and Brazil. Approximately 76% of Guyana's land area is covered in forest, with forest covering the entire length of the country. The savannahs consist of the Intermediate Savannah and the hinterland or Rupununi Savannah. The Intermediate Savannah in the eastern part of the country lies between the Coastal Plain and the Hilly Sand and Clay region. The larger interior or Rupununi Savannah is located in the southwest of Guyana.

There is a high level of rainfall variability in Guyana and the seasons and climate are determined mainly by this variability. Generally, there are two wet and two dry seasons. The first wet season is from mid-April to the end of July, while the second wet season is from mid-November to January. The periods in between are often referred to as the primary dry (long) season and secondary (short) dry season respectively. (B.D.Seulall, August 2005). Guyana can be divided into climatic regions ranging from dry (annual rainfall less than 1788 mm) to extremely wet (annual rainfall greater than 4100 mm). The major weather system is the Inter-tropical Convergence Zone (ITCZ) and the major climate system is the El Niño Southern Oscillation (ENSO).

Guyana received its independence from the United Kingdom of Great Britain and Northern Ireland on May 26, 1966. As a consequence of being a former British Colony, Guyana has extremely close relations with the island states and countries of the Caribbean as a result of the common history. The Caribbean Community (CARICOM) has its headquarters located in Guyana. Agriculture is still the main economic activity in Guyana, with agriculture being responsible for 31.3% of GDP in 2004. Guyana like many other countries in the Caribbean is highly dependent on imports of fossil fuel for energy needs.

Guyana signed the United Nations Framework Convention on Climate Change (UNFCCC) on the 13th June 1992, and ratified the UNFCCC on 29th August 1994. The UNFCCC came into force in Guyana on the 17th November 1994. Guyana acceded to the Kyoto Protocol on the 5th August 2003. Guyana is also a party to the United Nations Convention on Biological Diversity, and the United Nations Convention to Combat Desertification. The Government of Guyana thus considers environmental issues a priority especially given the fact that the majority of the country is covered in forest and home to many unique species of flora and fauna.

Guyana being a low lying coastal state is extremely vulnerable to sea level rise and climate change. This was highlighted in the Initial National Communications of Guyana. Extreme climatic events causing flooding also affect Guyana. The Ministry of Agriculture, through the Climate Unit, will be the focal point for overseeing the preparation the Second National Communication. Other government agencies such as the Hydrometeorological Service, the Environmental Protection Agency, the Guyana Energy Agency etc. will be involved in the

process. Non governmental organizations (including representatives from academia and the private sector) will also be involved in the preparation of the Second National Communication. Oversight of the process will be done through the recently resuscitated National Climate Committee which has broad stakeholder representation.

With the Ministry of Agriculture being responsible for the implementation of the Second National Communication, and other organizations such as the Environmental Protection Agency, and the Guyana Lands and Surveys Commission playing key roles in the project, synergies with other projects and programmes such as biodiversity, ozone, and desertification will be integrated into the project. The process for preparing the SNC for Guyana will assist with improving climate change knowledge in Guyana as well as aiding in the capacity building process as it relates to climate change.

1.2. Strategy

The enabling activity for the SNC will allow Guyana to implement the activities required in order to fulfill its commitments under the UNFCCC. The activities will enable Guyana to fulfill its reporting obligations, as well as build capacity to adapt/mitigate the effects of climate change. The project will build upon related existing work which has been completed. The project will be closely linked to all related work linked to poverty reduction strategies and sustainable development which the UNDP is responsible for implementing in Guyana

The project will support the implementation of the UN Millennium Development Goals (MDG) for the Environment. Capacity building activities will be a key component of the project, along with public awareness activities. The project will primarily utilize local and regional expertise, to aid with project activities as it relates to implementation. The project will aid in strengthening relevant institutions in Guyana as well as improving data collection. The project will work with the Caribbean Community Climate Change Centre (CCCCC), as well as linking with the Mainstreaming Adaptation to Climate Change project (MACC), and the Caribbean Renewable Energy Development Programme (CREDP). The project will also cooperate with the Caribbean Disaster Emergency Response Agency (CDERA) and the relevant projects relating to climate change which CDERA is implementing.

1.3. Management Arrangements

See management arrangements in Appendix B section 5.

1.4 Monitoring and Evaluation

<u>Monitoring responsibilities and events</u>

A detailed schedule of project reviews meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Steering Committee Meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities.

Day to day monitoring of implementation progress will be the responsibility of the Project Coordinator, Director or CTA (depending on the established project structure) based on the project's Annual Workplan and its indicators. The Project Team will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

Periodic monitoring of implementation progress will be undertaken by the UNDP-CO through quarterly meetings with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

Project Monitoring Reporting

The Project Coordinator in conjunction with the UNDP-GEF extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process.

(a) Inception Report (IR)

A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year Work Plan divided in quarterly timeframes detailing the activities and progress indicators that will guide implementation during the first year of the project. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation.

When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the UNDP Country Office and UNDP-GEF's Regional Coordinating Unit will review the document.

(b) Quarterly Progress Reports

Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office and the UNDP-GEF regional office by the project team.

(c) ***Technical Reports***

Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent Annual Progress reports (APRs). Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

Audit Clause

The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the legally recognized auditor of the Government, or by a commercial auditor engaged by the Government.

1.5 Legal Context

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Guyana and the United Nations Development Programme, signed by the parties on 3 May 1977. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

UNDP acts in this Project as Implementing Agency of the Global Environment Facility (GEF), and all rights and privileges pertaining to UNDP as per the terms of the SBAA shall be extended mutatis mutandis to GEF.

The UNDP Resident Representative is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

a) Revision of, or addition to, any of the annexes to the Project Document;
b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
d) Inclusion of additional annexes and attachments only as set out here in this Project Document.

2. Total Budget

Award ID:	***00042032***
Award Title:	**PIMS #3536 CC EA SNC of Guyana**
Project ID	***00048106***
Project Title:	**PIMS #3536 CC EA Second National Communication of *Guyana***
Executing Agency:	***Ministry of Agriculture***

EXPECTED Outcomes	OUTPUTS (and corresponding indicators)	RESPONSIBLE PARTY	PLANNED BUDGET						
			Source of Funds	Budget Code	Budget Description	Year 1 (US$)	Year 2 (US$)	Year 3 (US$)	Total Budget (US$)
National Communication	**National Circumstances**	Ministry of Agriculture	GEF				2,000.00	3,000.00	5,000.00
	Sub Total						***2,000.00***	***3,000.00***	***5,000.00***
	National Greenhouse Gas Inventories	Ministry of Agriculture	GEF	71300	Local Consultants	3,000.00	8,000.00	7,000.00	18,000.00
		Ministry of Agriculture	GEF	71200	International Consultants	5,000.00	6,000.00	7,000.00	18,000.00
		Ministry of Agriculture	GEF	71600	Travel	3,000.00	3,000.00	3,000.00	9,000.00
		Ministry of Agriculture	GEF	72100	Service Contracts	5,000.00	5,000.00	5,000.00	15,000.00
	Sub Total		***GEF***			***16,000.00***	***22,000.00***	***22,000.00***	***60,000.00***
	Programmes containing measures to facilitate adequate adaptation to climate change	Ministry of Agriculture	GEF	71300	Local Consultants	15,000.00	15,000.00	15,000.00	45,000.00
		Ministry of Agriculture	GEF	71200	International Consultants	5,000.00	8,000.00	5,000.00	18,000.00
		Ministry of Agriculture	GEF	71600	Travel	4,000.00	4,000.00	4,000.00	12,000.00
		Ministry of Agriculture	GEF	72100	Service Contracts	8,000.00	10,000.00	8,000.00	26,000.00
	Sub Total.					***27,000.00***	***37,000.00***	***27,000.00***	***101,000.00***
	Programmes containing measures to mitigate climate change	Ministry of Agriculture	GEF	71300	Local Consultants	4,000.00	6,000.00	7,000.00	17,000.00
		Ministry of Agriculture	GEF	71200	International Consultants	3,000.00	3,000.00	3,000.00	9,000.00
		Ministry of Agriculture	GEF						
		Ministry of Agriculture	GEF	71600	Travel	3,000.00	4,000.00	3,000.00	10,000.00

