

RIO + 20
National Report

*A Green Economy and Institutional Framework
for
Sustainable Development: The Guyana Context*



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Acronyms and Abbreviations

CARICOM	Caribbean Community
CBD	Convention on Biological Diversity
CDB	Caribbean Development Bank
CHM	Clearing House Mechanism
CI	Conservation International
CoP	Conference of the Parties (to the CBD)
CSBD	Centre for the Study of Biological Diversity
EEZ	Ecological-Economic Zoning
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ERP	Economic Recovery Programme
GAHEF Guyana	Agency for Health Sciences Education, Environment and Food Policy
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFC	Guyana Forestry Commission
GMO	Genetically Modified Organisms
GoG	Government of Guyana
Go INVEST	Guyana Office for Investment
GRIF	Guyana REDD Plus Investment Fund
HIES	Household Income and Expenditure Survey
IDB	Inter-American Development Bank
LCDS	Low Carbon Development Strategy
LMO	Living Modified Organisms
MEAs	Multilateral Environmental Agreements
MNR&E	Ministry of Natural Resources and Environment
MoU	Memorandum of Understanding
NARIE	National Agricultural Research Extension Institute
NBAC	National Biodiversity Advisory Committee
NBAP	National Biodiversity Action Plan
NBC	National Biodiversity Committee
NCERD National	Centre for Education Research and Development
NCS	National Competitive Strategy
NCSA	National Capacity Self Assessment
NDS	National Development Strategy
NEAP	National Environmental Action Plan
NEEAC National	Environmental Education and Awareness Committee
NEES	National Environmental Education Strategy
NFAP	National Forestry Action Plan
NFP	National Forest Plan
NGO	Non-Governmental Organization
NPS	National Parks Commission
NPAS	National Protected Areas System
NTFP	Non-timber Forest Product
PAHO	Pan American Health Organisation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SCBD	Secretariat of the Convention on Biological Diversity
SEES	School of Earth and Environmental Sciences
TAC	Treaty for Amazonian Cooperation
ToR	Terms of Reference
UG	University of Guyana
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development

UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WWF	World Wildlife Fund

SECTION 1 INTRODUCTION, BACKGROUND AND METHODOLOGICAL APPROACH

1.1 Introducing Guyana



Guyana, the only English speaking **in** South American country, has a small developing economy. The country has a land area of approximately 215,000 sq. km and is bordered by Venezuela on the west and northwest, Suriname on the east, Brazil on the south and southwest and the Atlantic Ocean in the north (See Figure 1). Guyana has a relatively stable population of approximately 763,719 persons (2007 figure according to the Bureau of Statistics).

Guyana remains primarily an agriculture and resource-based economy in terms of its production base, but its GDP is now more heavily weighted in an expanding services sector - combined services average 60% plus of the GDP in 2010. Per capita GDP has risen from US\$ 1,694 in 2006 to US\$ 2501.7 in 2010. The country also enjoys exchange rate stability as well. US\$ to G\$ has been steady at US\$ 1 = G\$ 200 for most of the decade of the 2000s.

One of Guyana's most valued natural assets is its forests: the national forest cover is approximately 76 percent of the country with more than 12 percent designated as Protected Areas. This natural capital endowment boasts of approximately eight thousand species of plants **occur** in Guyana, half of which are found nowhere else. As a result, Guyana is one of the countries with the highest biodiversity in the world, with 1,168 vertebrate species, 1,600 bird species, and one of the richest mammalian fauna assemblages of any comparably sized area in the world.¹ Geologically, Guyana is part of the Guiana Shield, a geomorphologic complex that is little known, but extremely rich biologically.

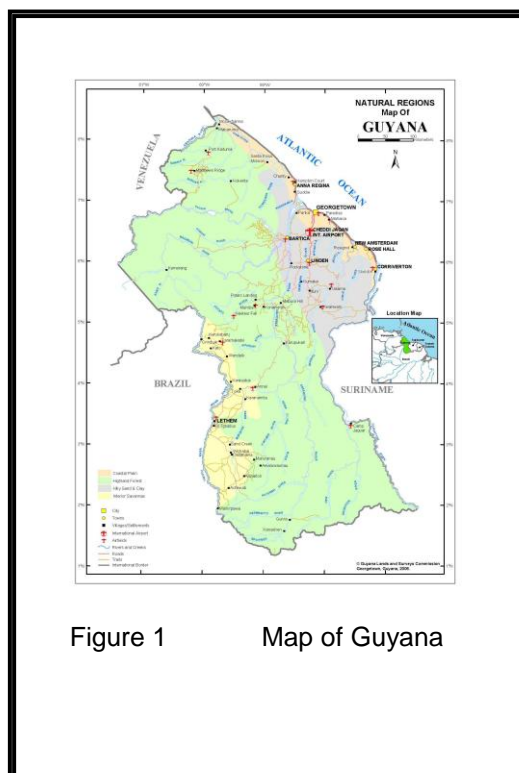


Figure 1 Map of Guyana



1.2 Background to Rio Plus 20 Report and Methodological Approach

Guyana has decided to participate in the national preparatory process in advance of the United Nations Conference on Sustainable Development (UNCSD) scheduled for Rio de Janeiro in June 2012. Thus, financial support has been received from the United Nations Department of Economic and Social Affairs (UNDESA) for a national consultation workshop in advance of the Rio+20 Conference. The aim is to build national capacity to allow Guyana to participate more fully in the Rio+20 process, as well as to ensure continuing efforts to implement the outcomes of the conference.