		Ministry of Agriculture	GEF	72100	Service Contracts	5,000.00	5,000.00	5,000.00	15,000.00
	Sub Total					***18,000.00***	***22,000.00***	***21,000.00***	***51,000.00***
	Other relevant information – technology needs assessment , research and systematic observation, public awareness,	Ministry of Agriculture	GEF	71300	Local Consultants	8,000.00	7,000.00	8,000.00	23,000.00
			GEF	71200	International Consultants	5,000.00	5,000.00	5,000.00	15,000.00
			GEF	71600	Travel	5,000.00	5,000.00	5,000.00	15,000.00
			GEF	72100	Service Contracts	4,000.00	4,000.00	4,000.00	12,000.00
	Sub Total					***22,000.00***	***21,000.00***	***22,000.00***	***65,000.00***
	Constraints & Gaps; Related Financial, technical, & capacity needs	Ministry of Agriculture	GEF	71300	Local Consultants			10,000.00	10,000.00
			GEF						
	Sub Total							***10,000.00***	***10,000.00***
	Compilation, Production of communication, including Executive Summary & its distribution	Ministry of Agriculture	GEF	71300	Local consultants			7,000.00	7,000.00
		Ministry of Agriculture	GEF	71400	Contractual services			8,000.00	8,000.00
	Sub Total							***15,000.00***	***15,000.00***
	Project Management	Ministry of Agriculture	GEF	71400	Contractual Services	25,000.00	25,000.00	25,000.00	75,000.00
			GEF	72200	Equipment	24,000.00	15,000.00	4,000.00	43,000.00
			GEF	74500	Miscellaneous	5,000.00	5,000.00	5,000.00	15,000.00
	Sub Total					***44,000.00***	***45,000.00***	***44,000.00***	***123,000.00***
	Monitoring and reporting	Ministry of Agriculture	GEF	74100	Professional Services	5,000.00	5,000.00	5,000.00	15,000.00
	Sub Total					***5,000.00***	***5,000.00***	***5,000.00***	***15,000.00***
	TOTAL					**142,000.00**	**154,000.00**	**159,000.00**	**455,000.00**

3. Appendices

APPENDIX A: SUMMARY REPORT OF THE SELF-ASSESSMENT EXERCISE

The Stocktaking Process

The stocktaking process was carried out by the Hydrometeorological Service of the Ministry of Agriculture utilizing a regional consultant. The self assessment exercise occurred in accordance with GEF Operational Procedures for the Expedited Financing of National Communication from Non Annex 1 Parties (GEF/C.22/Inf.16). The purpose of the stocktaking exercise is to identify the key needs and priorities for the SNC and to obtain support from the various stakeholders who will be involved in the second national communication.

The following process was utilized in the stocktaking process (i) Stakeholder workshop with government ministries, private sector and non governmental organizations (ii) desk review of information relating to climate change activities in Guyana, in particular the initial national communications and (iii) consultation with individual experts in Guyana.

The stakeholder consultation workshop featured presentations on the initial national communications and its activities, the impacts of climate change in Guyana and the process of the second national communications. The workshop highlighted the changes in the guidelines for second national communications and gave an initial indication for participants of the likely resources which would be required for the process. The stakeholder consultation workshop also provided the basis for obtaining stakeholder buy-in to the process of the second national communications. Inputs into the preparation and design of the Second National Communication were obtained from the stakeholder workshop and consultation process. Areas for improvement in the second national communications were also identified during the stakeholder process. The stakeholders involved in the consultations and the stocktaking process are identified in the matrix below

Review of the Initial National Communications

Guyana utilized decision 10/CP.2 to prepare its First National Communication. The First National Communication of Guyana was submitted to the UNFCCC on 16th May 2002, it consisted of the following chapters:

(1) Executive Summary,
(2) Introduction
(3) National Circumstances
(4) National Inventory of Greenhouse Gases
(5) Impacts and Vulnerability Assessment
(6) Adaptation Measures
(7) Mitigation Analysis
(8) Financial Assistance and Technology Transfer
(9) Systematic Observation and Research,
(10) Education, Public Awareness and Training, and
(11) Conclusions

The introduction chapter of the Guyana Initial National Communication provides background information on the convention guidance, the relevant decisions of the COP which relate to the preparation of National Communications. The introductory chapter highlights, Guyana's obligations to the UNFCCC, as well as identifying the members of the National Climate Committee, and the National Task Force, who were responsible for implementing the project for the preparation of the First National Communication. A list of the workshops which were held in order to prepare the National Communication and build capacity is also provided.

The chapter on National Circumstances of the INC of Guyana provides comprehensive detailed information on the climate and geography of Guyana. The chapter also provides information on the economy, history, and demography of Guyana. Initial information on the energy sector, transportation, land use change and forestry and biodiversity is also provided. A discussion on the institutional arrangements for the greenhouse gas inventory is also provided.

For the greenhouse gas inventory of Guyana the IPCC Revised 1996 Guidelines was utilised to prepare the inventory for the base year of 1994. In 1994 Guyana emitted 1446Gg of carbon dioxide in 1994, while 26,664Gg was sequestered from the atmosphere. Guyana is therefore a net sink. Guyana also completed inventory analysis for 1995, 1996, 1997 and 1998. Guyana thus completed more than was required in decision 10CP/2 for the greenhouse gas inventory.

Chapter five of the INC of Guyana examines the impacts of climate change on Guyana and highlights the outputs of vulnerability assessments. The chapter notes that the coastal zone has been identified as the most vulnerable part of Guyana with areas in Essequibo, and the densely populated regions of Berbice and Demerara being the three vulnerable zones of most concern.

Chapter six highlights adaptation options for the various sectors, highlighting that planning is essential for implementing adaptation options, and that capacity development is required to implement adaptation options. Chapter seven looked at mitigation issues and issues related to the reduction of greenhouse gases. It notes the modernization of the current electricity power generating plant is a necessity, along with the use of renewable sources of power such as hydropower, solar and wind in the short, medium and long term.

Technology transfer issues are discussed in chapter eight. While there is an initial identification of technology needs no comprehensive technology needs assessment has been completed, however the need for financial and technical assistance particularly as it relates to capacity building needs and technology transfer is highlighted

Chapters nine and ten address issues related to systematic observation and public education awareness and training. With regards to public education and awareness it is stated that the Environmental Protection Agency (EPA) is promoting environmental education and public awareness in Guyana, through the National Environmental Education and Public Awareness Strategy. It is noted that climate issues have not been directly addressed by the NEEPAS and EPA should include climate education as one of the major issues to be addressed by NEEPAS. The mandate for monitoring the climate system lies with the Hydrometeorological Service of the Ministry of Agriculture.

It is noted that there is a need for institutional capacity building and training. Additional equipment is needed to aid Guyana to effectively monitor the climate and climate change

A number of recommendations are made within the Initial National Communications of Guyana. It is highlighted that there is a lack of capacity, institutional human and financial. The establishment of a climate change unit to deliver all of the climate change programmes and be a central point of contact is the key recommendation of the Initial National Communications of Guyana

Priorities for the Second National Communications identified from the Stocktaking Process

A number of priorities have been identified as critical activities for the SNC which should be addressed. In terms of vulnerability the coastal zone was noted as a key area to address in terms of the effects of sea level rise. The vast majority of the population of Guyana is located in the coastal plain and thus sea level rise could affect every activity in this area, thus an effective examination of how the sea defences will be able to cope with sea level rise should be a priority.

Guyana has recently been affected by a number of extreme climatic events which have caused devastating floods. It was highlighted that there is a need to examine Guyana's vulnerability to such extreme events and the ability of Guyana to respond to extreme climate events in terms of capacity and early warning systems. In terms of human settlements it was noted that there is a need to examine the vulnerability of human settlements to extreme climatic events and to examine whether the current planning and building procedures and codes take into account climate change, and if relocation of some human settlements is required.

Extreme climatic events with high intensity rainfall will affect the many water conservancies in Guyana, and will also cause flooding in areas which are close to rivers and other water-ways, thus the possible impact of climatic events on the conservancies and rivers needs to be investigated so that effective adaptation options can be suggested. The whole issue of disaster management and climate change was noted as a key element which needs to be addressed in the SNC.

Agricultural vulnerability to climate change was also highlighted as a priority for Guyana given that the economy is largely agriculturally based. The impacts of changing weather patterns and extreme events on agriculture need to be examined. More information needs to be given to farmers as they often may not be aware of climate change and its impacts. The issue of salinization of fresh water, surface and groundwater, also needs to be addressed, along with the effect sea level rise will have on ability of rivers to discharge into the ocean, and whether or not reflux will occur causing flooding.

The effect of climate change on biodiversity also needs to be examined given the vast forests and unique biodiversity which is present in Guyana. The role mangroves play in shore line protection and the effect climate change will have on existing mangrove populations needs to be examined.

The effects of climate change on the health sector also need to be examined, along with the role of mining in deforestation and the effect of climate change on the forestry sector. There is also requirement for a comprehensive social vulnerability assessment, particularly as it relates to the number of people who are at risk to climate events, and using geographic information systems aid in this type of social vulnerability assessment.

With regards to the greenhouse gas inventory, there needs to be training in the utilization of the relevant software for the greenhouse gas inventory. In addition it was recommended from the stocktaking process that more than one year should be examined in terms of the greenhouse gas inventory. There should also be an effective abatement analysis along with the identification of key renewable energy activities which need to be undertaken

In terms of data collection the stocktaking process highlighted the need to improve data collection and analysis. An evaluation of the current systematic observation systems should also occur, so that suggestions to improve the ability of Guyana to monitor climate can occur. A technology needs assessment has been highlighted as an urgent requirement, so that an objective understanding of the technology needs of Guyana is obtained. There is also the need for effective public awareness activities, and to continue to build capacity as it relates to climate change and its impacts

Adaptation analysis was also highlighted as a priority for the second national communications from the stocktaking process. This relates to an evaluation of possible adaptation interventions in terms of cost and benefits. In addition there should also be documentation of traditional adaptation practices.

The stocktaking exercise noted that many of the original outputs of initial national communication and the national climate change adaptation plan have not been implemented and need to be addressed as soon as possible. It was noted that the implementation of the second national communications should take into account the establishing of Climate Unit within the Ministry of Agriculture along the objective of establishing as National Climate Centre as well as other initiatives which are ongoing such as the national capacity self assessment for climate change, biodiversity and desertification. There is also a fisheries management project and the development of a State of the Environment Report for the Demerara Watershed. There are also a number of renewable energy projects which need to be considered. The stocktaking process also noted regionally there were a number of climate related projects such as the Caribbean Renewable Energy Development Programme, and the Mainstreaming Adaptation to Climate Change project (MACC). The stocktaking process also highlighted that technical and financial resources should also be exploited with regards to CCCCC, so that the activities of the CCCCC should be incorporated into the SNC process.

Stakeholders Matrix

Name of institutions / stakeholders consulted	Stakeholder interests, official position or mandate	Reasons for inclusion	Role in the self-assessment process (e.g. consultation, preparation of draft report, data provider)
Hydrometeorological Service, Ministry of Agriculture	Climate change focal point, UNFCCC etc Ozone focal point	Responsible for preparation of the first national communications and submission to the conference of the parties Responsible for day to day monitoring of the climate in Guyana Responsible for Climate change and preparation and submission of SNC	Convening workshop and process Implementation of SNC and stocktaking assessment process
Institute of Applied Science and Technology, University of Guyana.	Training organization, collection of data	Implementation of pilot renewable energy activities, related to climate change. Technology initiatives	Technical advisory role and provision of data.
Guyana Energy Agency	Collection of energy data, implementation of energy projects	Required to provide background data for greenhouse gas inventory. Data on energy projects	Technical advisory role. Provision of data for greenhouse gas inventory.
Guyana Forestry Commission	Responsible for the management of forestry activities in Guyana.	Required for background for land use practices with reference to vulnerability studies, and also information for the land use component of the inventory	Data collection for vulnerability and adaptation studies and the greenhouse gas inventory
Environmental Protection Agency	Responsible for the day to day management of the environment in Guyana.	Required for information related to vulnerability studies	Identification of data requirements for vulnerability studies
Guyana Sea and River Defence Department	Responsible for shore zone management and river defence	Required information for vulnerability studies	Provision of data and identification of capacities for vulnerability work
National Drainage and Irrigation Authority	Responsible for irrigation and drainage	Provision of data for vulnerability studies in the water sector	Provision of data and identification of capacities required for vulnerability work
Guyana Lands and Surveys Commission	Responsible for land use planning.	Identification of areas susceptible to climate change, vulnerability risk	Provision of data, identification capacities for vulnerability work
Guyana Geology and Mines Commission	Management of affairs related to mining	The effect of mining on forestry	Background data for land use change studies and forestry studies

Ministry of Finance	Management of finance and economic issues	The effect of climate change on the economy	Background data for national circumstances
Ministry of Education	Management of education issues in Guyana	Education and climate change issues and syllabus requirements	Public awareness and education strategies as it relates to climate change
Conservation International	Promotes environment and development education	Involved in many projects which relate to environment, development and climate change	Provision of data. Public awareness and education
Guyana Sugar Corporation Inc	Development of agricultural projects. Assist with rural development	Provision of data on projects and for impact and vulnerability studies	Identification of data and capacities required
Ministry of Local Government, Regional Executive Officers	Management of regional issues in Guyana	Dissemination of information. Identification of vulnerable areas for studies	Public education and information dissemination with respect to climate change.
Ministry of Agriculture	Aid in improving agriculture in Guyana	Provision of data and technical services with regards to Agriculture development	Identification of capacity requirements for vulnerability work in agriculture.
Iwokrama	Promotes the conservation and the sustainable and equitable use of tropical rain forests in Guyana.	Provision of data for forestry	Provision of data and identification of areas for forestry studies
Guyana Citizens Int.	Non Governmental organization, social and environmental issues	Provision of data for social impact assessment	Data collection, identification of areas for social impact assessment studies
Ministry of Tourism	Management of tourism issues	Provision with regards to data relating to tourism	Impacts of climate change on tourism
Ministry of Housing and Water	Housing and water issues	Provision of data for social settlements , and vulnerability studies	Data collection, identification of areas for social impact assessment studies

APPENDIX B: TECHNICAL COMPONENTS OF THE PROJECT PROPOSAL

1. BACKGROUND/CONTEXT

Guyana is a tropical country, situated on the northeastern coast of the continent of South America between 1^{o}N-9 ^{o}N latitude, and 56^{o}W-62^{o}W longitude. It is bounded on the north by the Atlantic Ocean, on the east by Suriname, on the south and southwest by Brazil and on the west by Venezuela. Guyana occupies a total landmass of approximately 215,000 km^2 and has a coastline that is about 434 km long and a continental extent of about 724 km. The population of Guyana is approximately 750,000, thus Guyana has a very low population density less than 4 persons per km^2. Guyana signed the United Nations Framework Convention on Climate Change (UNFCCC) on the 13th June 1992, and ratified the UNFCCC on 29th August 1994. The UNFCCC came into force in Guyana on the 27th November 1994. Guyana acceded to the Kyoto Protocol on the 5th August 2003

Guyana received its independence from the United Kingdom of Great Britain and Northern Ireland on May 26, 1966. Guyana is fully involved in activities for further integration of the Caribbean, countries with the Caribbean Community (CARICOM) having its headquarters located in Guyana. Guyana is a key participant in the activities of the Caribbean Single Market and Economy, which aims to improve regional economies and cooperation. Agriculture is the main economic activity in Guyana. Guyana like many other countries in the Caribbean is highly dependent on imports of fossil fuel for energy needs.