In keeping with the Terms of Reference (ToR; see Appendix 1) of the Consultancy the national preparation process consisted of three consecutive and interlinked phases which contributed to the preparation of an

¹ EPA. 2000. National Biodiversity Action Plan (NBAP) 2007 – 2011. EPA, Georgetown.

output document (which is this **National Report**²), while building capacity on the issues. These three phases entailed: the preparation of a stocktaking report based on interviews, consultations and desk review; the facilitation of a multi-stakeholder meeting to address the issues of the UNCSD; and the documentation of outcomes from both the stocktaking exercise and multi-stakeholder meeting.

The relevant documentation which includes national strategies, plans, policies, capacity needs assessments, and practical experiences were reviewed and synthesised are identified under ‘references’ of the main Report.

In an effort to gather contextual information, in-depth interviews were conducted with representatives of major stakeholder groups including government ministries and agencies, private sector, women, youth, non-governmental organisations and international donor agencies. A list of guiding questions was provided by UNDESA (See Appendix II). Key informant interviews (see Appendix III) were supplemented with reporting on the sustainable development themes (Agriculture, Transport, Energy, Climate Change, Biodiversity, Land degradation, Water).



The conceptual framework for the analysis was based on the questions provided by UNDESA, plus specific principles of sustainable development that are based on Principles 3, 4, 10, 11, 17 and 22 of the Rio Declaration on Environment and Development (1992)³. See Appendix IV. Sub-section 1.5 provides a summary of the multi-stakeholder workshop, which essentially enhanced the reliability of the Report, as well as the validity of the consultative process.

1.3 Green Economy and Sustainable Development

Sustainable development necessitates a reorientation of economic growth that is not mutually exclusive to environmental protection. According to UNEP (2010) a green economy results in *“improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.”* A green economy is low-carbon, resource efficient, and socially inclusive; therefore, in the Guyana context, it can be conceptualized as ‘green’ economic growth that is based on social equality and equity and sustain human development. The basic tenets that have guided this Report are economic sustainable, social sustainability and environmental⁴/ecological sustainability.

1.4 Summary of Workshop

A multi-stakeholder workshop was held in Georgetown on March 10, 2012 with the view to discuss and move towards consensus on a national assessment of progress, remaining gaps, experiences and opportunities pertaining to the themes of the UNCSD. The event was attended by 73 persons representing government

² The Final National Report is the product of the stock-taking process, plus the stakeholders’ comments provided during key informants interviews (of 30 persons), and the multi-stakeholder meeting held in Georgetown on March 10, 2012.

³ http://www.unesco.org/education/information/nfsunesco/pdf/RIO_E.PDF

⁴ The term is used in the very narrow sense.

ministries and agencies, private sector, women, youth, non-governmental organisations and international donor agencies.


There were two main sessions: Session 1 provided the opportunities for the delivery of remarks by the following officials: Mr. Joslyn Mc Kenzie, Permanent Secretary of the Ministry of Natural Resources and the Environment (MNR &E) and Chair of the session; Mr. Navin Chandarpal, Sustainable Development Advisor to His Excellency, the President of Guyana; Ms. Khadija Musa, the United Nations Development Programme (UNDP) Resident Representative; followed by Honourable Robert Persaud, Minister of Environment and Natural Resources. The key messages made by the speakers are presented in box 1 below.

Box 1 Key Messages from Multi-stakeholder workshop

- Post Rio 1992 saw the build- up of ideas on how to link the gap between those who have a strong view on environmental protection issues and those who saw the need for development. Further, the Rio declaration and Agenda 21 sought to harmonise development and environmental protection, particularly the conservation and sustainable use of the natural resources of our planet.
- Guyana has maintained the view that sustainable development is not simply about balancing development with environmental issues alone. Importantly, it's a more holistic requirement in which the economic base of our country, the social practices and policies need to fit into that; hence the need for instance in the early efforts of the national development strategy and subsequently the poverty reduction strategy paper. Great emphasis has been placed on creating that economic framework that will allow us to be able to deliver for the meeting of the social needs of the people of our country.
- A green economy does not replace sustainable development but there is a growing recognition that achieving sustainability rests mostly entirely on getting the economy going right in order to advance the Millennium Development Goals and to meet the legitimate development aspiration of our people
- The re-strengthening and reforms of institutional framework should among other things integrate the three pillars of sustainable development and promote implementation of Agenda 21.
- The Low Carbon Development Strategy that was developed by Mr. Bharrat Jagdeo, the Former President of Guyana captured what we have achieved and has to some extent given us a vision in terms of sustainable development.
- Guyana's economy has grown: per capita income has increased substantially, social indicators such as maternal health, infant mortality and all the other indices and indicators of social development were identified. Therefore, since Rio, the nation managed to correct and improve all of these economic and social indicators. Additionally, sustainable development has been mainstreamed in key strategies such as: the National Development Strategy, Poverty Reduction Strategy and the National Competitiveness Strategy.

Session 2 was chaired by Mr. Andrew Bishop, Special Advisor to the His Excellency, the President of Guyana. The session was dominated by two activities, namely, a presentation on the highlights of the Stock-taking Report by the Consultant, Dr. Paulette Bynoe, followed by comments and questions from various stakeholders. A summary of issues and comments is presented in Box 2 below.

Box 2 Some Issues raised by Stakeholders.