Guyana is extremely low lying and very vulnerable to sea level rise. With approximately 90% of the population located within the coastal plain of Guyana, sea level rise could have devastating impacts, affecting human settlements and economic activities. Guyana is home to many rivers and other water courses and sea level rise will affect the salinity of these rivers and discharge rates into the Atlantic Ocean. Agriculture and other activities will be affected with the changing climate

Guyana is also very susceptible to extreme climatic events. In January and February 2005 Guyana experienced an extreme climatic rainfall event which caused significant flooding and considerable damage to all aspects of the economy of Guyana. The Economic Commission of Latin America and the Caribbean (ECLAC) Report stated that the magnitude of the damage caused by the floods that affected Guyana in the months of January and February 2005 is estimated to be equivalent to G$93 billion or 59.49% of current GDP for the year 2004

The initial national communications aided in the development of capacities for Guyana to address climate and developed some local expertise with regards to the issue of climate change generally and specific issues such as greenhouse gas inventories and sectoral vulnerabilities. The initial national communications highlighted Guyana's vulnerability to climate change, and noted that Guyana is a net sink of greenhouse gases. Adaptation to climate change in Guyana is key and improving the overall capacity to respond to extreme climatic weather events is a priority.

The Ministry of Agriculture will be responsible for implementing the Second National Communication project. The SNC project will build upon the Initial National Communication, improving and building on the work which was already completed

2. PROJECT OBJECTIVES

The objective of the project is to strengthen the institutional and technical capacity of Guyana, allowing Guyana to meet is UNFCCC obligations by preparing and submitting its SNC. The project will allow Guyana to address climate change concerns and identify adaptation options, as well as propose projects for implementation.

3. PROJECT STRATEGY

The SNC project will allow Guyana to fulfill its commitments under the UNFCCC. This will be achieved by capacity building, and strengthening relevant institutions. Public awareness and education activities along with training will be used to aid the implementation of the project. Local and regional expertise will be used to aid in the implementation of the project. There will be collaboration with the CCCCC and the MACC project to ensure that there is the utilization of regional expertise, as well as access to regional expertise.

See also section 1.2 Appendix A

4. PROJECT ACTIVITIES

4.1 National circumstances

The SNC will provide climate data, environmental data and the latest socio-economic data of Guyana. The development plans of Guyana will also be included in the national circumstances chapter. The background data on Guyana is necessary as it will provide the basis for understanding the vulnerability of Guyana to a changing climate and the susceptibility of Guyana to extreme climatic events which cause flooding

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.CP/8 of the UNFCCC.

4.2 Greenhouse gas inventory

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

The greenhouse inventory for Guyana will be conducted utilizing Decision 17/CP.8, with the year 2000 being the base year for the inventory. Tables 1 and 2 as provided by the UNFCCC Guidelines (annex to Decision 17/CP.8) will be used for reporting the national GHG inventory. This activity will be coordinated with any regional efforts wherever possible.

Greenhouse gas inventories will also be conducted for the years 2001 to 2004 respectively, once the data is available. This will occur so as to get a comprehensive trend analysis for greenhouse gas emissions in Guyana and to aid in future planning. The greenhouse gas inventory for

Guyana will cover all of the sources and sinks of the following gases CO_2, N_2O, CH_4, NO_x, SO_x and NMVOCs. In addition there will be estimates of HFCs, PFCs and SF_6. With regards to bunker fuels these will be reported separately as instructed by the guidelines. The greenhouse gas inventory will use the IPCC revised guidelines for National Greenhouse gas inventories. The sectoral and reference approach to estimating emissions will be used.

There will be cooperation with key organizations such as the Guyana Energy Agency, the Guyana Power and Light Inc., the Public Utilities Commissions, the Ministry of Agriculture and the Forestry Commission as these organizations will have key data. There are some data gaps which have to be filled as it relates to the GHG from the Initial National Communication of Guyana

With regards to emission factors, country specific emission factors will not be developed and IPCC emission factors will be utilized. There will be cooperation with the regional CCCCC with regards to emission factors and if regional emission factors are available they will be utilized

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. Guyana possesses a considerable amount of forest, thus special care and attention must be given the land use change and forestry component of the GHG. The IPCC Good Practice Guidance for Land Use Change and Forestry will be used where appropriate. Both sectoral and reference approaches will be used to improve the inventory, to aid in the removal of uncertainties.

Training will be important with regards to the inventory. All training opportunities which are available regionally and internationally will be utilized, especially those which are being facilitated through the UNDP NCSP. Work in the SNC will also focus on maintaining technical and institutional capacity as it relates to the inventory, and placing an appropriate data collection system in place. Computer equipment, hardware and software will be obtained so as for the greenhouse gas inventory.

The major outputs of this component will include inter alia:

- An updated improved greenhouse gas inventory for the years 2000, 2001,2002,2003 and 2004
- An improved methodology for the collection of data
- Strengthening institutional capacity for greenhouse gas inventories
- Identification of issues related to inventories, tropical forestry and the IPCC guidelines.
- Recommendations on areas for improvement for future inventories

Indicative activities are outlined in the project work plan

4.3 Programmes containing measures to facilitate adequate adaptation to climate change

As a low- lying coastal state and a developing country the vulnerability and adaptation component of the SNC is extremely important. The SNC will improve of upon previous work which completed in the initial national communications, as well as work which was completed under the Caribbean Planning for Adaptation to Climate Change (CPACC). The ongoing work of the CCCCC and the MACC project will also be used in terms of its outputs related to vulnerability and adaptation

The vulnerability analysis will expand on the work completed presented in the INC. Local and regional expertise will be utilized. Capacity building will be key in this component, through training, as well as data collection. Cooperation with the MACC and CCCCC will be key as it relates to building capacity. Initiatives of the UNDP NCSP and other international organizations will also be used to facilitate training of local technicians and link directly into the vulnerability assessments.

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

- The Coastal Sector
- Extreme Climatic Events, Flooding and the Water Sector
- The Agricultural Sector
- Biodiversity, including forestry
- The Social Sector and Human Settlements
- The Health Sector

With 90% of the population located in the coastal zone and the majority of economic activity located in the coastal zone, the coastal plains of Guyana are critical. Guyana is extremely low lying and the major population centres and human settlements are located in the coastal area and thus susceptible to sea level rise. Currently there are sea defences in place but there needs to be an evaluation of the ability of the sea defences to cope with sea level rise with comprehensive mapping highlighting those areas which are extremely vulnerable to sea level rise

Recently Guyana has been affected by a number of extreme climatic events, which have caused flooding and considerable economic damage. In a changing climate additional extreme events such as those which have already been experienced are expected to occur more frequently. Guyana has a large number of rivers as well as man made conservancies which are used to store freshwater. There needs to be assessment of the ability of Guyana to respond to extreme climatic events as well as a comprehensive vulnerability assessment as it relates to flooding, with the identification of adaptation options. There will also be an analysis of the vulnerability of the conservancies to climatic change and the changes in salinity which could occur with the Essequibo, Demerara and Corentyne rivers and the ability of these rivers and the smaller coastal ones to discharge into the Atlantic with various scenarios of sea level rise. Possible adaptation options will be identified

With changes in climate resulting in increased temperatures and additional rainfall, there needs to be a comprehensive analysis of the affect this will have on the agricultural sector, particularly as it relates the types of crops and cultivars which will need to be cultivated in the future. There will be additional input from the MACC project in the area of agriculture, and possible adaptation options will be identified

Guyana is home to many unique species, and there is a need to have an initial assessment of the effect of climate change and biodiversity in Guyana. The effect climate change is having on the forestry sector needs to be investigated as well, particularly as it relates to forest fires and other potential consequences of climate change. The affect of mining on deforestation will also be investigated. There will be an examination of the effect of sea level rise on mangroves and the role mangroves play in shoreline protection.

There will be an investigation as to the social impacts of climate change. Issues related to human settlements, planning and building codes and climate change will be investigated. Adaptation options will be identified. The effects climate change on the health sector in Guyana will also be investigated. Adaptation analysis will also occur as it relates to an evaluation of possible adaptation interventions in terms of cost and benefits and the documentation of traditional adaptation practices

The vulnerability studies will be done utilizing 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 CCCCC, and the University of the West Indies which are looking at regional climate scenarios and 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.

The appropriate methodological tools will be used where appropriate for the impact analysis as well as for the identification of adaptation options, for example: (i) the IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation, (ii) the UNDP Adaptation Policy Framework and (iii) UNEP Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies. 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 prioritized where appropriate. There will also be a focus on disaster prevention as it relates to climate induced natural disasters

The vulnerability and adaptation studies will involve a number of stakeholders, and public involvement will be key in highlighting the vulnerabilities and selecting appropriate adaptation options. Capacity building and training will be important elements in this component of the SNC

The major outputs of this component will include inter alia:

- Capacity building and training in climate models and various sectoral impact assessment models
- Vulnerability analysis in key sectors such as water, agriculture, health, human settlements and coastal infrastructure
- Analysis of the impact of extreme climatic events
- Identification of appropriate adaptation policy options and technologies

Indicative activities are outlined in the project work plan.

4.4 Programmes containing measures to mitigate climate change

As a developing country Guyana 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 the mitigation component of the SNC is to have an abatement analysis as well to document initiatives which are already underway to reduce greenhouse gas emissions.

Guyana is like many other countries in the Caribbean in that it is dependent on imported fossil fuels, and this has a very high financial cost associated with it. Guyana is very rich in renewable energy resources, particularly hydro and there are currently a number of project activities related to renewable energy.

There will be an analysis of the current greenhouse gas emissions trends and the identification of activities which can occur to aid in emissions reduction.

Computer modeling and analysis will occur utilizing programmes such as Long range Energy Alternatives Planning System, which is a software tool for integrated energy-environment and greenhouse mitigation analysis. There will be capacity building and training with regards to mitigation related issues and appropriate computer models. Issues related to economic growth and energy costs will be analyzed, as will the benefits and competitiveness of renewable energy. There will be cooperation with the CRDEP project in this component.

This component will involve the Guyana Energy Agency, the Public Utilities Commission, and Guyana Power and Light Inc, along with the climate change focal point, CREDP and the CCCCC will also be involved. Suitable projects for mitigation will be identified.

The outputs of this component will include inter alia:

- Capacity building and training related to mitigation analysis
- An assessment of mitigation options, and the competitiveness of renewable technologies
- Identification of appropriate mitigation technologies, programmes and policies

Indicative activities are outlined in the project work plan.

4.5 Other information considered relevant to the achievement of the objective of the Convention-Technology Needs Assessment

This area of the SNC will be used to provide information on other activities which are being implemented in Guyana, which will contribute to Guyana meeting its commitments under the UNFCCC. Work in the areas of the UNCCCD and the CBD which relate to climate change will be included. The outputs of the national capacity self assessment will also be discussed here along with any inter related work which is ongoing in Guyana as it relates to the Montreal Protocol

Guyana has not yet done a technology needs assessment, while technology issues were addressed in the Initial National Communication a comprehensive technology needs assessment addressing adaptation and mitigation technologies needs to be completed. In this component a technology needs assessment will be completed, utilizing the UNDP guidelines for Technology Needs Assessment. Issues arising from the technology needs assessment will be addressed.

There will be an assessment of the current systematic observations, and there will be the identification of the needs to improve the systematic observations, particularly as it relates to improving systematic observation and the participation of Guyana, in GCOS. Local efforts with regards to improving climate data related to systematic observation systems will also be documented. There is a need to look at rainfall data and extreme events and the relationship with ENSO under certain climate change scenarios, and this work will be linked to the vulnerability and adaptation components of the SNC.

Local and regional social and economic policies will also be examined with regards to their relationship with climate change and efforts made to integrate climate change here too. Sustainable development plans and policies will also be examined. Capacity building measures at the local and regional levels will also be looked at and examined in the context of the capacity building framework under the UNFCCC.

An important area which has been identified in the INC for further work is the area of public awareness and education. There will be the production of climate change material and the establishment of a climate change website which will serve as hub for climate change data and information

The outputs of this component will include inter alia:

- Production of climate change education material.
- A technology needs assessment
- Information related to integration of climate change into local and regional policies
- Identification of efforts to improve systematic observation

Indicative activities are outlined in the project work plan

4.6 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 and technical and capacity needs of Guyana as it relates to the SNC. Special consideration will be given to those areas which have been reported in the INC. Although there will be the identification of technical and financial constraints from the other sections of the SNC, they will be expanded in this section. Issues related to barriers to the implementation of the UNFCCC and its processes will be included in this section

This component will thus look at the status of constraints and gaps from previous work, and new constraints and gaps which may have arisen. Activities which have been identified but have not been carried out due to constraints previously mentioned. Constraints related to technology transfer, and capacity building will also be looked at here. Ways to overcome these constraints will be identified, along with suggested improvements for the national communication process.

Project proposals, ideas, capacity and technological needs will be documented here, along with an analysis of drawing from the outputs of other components of the SNC and other related process such as the NCSA and other related enabling activities such as those related to biodiversity. Any national resources which will be used in the SNC will be documented here.

Indicative activities are outlined in the project work plan.

5. Institutional Framework for Project Implementation

The Ministry of Agriculture of Guyana will be responsible for implementing the project. The Hydrometeorological Service of the Ministry of Agriculture of Guyana is currently the Climate Change and Montreal Protocol focal point for Guyana. The Ministry of Agriculture will be focal point for the UNFCCC and other related entities to the Climate Unit. The Environmental Protection Agency of Guyana is currently the GEF focal point and is responsible for a number of other multi-lateral environmental agreements, such as the biodiversity convention, this will allow for synergies with regards to the projects. The project will strengthen the Climate Unit and the Hydrometeorological Service of the Ministry of Agriculture as well as other governmental organizations

A Project coordinator will be put in place to manage the day to day activities of the project and liase with the UNDP. The co-coordinator will report to the Permanent Secretary of the Ministry of Agriculture. There is already a National Climate Committee in place which will provide additional technical oversight and review progress of the project. The National Climate Committee is composed of the following organizations the Climate Unit of the Ministry of Agriculture, the Environmental Protection Agency, the Hydrometeorological Service, the Institute of Applied Science and Technology, the Guyana Forestry Commission, Guyana Manufacturers Association, the Private Sector Commission, the Guyana Energy Agency, the Guyana Natural Resources Agency, the Ministry of Trade, Tourism and Industry, the Ministry of Finance, the Ministry of Housing & Water, the Ministry of Health & Labour, the Ministry of Agriculture, the Ministry of Foreign Affairs, the University of Guyana, the Office of the President and the Guyana National Bureau of Standards.

The National Climate Committee (NCC) is a Sub Committee of the Natural Resources and Environmental Advisory Committee, (NREAC) which is chaired by the Prime Minister. The project will thus be supervised at the highest level.

Short and medium term consultants will also be contracted as appropriate to aid with the implementation of the project, particularly the technical aspects such as the greenhouse gas inventories, vulnerability studies, abatement analysis and adaptation studies. Regional support will come from the CCCCC. The Hydrometeorological Service of the Ministry of Agriculture will thus have full responsibility for the implementation and will provide administrative and technical support.

6. Assessing project impact

In assessing the impact of the project a number of activities will occur. There will be activities related to reporting requirements for the UNDP. UNDP guidelines, monitoring and evaluation procedures will be utilized throughout the process. Quarterly reports will be provided to the UNDP by the Project Office through the Ministry of Agriculture. Quarterly reports and updates will also be provided to the National Climate Committee. GEF reporting requirements will also be followed. There will be an independent financial audit at the end of the project along with a review of the project.