- Consultations should also be conducted in the less accessible Amerindian villages.
 - There should be a special section that deals with health; as human health is critical to achieving sustainable development.
 - The Indigenous communities need training in order to be fully involved in these strategies.
 - Lots of consultations and other work done by Iwokrama with CI, Office of Climate change, Guyana Forestry Commission, GGMC, EPA to raise awareness and provide forum for the discussion of issues.
- 
- The Report should give some important concrete examples that have been implemented from these legislations. These examples include situations where people have either empowered themselves along with the State, NGOs etc, these include the NRDDDB which has done tremendous work in the North Rupununi, Guyana Marine Turtle Conservation Society which drew attention to the decimation of turtles in the Shell Beach area, The National Working Group on the Millennium Development Goals which is a State, Public and Community based initiative, The Wai Wai community
 - in the area of Scientific Research an important point is the Biodiversity Centre of Excellence as it indicates that there is a strategic plan to get involved in some serious research work.
 - The document needs to be strengthened to have a more people centered approach
 - Stocktaking is a very important element under the sustainable development theme having being coined some twenty years ago. A two week timeline would not give justice to such a complex process.
 - Gaps did not elaborate on enforcement and legislation that exists with respect to use of resources.
 - The environmental condition of the city does not reflect environmental consciousness of people
 - There is need to have a clear understanding that development must take place
 - With regards to social development there have been several programmes ranging from health, education and transportation.

At the conclusion of the workshop, participants were told that they could forward additional comments to named officials of the MNR & E until March 22, 2012 and that a follow-up national consultation will be held to ensure consensus of issues presented in the Final National Report.

SECTION 2 KEY FINDINGS

2.1 Before 1992: Rio Summit

Economic Sustainability

During the Economic Recovery Programme (ERP) Guyana abolished virtually all price controls, increased fees for public services, abolished import prohibitions, unified the exchange rate, simplified the tariff structure, and established market-based interest rates. By 1990, the performance in all the major sectors was at its worst, since independence. However, from 1991 to 1997 results were impressive: annual GDP growth rate averaged 7.1%. The economy heavily relied on the production and export of a few raw materials⁵. In 1993, however, according to Household Income and Expenditure Survey (HIES)/Living Standards Measurement Survey (using the head count approach) about 43% of Guyana's population lived below the poverty, while the highest incidence of poverty was found in rural areas, particularly in interior locations.

Social Sustainability

Structural Adjustment had dire consequences for the social sectors which received, at that time approximately 8% of total revenue⁶. Conditions in telecommunications, road infrastructure (particularly on the coast) and public utilities were relatively poor. In 1991, 50.1 % of household had access to safe drinking water and 31% had access to improved sanitation (Bureau of Statistics). Infant mortality rate was 43 per 1000, while crude birth rate was 25.19. Wage and employment were 'frozen'; hence high level of unemployment and emigration of the highly educated resulted in a shortage of skilled workers and a severe brain drain.

Environmental Sustainability

The following statements can be made to summaries Guyana's environmental situation in 1992.

- Between 1992 and 1994, work was carried out by the Guyana Defence Force in the hinterland to raise the awareness of the people. This work was supported by Forestry, GAHEF and two non-governmental organisations that were in existence at that time. In addition, GAHEF hosted a daily radio programme titled "Your Environment and You".
- Water pollution from indiscriminate dumping of solid wastes and littering; non-point pollution from agricultural activities; plus land and missile dredging in mining districts.
- Deterioration of the social infrastructure led to grave consequences for environmental health (solid waste management in Georgetown) for example, high incidence of water and vector borne diseases.
- The Protected Areas Project as defined in the NFAP (1989) was given high priority. A call was made for the Kaieteur National Park and 14 other natural areas, including a biosphere reserve in the southwest of Guyana.
- First full country study on Guyana's biodiversity was conducted in 1992. This was followed by the setting of priorities for research in the area of biodiversity.
- Limited national plans, strategies, and programmes to provide a framework for environmentally friendly decision-making, particularly in development sectors. The National Forestry Action Plan

⁵ Guyana National Development Strategy, 2001.

⁶ <http://www.gina.gov.gy/archive/researchp/debtburden.htm>

(1989) and National Environmental Profile that was prepared for the Rio Summit laid the basis for the National Environmental Action Plan (1994).

- Nominal monitoring of forest operations due to shortage of staff, equipment, limited funding, and an absence of a good data base.
- Environmental concerns were addressed by the Guyana Natural Resources Agency, Ministry of Health and the Guyana Agency for Health Sciences Education, Environment and Food Policy (GAHEF), together with a National Environmental Advisory Committee.
- Institutional capacity for environmental management (especially, technical capacity) was limited as no tertiary programmes were offered at the senior secondary schools or the University of Guyana, and scholarships to study abroad were limited.
- Limited institutional arrangements for inter-agency coordination to deal with natural resource management issues.
- Absence of environmental controls (legislation and regulations): no environmental impacts assessment was required by national legislation.

More details can be found in Appendix V.

2.2 Institutional Arrangements for Sustainable Development: Progress Since 1992

Policy and Legislative framework

Guyana's institutional framework for sustainable development for integrated planning and decision making, environmental and natural resources management has been strengthened since the Rio Summit (1992) and can be gleaned from several national policies, plans and strategies. These strategic documents provide reference points of the work programmes of individual ministries and agencies and provide a decision-making framework within bodies, such as the NREAC, the Cabinet Sub-Committee on Environment and Natural Resources. See Table1 below.