Capacity building activities are to occur throughout the project along with a number of public awareness activities, which are intended to increase and foster awareness as it relates to climate change. There will be an assessment at the end of the project along with a mid term assessment. Recommendations for improvement with regards to project implementation will be made after the mid term assessment

7. Budget

See section 2

8. Detailed Workplan

Outputs and Activities	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.Implementation Procedures and Arrangements												
1.1 Institutional Arrangements, obtain project staff, equipment, 1st quarterly report.												
1.2 Climate change committee meetings and project initiation workshop, prepare Project inception report.												
2 National Circumstances.												
2.1 Collection data from relevant organizations												
2.2 Update information, fill in data gaps from first national communications												
2.3. Draft national circumstance component/chapter												
3. Greenhouse Gas Inventory												
3.1 Greenhouse gas initiation and training workshop, examining IPCC guideline, select methodologies for new gases where appropriate												
3.2. Review data from initial inventories												
3.3 Identify key emission sources												
3.4 Gather data for greenhouse gas inventory												
3.5 Undertake inventory for years 2000 to 2004 assessing uncertainties												
3.6 Design improved data collection system for GHG, archive data												
3.7. Prepare draft inventory report.												
3.8 Workshop to present inventory												
3.9 Review Inventory												
3.10 Finalize Inventory Report												
4.Programmes containing measures to mitigate climate change												
4.1. Review of previous work on mitigation, outputs of regional renewable energy projects												
4.2. Workshop training in computer programmes such as LEAP and other programmes												
4.3. Develop mitigation scenarios, modeling.												
4.4 Application of mitigation scenarios and abatement analysis												
4.5. Economic growth and energy analysis.												
4.6. Draft abatement analysis report												
4.7 Draft Economic analysis report												
4.8 Mitigation and abatement analysis final reports and workshop												
5. Programmes containing measures to facilitate adaptation to climate change												
5.1 Initiation and training workshop on vulnerability assessment methodologies and adaptation. Scenario development												
5.2 Preparation of specific terms of reference for sector vulnerability studies, e.g. Coastal, water, extreme events, health agriculture.												
5.3 Vulnerability and adaptation studies, modeling.												

Outputs and Activities	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5.4 Study on traditional knowledge and adaptation, and evaluation of adaptation options.												
5.5 Review the status of the relevant policy and legal frameworks for climate change												
5.6 Workshop and Review of vulnerability and adaptation reports												
5.7.Finalization of Vulnerability and Adaptation reports												
6. Other information considered relevant to the achievement of the objective of the Convention.												
6.1 Technology needs assessment workshop												
6.2 Technology Needs Assessment research and report preparation												
6.3 Finalization of Technology Needs AssessmentAnalysis of local and regional policy information related to climate change												
6.4 Assessment of research and systematic observation systems.												
6.5 Review of and development of public education programme and website development												
6.6 Analysis of local and regional policy information related to climate change												
6.7 Compile and analyse information on capacity building framework including National Climate Centre and Designated National Authority												
6.8 Draft and review chapter												
7. Constraints and gaps and related financial, technical and capacity needs.												
7.1 Draft analysis of technical , financial needs												
7.2 Draft project proposals.												
7.3 Finalize chapter.												
8. Preparation and submission of SNC1.												
8.1 Compilation of Draft SNC report												
8.2 Final workshop to complete SNC												
8.3 Finalization of SNC and submission												

APPENDIX C: TERMS OF REFERENCE

1. National Communication Project Coordinator

Reporting to the Permanent Secretary of the Ministry of Agriculture, the National Communication project coordinator will be responsible for the day to day management and operations of the SNC. The project coordinator will be responsible for the planning, management and activities of the SNC, ensuring that there is effective use of the funds and those activities are completed in a timely manner.

Specifically the duties and responsibilities of the national Communication project coordinator shall include inter alia:

- Preparing a detailed work plan for implementation of the project
- Manage the day to day activities of the project, including all the financial aspects of the project
- Supervise the project ensuring that all activities are completed in a timely manner
- Prepare the terms of reference for required consultants and supervise consultants, and technical advisors
- Organize the procurement of services and goods under the project
- Organize all the relevant workshops and training courses which will be required under the project
- Liase with UNDP with regards to the implementation of the project, and prepare regular reports on the status of the project
- Coordinate meetings and act as a secretary to the National Climate Committee
- Coordinate all the relevant ministries, NGO and other organizations such as the University of the Guyana
- Coordinate the preparation of the second national communications report for submission the Conference of Parties, ensuring that the report meets all the relevant guidelines.

Qualifications, Experience and Skills

- A post graduate qualification in environmental science, management or a related discipline
- Over five years experience working in a government department, with an understanding of governmental processes
- A comprehensive understanding of the UNFCCC and its political dimensions and negotiation processes
- Knowledge of UNDP project procedures.
- Good communication skills, along with excellent computer knowledge
- Project Management skills

2. Climate change technical adviser/consultant(s)

Reporting to the project coordinator the technical advisor/consultant(s) will be required to support the implementation of tasks which may require an in depth knowledge of climate change adaptation and mitigation as well as the UNFCCC negotiation process as it relates to the SNC. The technical advisor will aid in the recruitment of other technical consultants and aid in the supervision of the key critical components of the SNC such as the greenhouse gas inventory and the vulnerability and adaptation component. The technical advisor will aid with the production of the SNC as well as provide government technical advice on climate change issues. The technical advisor will have a comprehensive understanding of the latest climate change science

Specifically the duties of the climate change technical adviser/consultant(s) will include inter alia:

- Identify all the current climate change and other related environmental activities which are ongoing locally, regionally and internationally and their relationship with the SNC, ensuring that linkages are established and synergies exploited
- Assist the project coordinator with the preparation of specific terms of reference for specialist consultants
- Assist the project coordinator with management of the SNC and consultants
- Aid consultants with the greenhouse gas inventory and abatement strategies and studies
- Assist with the vulnerability and adaptation components
- Ensure that there is compliance with relevant UNFCCC decisions
- Assist with developing negotiation positions at COP and attend UNFCCC meetings
- Identification of suitable training and capacity building activities
- Assist in with the preparation and submission of the SNC

Qualifications, Experience Skills

- An advanced degree in environmental management, or science with 5-8 years international experience with UNFCCC and climate change issues
- Previous experience working with national communications and other local climate change projects
- A comprehensive understanding of the guidelines for national communications, and previous experience working with greenhouse gas inventories
- Experience working with vulnerability risk assessments and identifying adaptation options
- Communication, negotiation and computing skills

3. Draft Terms of Reference Greenhouse Gas Inventory and Abatement Analysis Studies.

The greenhouse gas inventory for Guyana will be conducted for the years 2000, 2001, 2002, 2003 and 2004. Collaboration and work will have to occur with the Guyana Energy Agency, the Guyana Light and Power and the Public Utilities Commission and the technical advisor on climate change. The inventory will be done in accordance with guidelines in the annex to decision 17/CP.8

There will be training in greenhouse inventories and the IPCC methodology and a workshop for key organizations. The initial workshop will have training and complete a comprehensive work plan for the inventory

The greenhouse gas inventory study will

(i) Collect and obtain the relevant data to complete inventories for the years 2000, 2001, 2002 2003 and 2004, calculating emissions for all the various sectors
(ii) Identify data gaps for key sectors
(iii) Propose solutions to overcome any data gaps
(iv) Archive any data which is collected
(v) Propose new data collection systems for key organizations where appropriate
(vi) Design a data collection system for the Guyana Energy Agency.
(vii)Identify potential projects to reduce greenhouse gas emission based on the inventory

The abatement analysis will commence upon the completion of the greenhouse gas inventory and utilizing the greenhouse gas inventory the abatement analysis.

(i) Utilizing relevant computer models, projected development plans, the greenhouse gas inventory and considering the entire relevant social and economic data, develop a baseline and mitigation scenarios to abate the increase of greenhouse gas emissions.
(ii) Identify and formulate programmes and measures to aid with mitigation.
(iii) Provide an effective economic cost benefit analysis for Guyana for the application of renewable technologies.

A workshop will be held to present and finalize the abatement report.

4. Terms of Reference Initial Vulnerability and Adaptation Workshop

An initial vulnerability and adaptation workshop will be held, the purpose of this workshop will be to identify the key components which will be needed for the vulnerability and adaptation studies.

The workshop will:

(i) Review the relevant methodologies and tools for vulnerability assessment
(ii) Analyze climate data for Guyana
(iii) Examine climate change scenarios for the Caribbean and outputs of recent studies on scenario building.
(iv) Review approaches to adaptation, such as the UNDP Adaptation Framework and Caribbean approaches to adaptation.
(v) Review past vulnerability assessments.

The workshop will set the background for the vulnerability studies in the various sectors and aid in drafting the specific terms of reference for the relevant studies, and the selection of the appropriate models and tools for the various vulnerability assessments.