Table 1

Key Policies, Strategies and Plans related to decision making for Sustainable Development in Guyana	Date	Links to Decision-Making	Supportive Legislative framework
National Strategy for the Conservation and Sustainable Use of Guyana's Biodiversity	1997	Provides basis for the development of the NBAP and it identifies Guyana's national position in respect of the study of conservation and sustainable use of biodiversity.	Code of Practice for the Utilisation of Mangroves, 2005 Code of Practice for Timber Harvesting, 2002
National Forest Policy Statement	1997; 2011	Places emphasis on forest management and its importance to national development.	Code of Practice for Forest Operations, 1996
National Forest Plan	1998; 2011	Supports biodiversity use and management of biodiversity within the forestry sector, taking into account the National Forest Policy (1997).	Iwokrama International Centre for Rainforest Conservation and Development Act, 1996
National Biodiversity Action Plan (NBAP)	1999	Provides framework for promotion and achievement of conservation of biodiversity, sustainable use of its components and to support fair and equitable benefit sharing. It outlines specific objectives to assess national capacity, identify gaps, propose actions, and to encourage involvement of stakeholders to support the implementation of the plan.	Guyana Forestry Commission Forest Bill 2009 Species Protection Regulations, 1999 The Amerindian Act, 2006
National Forest Action Plan	2001	Articulates specific measures inclusive of conservation, environmental education, awareness, research and training.	Wildlife Management and Conservation Regulations, 2009
Integrated Coastal Zone Management Action Plan	2000	Provides overarching planning framework for the sustainable use of coastal resources as well as strengthening of institutions.	The Environmental Protection (Hazardous Wastes Management) Regulations, 2000 The Environmental Protection (Air Quality) Regulations, 2000 The Environmental Protection (Noise Management) Regulations, 2000 Interim Guidelines for Noise Emission into the Environment, 2009 The Environmental Protection (Air Quality) Regulations, 2000

			<p>Environmental Protection (Water Quality) Regulations, 2000</p> <p>Pesticides and Toxic Chemicals Act (No. 13) 2000 (68:09)</p> <p>Pesticides & Toxic Chemicals Control Regulations 2004 (No. 8 of 2004)</p>
National Mangrove Management Action Plan	2001	Fosters a coordinated approach to policy formulation, planning, institutional cooperation and implementation of actions and activities for mangrove management.	
National Development Strategy 2001-2010	2001	Provides a framework for national planning and captures a number of cross-sectoral issues such as environment, forestry, agriculture, mining, tourism and fisheries, among others.	<p>EPA Guidelines include Rules and Procedures for Reviewing and Conducting EIAs, Generic Guidelines for EIA, EIA Guidelines for Mining, EIA Guidelines for Mining, Guidelines for Sand Blasting; Guidelines on Water Sampling; Guidelines for Constructing Livestock Enclosures, Sawmilling Guidelines and Code of Practice for Sawmills and Lumberyards, Guidelines for Conducting Biodiversity Research, etc.</p> <p>Mining Amendment Regulations, 2005</p>
National Poverty Reduction Strategy	2001-2005	Reinforces provisions of the Environmental Protection Act to ensure sustainable use of national resources for social development.	
Guyana Climate Change Action Plan,	2001	Provides reference point for national programmes to help mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change	
National Climate Change and Adaption Policy and Implementation Plan	2001	Provides a very useful point of reference in the process of identifying key issues of Guyana's Coastal Plain of Guyana with regards to potential climate change impacts, capacity building, and the institutional and legislative framework. Further, it informs the types of	

		interventions that are necessary at the sectoral level to ensure that Guyana's response to the threat of climate change is planned.	
Poverty Reduction Strategy Paper (2001-2005)	2002	Provides planning framework for initiatives taken to reduce the socio-economic vulnerabilities of communities (particularly those of rural and interior areas) through improved social infrastructure and increase livelihood opportunities will build national resilience to climate change and other environmental hazards.	
National Environmental Action Plan	2001-2005	Provides framework for integrating cross-sectoral environmental concerns into the wider context of Guyana's economic and social programme	Environmental Protection Act, 1996
National Land Use Plan (Draft)	2005	Provides the framework for coordination among the land uses, as well as, facilitates integration of land use and the preparation of a National Land Use Plan.	
National Development Strategy	2001	Provides the most strategic planning framework at the highest level of national planning with the principal objectives being: (i) to attain the highest rates of economic growth that are possible; (ii) to eliminate poverty in Guyana; (iii) to achieve geographical unity; (iv) to attain an equitable geographical distribution of economic activity; and (v) to diversify the economy.	Occupational Safety and Health Act (No. 32) of 1997
National Protected Area Strategy	2003	Provides framework for establishing an integrated national system of protected areas	Protected Areas Regulations
NBAP II	2007-2011	Provides general planning process for biodiversity use and conservation and within the same framework of NBAP I, plus emphasises more stakeholder involvement.	
Guyana's National Policy on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation	2008	Articulate a national policy on Access and Benefit-Sharing that is consistent with other national policies and regulations, and with international treaties to which Guyana is a contracting Party.	Access and Benefit-sharing Regulations, 2009
National Biosafety Framework Policy	2007	Provides framework for controlling and monitoring Genetically Modified Organisms (GMO) and Living Modified Organisms (LMO) while preventing adverse effects on the conservation and sustainable use of	

		biological diversity in Guyana.	
Fisheries Management Plan	2006	Sets out guiding principles, goals, legal and institutional framework for the conservation and sustainable development of Guyana's fisheries resources.	Fisheries Act, 2002 Fishery Regulations, 2008
National Capacity Self-Assessment (NCSA) Guyana Implementation of Action Plan	2009	Incorporates priority work of the MEAs into annual work programmes of the Focal Point Agencies: Environmental Protection Agency, National Climate Unit, and Guyana Lands & Surveys Commission.	
Low Carbon Development Strategy	2009	Provides overarching national framework for the transformation of Guyana's current economy to that of a "low carbon economy" while addressing issues related to climate change through a compensatory scheme by marketing Guyana's standing forest. The strategy is built on Guyana's vision to encourage investments/economic development while protecting and maintaining its forest cover. The strategy has three pillars: (i) investment in low carbon economic infrastructure; (ii) investment and employment in low carbon economic sectors; and (iii) investment in communities and human capital. This document integrates environmental, social and economic aspects of sustainable development.	