5. Generic Draft Terms of reference for scoping and implementing the V&A component of the National Communication

These generic terms of reference for the preparation of the V&A studies identify the basic set of activities that the V&A expert/consultant will be responsible for under the supervision of the National Communication's Coordinator. It is important to note that these generic terms of reference do not intend to limit the work of the expert but to guide countries on the general profile of the V&A expert and on the activities generally expected to be carried out.

Profile of the V&A expert/consultant

The V&A expert should be very knowledgeable and with hands-on experiences on V&A issues, have a solid understanding of the gaps and needs for developing/improving vulnerability assessments, and have technical expertise in the formulation of adaptation options. The V&A expert should be able to scope technical studies in the V&A area and design an implementation strategy to carry out the different V&A activities within the framework of the NC. He/She should also have a solid understanding of the institutional arrangements and resources required to carry out the V&A work.

Although the NC project document already provides the framework for the V&A studies, the expert should be able to advise on any adjustments if needed, both at the organizational and technical levels, for a successful implementation of the V&A studies.

Activities

In general, the V&A expert/consultant should be responsible for ensuring that the following set of activities is carried out. Emphasis on different activities will depend on the scope of the work already described in the NC project document and/or on the specific activities the V&A expert would be assigned to.

<u>Policy and institutional issues</u>

1. Identify the key policy issues the V&A study of the SNC project aims to address, e.g.,
    a. to scope the scale of risks associated with projected climate change;
    b. to aid in the identification of priorities for adaptation;
    c. to support the development of a national adaptation strategy.

2. Identify the expected output of the V&A study of the SNC project on the basis of the project document, e.g.,
    a. impacts assessment at the sectoral level for the given priorities identified in the project document;
    b. a national adaptation strategy, including policies, programs and projects.

3. Develop a clear strategy to link the V&A outputs to national development planning. This would include, among others:
    a. assessment of institutional arrangements/stakeholders engagement required to facilitate linking the outcome of the V&A studies to sectoral or national planning;
    b. framework for assessing how the above linkage can be monitored and measured in the short and long terms, for instance through the development of practical indicators.

Technical issues

Scope of the V&A study

4. Elaborate on the scope (geographic, thematic, sectoral coverage, time horizon) of the V&A study, e.g.,
    a. designing a strategy to build on but advance what was done within INC, and while applicable, NAPA project;
    b. elaborating on the scope of studies to address sectors/regions not covered by INC, sectors/regions identified as sensitive/vulnerable to climate change, as per the NC project proposal;
    c. preparing a detailed work plan for each of the study to be carried out, including a strategy to involve the relevant stakeholders, timeline, etc.;
    d. designing a strategy, as applicable, to link the V&A studies with previous and ongoing related projects/activities (e.g., land degradation, biodiversity, international waters.)

Methodological framework

5. Elaborate on the overall methodological framework for the V&A study as per the project document and in consultation with the project coordinator. In doing so, the V&A expert should ensure that:
    a. The proposed methodological framework is the most appropriate given the policy questions to be addressed, the characteristics of the study (e.g., sectoral focus, spatial and temporal scales, stakeholders involved, and data requirement, etc.), and data availability;
    b. In-country expertise required for such a methodological framework is available. If needed, the V&A expert should develop a strategy to address technical capacity gaps. For instance, by exploring the possibility of applying another framework in which more in-country expertise exists, or by designing a training/technical backstopping strategy, etc.

Scenarios development

6. Identify the types of scenarios required to conduct the V&A assessment, e.g., climate, socio-economic, sea level, adaptive capacity, technology, land-use land-cover.

7. Identify the temporal and spatial resolution needed for these scenarios (e.g., national, sub-national, watershed, community, farm level, multi-decadal average, annual, monthly, daily, mean conditions, extreme events, etc.). In doing so, the expert should justify the choices.

8. Develop the strategies for developing such scenarios, e.g., model-based, expert judgment, etc.

In the preparation of the scenarios development strategy, the expert should assess the feasibility of the scenario needs and the methods for developing these scenarios, given the characteristics of the studies, and data availability. For instance, the expert would be expected to offer advice on alternative options to running regional climate models or other resource intensive and time consuming exercises. The V&A expert would also assess whether there is enough in-country expertise to develop such scenarios and/or identify options to address the needs for additional expertise.

Sectoral assessment (to be considered by each of the sectors to be covered in the V&A study)

9. Elaborate on the methods and tools, as per the project document, chosen to undertake sectoral assessments, e.g., numerical models, elicitation of expert views, stakeholder consultations, focus groups, etc. In doing so, the expert will advise on any adjustments needed to the options identified in the project document.

10. Provide justifications for the selection of the methods/tools considering the research questions, characteristics of the study, and requirements of data and technical expertise of these methods/tools.

11. Assess in-country expertise required to apply the selected methods/tools and prepare training/technical backstopping strategy as required.

12. Develop a strategy to integrate findings from sectoral assessment, as needed. For instance, by applying an integrated model, synthesizing sectoral information, etc.

Technical assistance needs

13. Develop a technical backstopping/training strategy to strengthen the national capacity needed to carry out the different V&A studies, This would include details on the type of support needed (training courses on particular methodological frameworks/tools, guidance material, technical documents and good practice) and the, timeline for such support.

Appendix D: Endorsement letters

Environmental Protection Agency

Friday, March 30, 2007

Ms. Patsy Ross
Programme Analyst
United National Development Programme
United Nations House
42 Brickdam
Stabroek, Georgetown

Dear Ms. Ross:

Re: **Proposal for Enabling Activities for the Preparation of Guyana's Second National Communication to the UNFCCC**

The Environmental Protection Agency (EPA) as the Operational Focal Point for the Global Environment Facility (GEF) wishes to inform you of the endorsement of the Government of Guyana – United National Development Programme Project Document titled *'Enabling Activities for the Preparation of Guyana's Second National Communication to the UNFCCC.'*

This project will support Guyana's initiatives towards Climate Change and to meet obligations to the UNFCCC.

Yours Sincerely

Doorga Persaud
GEF Operational Focal Point
Environmental Protection Agency

IAST Building, U.G. Campus, Turkeyen
Greater Georgetown, GUYANA
Tel.: (592)-222-5784 / 2277 / 5785 / 4224
Fax: (592)-222-2442
Email: epa@epaguyana.org

Ministry of Agriculture
Permanent Secretary

Regent & Vlissengen Roads, Georgetown, Guyana, South America,
P.O. Box: 1001
Tel. No. (592) 227 - 5527, Fax No.: (592) 227 - 3638

ORG/130/2
APR 2007
PR

2007/04/17

Mr. Aboubacry Tall
Resident Representative
United Nations Development Programme
United Nations Place
Brickdam.

Enabling Activities for the preparation of Guyana's 2nd National Communication to the Framework Convention on Climate Change.

Dear Mr. Tall,

The Hydrometeorological Service, the Focal Point for the Framework Convention on Climate Change (UNFCCC), submits the attached Project proposal for its Second National Communication.

The Document details the requirements of Guyana to meet its obligations to the UNFCCC. It also provides for the Technical and financial resources that Guyana will require to meet those obligations.

I therefore request that the document be submitted to the financial entity of the Convention and request full funding for its implementation.

We take this opportunity to express assurances of our highest consideration.

Sincerely yours.

.....
Dindyal Permaul (PhD).
Permanent Secretary.

A6

United Nations Development Programme
Global Environment Facility

15 June 2007

Dear Mr. Tall,

Subject: **Enabling Activity, Guyana: Second National Communication to the UNFCCC**
PIMS No. 3536 ATLAS BU: GUY10-Proposal No. 00042032-Project No. 0048106

I am pleased to delegate to you the authority to sign the above-mentioned Enabling Activity Project Document on behalf of UNDP and to commence the implementation of the project when signed by the government of Guyana. The project, which amounts to a total of US$ 455,000.00, has received its final approval in accordance with the established GEF procedures. You are also kindly requested to obtain the government signature on the cover page.

Prior to the signature of the project document, the *Annual Work Plan (AWP)* should be generated through ATLAS BU GUY10, Proposal No. 00042032 Project No. 00048106, based on the *Total Budget and Annual Work Plan* in the attached project document. A copy of the project document signed cover page and the AWP extracted from ATLAS should be sent to Ms. Miriam Betancourt at the LAC Regional Coordination Unit, to Mr. Yamil Bonduki, Principal Technical Advisor and to Ms. Xiumei Zhang, Finance Officer, both at Headquarters, with a request for issuance of an *Authorization of Spending Limit (ASL)*. Comments on the AWP will be provided within 5 working days by the GEF Regional Technical Advisor as relevant.