Several agencies have been created since 1992 to address issues related to natural resource management and sustainable development in Guyana, among other things. The key institutions are:

1996	Iwokrama International Centre for Rain Forest Conservation and Development
1996	Environmental Protection Agency
1999	Guyana Lands and Surveys Commission
1998	Guyana Energy Authority
2001	Ministry of Tourism, Industry and Commerce
2002	Guyana Tourism Authority
2011	Ministry of Natural Resources and the Environment

One significant development with regard to integration of environment into development plans is the recently established Ministry of Natural Resources and the Environment. (See Appendix VI for comments on the Ministry). In addition to the principal ministries and agencies, various committees and working groups have been established to assist in the implementation of the above mentioned policies and action plans. At a more strategic level, the Government of Guyana has established several strategic decision making forums including the Multi-Stakeholder Steering Group, The Guyana Parliamentary Sector Committee on Natural Resources, the Natural Resources and Environment Advisory Committee and the Protected Areas Commission Board of Directors.

Guyana has made significant progress in terms of enactment of legislation. Chief among national legislation are: the Environment Protection Act (1996); the Guyana Revised Constitutions (2003), the Wildlife Conservation and Management Regulations (2008); the Amerindian Act (2006); the Mining Amendment Regulations (2005) and the Guyana Forestry Commission Act (2007) and the Forest Bill, (2009).

Over the last few years, there has been increasing participation of NGOs and civil society in the management of Guyana natural resources and general environmental protection, as evident in the initiatives of the World Wildlife Fund Guianas, Conservation International-Guyana, Iwokrama International Centre for Forest Conservation and Development, Environmental Health Community Organisation, Bina Hill Institute, the Guyana Marine Turtle Conservation Society (GTMCS), the Mangrove Restoration Project, and the private sector, among others (Appendix VII provides details in each case). Additionally, notable local initiatives have been taken by the Ministry of Amerindian Affairs through its Community Development Officers, the National Touthao's Council and the Regional Democratic Councils.

The key sectors (energy, water, health agriculture, transport, and tourism) in Guyana have taken laudable initiatives to integrate environment into their sector policies, strategies and work programmes. These initiatives can be gleaned from the National Development Strategy (2001), the National Biodiversity Action Plan (II), National Forest Policy (1997; 2011), and the recently developed Low Carbon Development Strategy (2009/2010); the National Agriculture Sector Adaptation Strategy, among many others⁷. The development of these planning 'instruments' have resulted in concrete actions, at the sectoral level. Importantly, the National Development Strategy cites tourism as a sector that can contribute to the sustainable development of Guyana, by earning foreign exchange and providing job opportunities, while conserving the natural environment and the multi-faceted culture of the country. The strategy identifies several initiatives to be undertaken. Already, the GoG has taken a number of actions to give effect to this strategy, including the establishment of the Guyana Tourism Authority and the Guyana Office for Investment (GOINVEST) to provide the institutional

⁷ The Ministry of Public Works and Communication will be developing a Sustainable Transport Plan later in 2012.

framework for implementation of the strategy, in addition to the development of standards for design and appearance in accordance with international norms, and assessment of training needs⁸. Appendix VIII highlights specific examples.

Guyana, with the support of the international donor agencies, has implemented several policy instruments (for example a draft Risk Management Policy) and activities toward improving coastal zone management and disaster risk management in the context of climate change adaptation.

Guyana's support of the Multilateral Environmental Agreements (MEAs) is chronicled in national reports submitted to the individual secretariats for: the United Nations Framework Convention on Climate Change (UNFCCC); the United Nations Convention on Biological Diversity (UNCBD); and the United Nations Framework Convention to Combat Degradation (UNCCD). Highlights of national initiatives include:

- The Government of Guyana identified and strengthened Focal Point Agencies to implement measures under each Convention. Thus, The Ministry of Agriculture was identified in 2007 as the operational Focal Point Agency (FCA) for the UNFCCC and this decision provided the basis for the work of the National Climate Unit. Prior to this arrangement, the Hydrometeorological Services Division performed assumed that role. On the other hand, the Guyana Lands and Surveys Commission was given responsibility for the UNCCD as the FCA in 2004, while the Environmental Protection Agency, established in 1996, took operational responsibility for the UNCBD, through its Natural Resources Management Division.
- The re-establishment of the National Climate Committee (NCC), which was initially established in 1995, has wide- representation of about 28 stakeholder groups in society.
- The GFC supports 62 community forest associations and works closely with national and local government and civil society stakeholders in the process of implementation of the country's National Forest Plan (2011) and Forest Policy Statement (2011).
- A number of plans and studies were developed/conducted to meet specific obligations. These include: (i) Guyana Climate Change Action Plan, 2001; National Climate Change Adaptation Policy and Implementation Plan for Guyana; Guyana Initial and Second National Communications to the COP, 2002, 2011; Integrated Coastal Zone Management Action Plan, 2000.
- A number of studies were funded through the GEF CPACC and MACC projects geared towards addressing issues of mainstreaming climate change into development sectors, training and public awareness. Key outcomes include: A Coastal Vulnerability Study of Guyana; 2000; a National Agriculture Sector Adaptation Strategy to address Climate Change in Guyana, 2008 and a training workshop on "Adaptation to Climate Change in the Agriculture sector" was held.
- In addition to the Kaieteur National Park that was established in 1929, Guyana has established two (2) (legally) protected areas under the national protected areas system, namely the Iwokrama Forest Reserve and Shell Beach. Additionally, in 2002, Conservation International (CI) entered into an agreement with the Government of Guyana through the Guyana Forestry Commission to set aside 200,000 hectares of pristine rainforest as a Conservation Concession. CI obtained a 30-year logging license for a portion of the Upper Essequibo River watershed. The objective is to manage the area for

⁸ <http://www.competitiveness.org.gy/initiative/ncs-action-plan/sectors/tourism>

conservation instead of allowing timber exploitation. Guyana's on-going commitment towards the protection of 10 % of its forests also contributes to the global effort.