Budget revisions should be forwarded to the GEF RCU with an explanation of the changes proposed. In this connection, please note that UNDP-GEF is not in a position to increase the project budget above the amount already approved by the GEF Council. Therefore, any over-expenditure on this project will have to be absorbed by TRAC.

The number of operational and financial transactions and services expected from your office in support of project execution will vary according to the execution modality. The UNDP country office will receive compensation for actual services delivered through the *Implementation Support Services* (ISS) mechanism.

Mr. Aboubacry Tall
UNDP Resident Representative
UNDP Georgetown
Guyana

One United Nations Plaza • New York, NY 10017 • Telephone: (212) 906-5044 • Fax: (212) 906-6998

As an Implementing Agency of the GEF, UNDP earns a fee from the GEF upon approval of each main project (Full-Size. Medium-Size or Enabling Activities). The fee, which is paid directly by UNDP/GEF to the XB account of the Country Office, is used to cover the costs incurred by UNDP, both at Headquarters and in the Country Office, in supporting project development and implementation. The total fee that your office will receive over the lifetime of the project will be US$18,000.00 payable in annual installments. The first installment will be effected upon receipt of the signed main project document cover page in the GEF RCU. The second and all subsequent annual fee installments will depend on the satisfactory delivery of the services described in Annex 2 and thus will be directly linked to project expenditure and delivery. Note that the amount to be received by your office includes the cost of services generated by the preparatory assistance phase under the *GEF Project Development Facility (PDF)/Project Preparation Grant (PPG)* window.

As specified in the project document, a detailed project management plan will need to be prepared by the Project Manager in order to support a timely implementation of the activities. This management plan will specify the actions, timelines, and responsibilities for review at the inception workshop. It will be completed and updated throughout the life of the project as relevant in accordance with the various annual reviews such as steering committees; tri-partite reviews etc… The plan will also include all the support activities to be undertaken by the Country Office as listed in Annex 2. It should also highlight the delivery milestones and identify responsible Country Office staff at the programmatic and operational level.

We take the opportunity to draw your attention to the following mandatory requirements for all GEF-funded projects:

- Any changes contemplated with respect to the project objectives and outcomes will have to be discussed with and approved by the UNDP-GEF Regional Coordination Unit, as they will have to be reported to GEF.
- All GEF-funded projects are subject to a mid-term and a final evaluation conducted according to Terms of Reference circulated to the RCU and approved on a no-objection basis. Projects of short duration and small to moderate in size such as Enabling Activities and Medium-Size may forego the mid-term evaluation.
- All NEX projects with expenditures of $100,000 or more are subject to mandatory annual audits, conducted in accordance with the UNDP guidelines issued by OAPR. UNDP-GEF reserves the right to withhold fee payments and to suspend the project if this requirement is not met in a timely fashion.

In case you need clarification on the GEF Project Cycle and requirements, please consult the UNDP-GEF Programming Manual at http://intra.undp.org/gef .

In concluding, I would like to assure you of the GEF Team's and my personal commitment to a successful implementation of the project. The Regional Coordination Unit in Panama is at your disposal for advice and technical support. Should you have any concerns or questions, please do not hesitate to contact me with your feedback on the quality of our services and suggestions for improvements.

Yours sincerely,

John Hough
Officer-in-Charge

cc: Ms. Rebeca Grynspan, Bureau Director, RBLAC
Mr. Yamil Bonduki, GEF Principal Technical Advisor, NYHQ

Annex 1 CEO endorsement/approval
Annex 2 Project Implementation Activities

PROJECT IMPLEMENTATION ACTIVITIES

Unless otherwise stated, all activities should comply with the UNDP-GEF and the UNDP Programming Manuals

Stage	Responsibilities of UNDP Country Office
Development	▪ Review, appraise, and provide guidance to proponent on Concept/project idea.
	▪ Defend Concept/project idea eligibility as needed.
	▪ Support Project formulation.
	▪ Support Co-financing negotiations.
	▪ Defend Proposal eligibility as needed.
	▪ Participates in policy negotiations as needed.
Preparation	▪ Support Project Document formulation.
	▪ Facilitate and participate in Project Document appraisal.
	▪ Prepare response to GEF Council comments for Project Document Endorsement by GEF CEO.
	▪ Process UNDP signature of project document.
	▪ Process Government signature of Project Document.
	▪ Process Executing Agent signature of Project Document as relevant.
	▪ Finalize agreement with HQs on Project Support Services (tasks and reimbursement).
Implementation	♦ *Management Oversight*
	▪ Project launching.
	▪ Steering committee meetings.
	▪ Monitoring the implementation of the work plan and timetable.
	▪ Field visits: ensure visit to the project site at least once a year; prepare and circulate reports no later than two weeks after visit completion.
	▪ Problem identification and trouble shooting
	▪ Project document revision
	▪ Review, editing and response to reports
	▪ Technical backstopping as needed

Implementation (cont'd)	▪ Policy negotiations
	▪ Operational completion activities in agreement with GEF RCU, determining when the project is operationally completed and advising all interested parties accordingly.
	♦ *Financial Management & Accountability*
	▪ Financial management (verifying expenditures, advancing funds, issuing combined delivery reports, ensuring no over-expenditure of budget).
	▪ Ensuring annual audits of NEX projects are completed and the audited financial statements together with the audit report reach UNDP headquarters (Office of Audit and Performance Review) as needed.
	▪ Timely issuance of the initial Annual Work Plan (AWP) and subsequent Budget Revisions.
	▪ Operational and financial completion of the activities in agreement with GEF RCU, ensuring that projects are financially completed no more than 12 months after the date of operational completion by ensuring the final budget revision is promptly prepared and approved.
Evaluation	▪ Ensure preparation and completion of Annual Project Reports (APRs) by the due date, two weeks before the tri-partite review (TPR).
	▪ Organize and attend tri-partite review (TPR) meetings and ensuring that decisions are taken on important issues).
	▪ Ensure preparation and completion of the GEF Project Implementation Review (PIR) reports by the due date.
	▪ Arrange evaluations (mid-term, final, post-final, independent etc…), hiring personnel, planning mission) as agreed upon with the GEF RCU and ensuring that GEF-specific requirements with regard to *Monitoring & Evaluation* are met in accordance with the UNDP-GEF Programming Manual.

SIGNATURE PAGE

Country: GUYANA

UNDAF Outcome(s)/Indicator(s):
(Link to UNDAF outcome. If no UNDAF, leave blank)

Expected Outcome(s)/Indicator (s):
(CP outcomes linked t the SRF/MYFF goal and service line)

Energy and Environment for Sustainable Development

Expected Output(s)/Indicator(s):
(CP outcomes linked t the SRF/MYFF goal and service line)

3.6 National / Sectoral Policies and Planning to Control Emissions of Ozone-Depleting Substances and Persistent Organic Pollutants

Implementing partner:
(Designated institution/Executing agency)

Ministry of Agriculture

Other Partners:
(Formerly implementing agencies)

ɔgramme Period: 2007 - 2010
ɔgramme Component: Energy and Environment for Sustainable Development
ɔject Title: Enabling Activities for the Preparation of yana's Second National Communication to the UNFCCC
ɔject ID: 00048106
ɔject Duration: 3 years
nagement Arrangement: NEX

Budget	USD 455,000
General Management Support Fee	
Total budget:	USD 455,000
Allocated resources:	
• Government	
• Regular	
• Other:	
○ GEF	USD 455,000
○ Donor	
○ Donor	
• In kind contributions	
Unfunded budget:	

Agreed by (Government): Hon. Robert Persaud, Minister of Agriculture — July 10, 2007 Date

Agreed by (Implementing partner): Dr. Dindyal Permaul, Permanent Secretary — July 10, 2007 Date

Agreed by (UNDP): Mr. Aboubacry Tall, Resident Representative — July 10, 2007 Date