- The National Agricultural Research Institute (NARI) has developed the capacity for genetic characterization of economically important species, such as coconut, mango, cassava and avocado by means of a joint initiative between the NARI and United States of America Department of Agriculture (USDA), with funding provided through USAID.
- The GL & SC, which was established in 2001, has three (3) operational divisions: (i) Land Administration; (ii) Land Information and Mapping; and (iii) Surveys. In spearheading the fulfilment of the obligations of the UNCCD, the GL & SC has submitted national reports for 2000, 2002, 2006 and 2008, prepared a National Action Programme to combat Land Degradation (2006), as well as a Draft Land Use Policy. See Appendix IX for more details.

SECTION 3 GUYANA'S INITIATIVES FOR ACHIEVING SUSTAINABLE DEVELOPMENT

3.1 Political Commitment to Sustainable Development and a Green Economy

Guyana's recently published Low Carbon Development Strategy (2010) is an undeniable strategic sustainable development policy initiative that sets out the nation's development trajectory to achieve a green economy, by encouraging a production and consumption shift in vital sectors (forestry, agriculture, mining, energy) of the economy: Guyana's pursuit of low carbon economy must be seen therefore as both visionary and timely. It is noteworthy that responses provided by key informants suggest that there is a consensus that a green economy (in terms of production, consumption and livelihoods) will definitely be the development path for Guyana if sustainable development is to be achieved. Further, the Government of Guyana has made a strong and unequivocal commitment to achieving a green economy and sustainable development that is evident in the country's LCDS, in addition to other notable initiatives discussed in Section 2 of this Report. Nevertheless, it is important to highlight a few examples of political commitment.

- The President of Guyana retains Cabinet responsibility for Sustainable Development. His Excellency is supported in this aspect by the Adviser on Sustainable Development. In this way oversight of development activities can be done with maximum attention to environmental and other concerns.
- The LCDS is a big step to start mainstreaming those issues. Guyana is a pace setter on the green economy in Caricom, given its 2009 LCDS.
- The Environmental Protection Act requires EIA's for developmental activities and the enforcement role of the EPA provide significant support to ensuring that the requirements of the MEAs are adequately addressed in development activities.
- The establishment of the Ministry of Natural Resources and the Environment facilitates integrated planning of natural resources management and cross-sectoral monitoring.
- The NEAP, NBAP and other national planning document, plus Guyana's reports on commitments to the MEAs.
- At the University of Guyana, the School of Earth and Environmental Sciences (SEES), the Faculty of Technology and the Faculty of Agriculture and Forestry continue to provide tertiary training programmes for nationals to help build human capacity within the lead agencies for natural resources management in Guyana.

The LCDS sets out the national conditions under which Guyana would pursue a green growth trajectory as (i) put its rainforest under long term protection once the right economic incentives are created; and (ii) use the payments received for forests climate services to re-orient the country's economy to a low carbon, environmentally sound trajectory. The overall goal of the Strategy is provide "the world a working example of how immediate action can stimulate the creation of a low deforestation, low carbon, climate resilient economy" (Government of Guyana, 2010). The document aims at the following:

- Investing in strategic low carbon economic infrastructure, improved access to arable, non-forested land; and improved fibre optic bandwidth to facilitate the development of low-carbon business activities;
- Nurturing investment in high-potential low-carbon sectors;
- Reformation of existing forest-dependent sectors, including forestry and mining;
- Expanding access to services, and create new economic opportunities for Amerindian communities; and

- Improving services to the broader Guyana citizenry, including improving and expanding job prospects, promoting private sector entrepreneurship, and improving social services with a particular focus on health and education.

Guyana has already implemented a number of initiatives⁹ in support of the LCDS. Chief among these are: Guyana REDD Plus Investment Fund (GRIF) established in November 2009 as a mechanism for managing funds pledged by Norway; Independent verification for the second tranche of payment (US\$40 million) have been completed; Establishment of a Steering Committee in November 2010 to oversee the activities of the GRIF; Preparation of priority projects including the Hinterland Electrification Programme; Institutional Strengthening of Agencies involved in implementation of the LCDS; the establishment of an Amerindian Development Fund; and the Amaila Falls Hydro project.

3.2 Gaps and Challenges

Despite the progress made, Guyana is still faced with many gaps and challenges associated with its vulnerabilities: economic, social and environmental.

The following gaps should be interpreted holistically from the prospective of sustainable development (i.e. environmental, social and economical):

- Implementation of existing policies, programmes
- Strengthening of enforcement capability of current pieces of legislation
- Research, Science and Technology
- Capturing climate change impacts, adaptation and mitigation in the EIA process in Guyana
- Financial Resources
- Environmental education, to a large extent, is still treated as an appendage to existing programmes by sector agencies (with the exception of the EPA).
- Consistency of environmental messages on climate change to optimise impact on public 'buy in' and public behaviour.
- More integrated planning (to replace simple physical planning) to deal with environmental protection and sustainability.

The challenges have been elucidated in its 2004 Assessment Report on the Barbados Programme of Action Plus 10. Therefore, the new and emergency challenges are very similar in nature to those identified in 2004, though their magnitude has taken on new dimensions. For example:

- Guyana's small and developing economy is still vulnerable to external shocks including the ongoing global financial crisis since we are connected and affected by the global market. Wars are increasing the price for certain commodities such gold and this presents a challenge in terms of how the resource extraction will be managed in the context of a green economy: more people are mining and more companies are looking to go into mining.
- Finding the right mix of energy technology at an affordable price and in the process reduce the present heavy reliance on fossil fuels to meet current and future energy needs. Providing citizens with access to affordable, low carbon emitting energy sources will help accelerate economic and social development in Guyana. The bilateral agreement with Norway in support of the GRIF projects and the Amaila Falls hydropower project are important components of progress in this direction.

⁹ For details see <http://www.lcds.gov.gy/component/content/article/38-front-page/192-progress-continues-in-implementing-of-the-guyana-norway-agreement.html>

- Climate variability (El Niño phenomenon) and global climate change remains one of the main challenges to Guyana, though the Government of Guyana has to address the issue of flood risks disasters in a direct manner. Recent experiences indicate that both coastal and interior regions are under threat. The economic risks posed by these natural and human induced hazards are significant: for example, the 2005 floods (due to rainfall intensity not experienced in Guyana since 1888) affected 59 % of the country's GDP (UNECLAC, 2005). One direct challenge of climate posed by climate variability and climate change is food and water security, even though Guyana is doing well so far. IPCC projections warrant our attention to ensure sustainable human development.
- Guyana cannot develop without adequate human resources, given the fact that the country was found to have experienced the highest emigration in a sample of sixty-one (61) developing countries, with more than 70 % of migrants having some tertiary education (Carrington and Detriache, 1998). Today, the figure is above 85 %. Many institutions (especially the EPA) with mandates for various aspects of natural resources management have been negatively affected by a relatively high staff turn over the past two decades.
- Another challenge relates to governance. If decision making and planning is to be sustainable the structures must reflect a more 'bottom-up approach'. There also needs to be further strengthening of communities and their capacities to ensure ownership, control over these resources. This will create space for them to manage their resources at the local level. Additionally, more advocacy from especially the local organizations and international organizations such as WWF, CI will encourage sustainable development practices, particularly in the logging and mining sector, in Guyana.

Other challenges include technical resources and escalating fuel costs. With respect to the latter, energy prices have increased; resulting in the GPL promising increased rates in electricity in Guyana. This strengthens the case for foreign direct investment in green technology such as renewable energy. It needs to be reiterated that a green economy require huge capital investment.

3.3 Opportunities

Guyana has already in place several initiatives (considered opportunities) to help address these issues. Chief among these are:

- i) Guyana-Norway agreement for which the sum of US\$70 million has been deposited in the GRIF held by the Trustee, and will partly finance green initiatives.
- ii) The GFC is exploring financial opportunities that may be created by Payment for Ecosystem Services. Simultaneously, as discussed earlier the enabling environment is being created in terms of forest inventories, institutional capacity building through education and training programmes, MRV at national and community levels, among other things.
- iii) The several policies and strategies (LCDS, PRSP, NDS, NEAP, NBAP II etc.) plus pieces of legislation (EPA Act, Forestry Act. Mining Amendment Regulations etc.) that have been developed over the years.
- iv) Recently developed institutional agreements such as National Land Use Committee and Ministry of Natural Resources and the Environment.
- v) The on-going land titling process¹⁰ has enhanced the capacity for local communities' involvement in natural resource management.

¹⁰ Amerindians own 14% (approximately 3 million hectares) of Guyana's land area. To date 96 villages have titles to their lands, while 11 villages do not have.

- vi) Guyana has also developed the Concept Note for a Biodiversity Centre of Excellence, which will increase national research capacity, among other things.
- vii) The Grow More Campaign and initiatives taken by NAREI to develop crops that will be able to adapt to the changing climate and those with high adaptability to natural disasters such as flooding e.g. the development of rice that are of superior quality and strains etc.
- viii) Development of alternative energy sources such as hydropower, wind power, bio ethanol (such as that to be developed by Ansa Macal), solar etc.
- ix) The *Environmental Protection Act of 1996* established an Environmental Trust Fund which shall be used to fund the operations of the EPA and for purposes authorized under the *Act* and includes: protecting the environment and conserving natural resources; incentive measures for reducing environmental pollution; public awareness and education programmes to enhance the understanding environmental protection and natural resources management issues in Guyana.
- x) The GoG generally seeks assistance for institutional capacity building (for example, training, technical expertise, funding) from international financial institutions and agencies including the Global Environment Facility, the Global Mechanism, UNDP, German Development Bank, UNDP, IDB, CDB, UNEP, PAHO/WHO, UNEP/CEP etc. to finance and provide projects which seek to further prudent natural resource and environmental management in Guyana.

3.4 Success Factors

Guyana's success in achieving a green economy (premised on the principles of sustainable development) is dependent on several factors. Chief among these are the following factors that have identified by stakeholders:

- i) Guyana national water safety initiative to making water more accessible to people particularly in the hinterland areas and overall continued progress in the social sectors particularly in areas of education, health and housing¹¹, in light of the MDGs.
- ii) Securing effective support¹² for the global service that Guyana forest offers to the world through maintained high forest cover and low deforestation rate.
- iii) Implementation of the National Forestry Plan that supports sustainable harvesting in the forestry sector.
- iv) Greater enforcement of the Environment Protection Act, especially as it relates to the role of environmental impact assessments and implementation of Environmental Management Plans as an effective means to ensuring 'green growth'.
- v) The completion of the Amaila Falls hydro-electric project as a form of renewable energy.
- vi) Sustained participatory processes that provide opportunities for citizen participation in the national development process.

¹¹ The national housing initiatives promote the use of low cost materials by low income groups.

¹² If effective financing is not secured there may be increased pressure to depend only on existing extractive activities to satisfy social and economic development, and this may in the long term impact on the rate of deforestation and forest degradation.

- vii) Political stability to provide an enabling environment for foreign direct investment and to help national efforts to maintain a strong macro-economic growth even in the face of a current global crisis.
- viii) Sustained reduced impact on the environment in areas such as forestry and mining.
- ix) Commitment of local government and community organizations.
- x) Enhanced technical capacity in sector agencies and the newly created MNR & E to deliver integrated planning and decision making

The main lesson Guyana has learnt (over the years) is that integrated planning, close coordination, strong collaboration, and effective communication across key natural resources sector agencies, and related partners (like the Ministry of Amerindian Affairs, NGOs, academic institutions) are pivotal to the goals of sustainable development.

Stakeholders made four principal recommendations to strengthen the national sustainable development agenda:

- National consultations should be held periodically to analyse implementation of national plans etc. analyse gaps and take decisive actions;
- Maintaining strong advocacy at the local, national and international level for the financial compensation for maintain standing forests;
- Continued financial and technical support by international agencies to strengthen national efforts at achieving sustainable development; and
- Provision of guidance by the UN system to promote sharing of lessons learned in other countries with best practices with regard to sustainable development and green economy with the knowledge that the two are mutually dependent.

3.5 Conclusion

Undoubtedly, Guyana has made laudable progress in the pursuit of sustainable development, albeit there are still challenges, as experienced in other small developing economies. The national approach to sustainable Development in Guyana is based on a commitment to ensure the integration of the three pillars of sustainable development in the national policy framework: the economic pillar is entrenched in the PRSP with inputs from the NDS (which has virtually been subsumed under the PRSP); the social pillar is entrenched in some aspects of the PRSP, but more closely aligned to the achievement of the MDG's; and the environmental pillar is based on LCDS, which is supported by the NCSA reports and implementation plan, plus the NEAP (2001-2005).

The stock-taking report acknowledges that notable progress has been made in the achievement of the MDGs that help promote social sustainability. Moreover, Guyana's economic performance remains solid, and based on the country's natural resource endowment, together with improved governance systems, has potential for expansion into new areas created by the LCDS. At the institutional level, the natural resource and environment sector has now evolved into a new Ministry which will help in terms of coordination and ensuring that the country has a more integrated approach to natural resources management. The country has also advanced in respect of its obligations to the three major MEAs: UNCB, UNFCCC and UNCCD. Significant progress has been made in the area of natural resource management, sustainable land

management, and disaster risk reduction. Specifically, the development of policies, strategies, action plans and programmes, coupled with greater monitoring and enforcement mechanisms for activities in s mining, forestry, and agriculture have helped reduced land degradation and natural resource depletion, as well as minimised conflicts among resource users. The creation of strategic level decision making committees and a Ministry with responsibility for natural resources and environment, supported by the LCD, provides a unified approach to the pursuit of a green economy.

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Appendix 1 Terms of Reference



Terms of Reference

United Nations Conference on Sustainable Development (Rio+20)

National Preparatory Process

Preparation of the Sustainable Development National Report for Guyana

Background

Guyana has elected to participate in the national preparatory process in advance of the United Nations Conference on Sustainable Development (UNCSD) to take place in Rio de Janeiro in June 2012.

The United Nations Department of Economic and Social Affairs (UNDESA) is planning to support multi-stakeholder consultations in advance of the Rio+20 Conference. As part of the consultative process the UNDESA will support a national consultation workshop in Guyana. The intention is to build national capacity to allow Countries to participate more fully in the Rio+20 process, as well as to ensure continuing efforts to implement the outcomes of the conference. Participants at the workshop will be drawn from Government, NGOs, Private Sector, and Donor Organisations.

The national preparation process consists of three consecutive and interlinked phases. All three phases will contribute to the preparation of an output document while building capacity on the issues.

These three phases are:

- A. The preparation of a stocktaking report based on interviews, consultations and desk review;
- B. The facilitation of a multi-stakeholder meeting to address the issues of the UNCSD; and
- C. The documentation of outcomes from both the stocktaking exercise and multi-stakeholder meeting in a national report by the consulting team.

Consultant Activities

Under the overall direction of UNDESA and guidance of the United Nations Development Programme-Guyana (UNDP-Guyana) and the National Focal Point for the UNCSD, the contracted consulting team, will undertake the following, and will ensure that all pertinent themes of sustainable development are integrated, including such themes as health and education:

A) Prepare a stocktaking report

The stocktaking report should include, where possible intermediate objectives and activities, indicators and institutional frameworks for achieving the sustainable development goals.

For the preparation of the stocktaking report, the consulting team will conduct any additional interviews and consultations with national stakeholders necessary for the extended work, starting and ending with the national CSD Focal Point. Through this consultative process, the consulting team will obtain relevant contextual information from a number of stakeholders in government and national major groups and donor organisations. Furthermore, any other relevant documentation of national strategies, plans, policies, capacity needs assessments, and practical experiences will be reviewed and synthesized by the consulting team. A list of guiding questions is in Annex 1.

From this process, the consulting team will prepare a 20-30 page stocktaking report that will feed into the discussions to take place during the multi-stakeholder meeting.

B) Conduct Multi-stakeholder consultative meeting

In collaboration with UNDP-Guyana, multi-stakeholder meetings will be organised by the consulting team to discuss and move towards consensus on a national assessment of progress, remaining gaps, experiences and opportunities pertaining to the themes of the UNCSD.

Success of the consultative meeting will depend highly on active participation of the attendees. Therefore, it is imperative to invite knowledgeable and senior representatives of the following stakeholder groups to the meeting:

- Ministries of Natural Resources and the Environment (MNR&E), Housing and Water, Finance, Amerindian Affairs, Guyana Energy Agency and, as appropriate, representatives from other Ministries and Commissions;
- International and national donor institutions; and,
- Organisations representing major groups such as women, farmers, youth, trade unions and others.

The consulting team will facilitate the national workshop and the proceedings of the meeting will be prepared by the consulting team and circulated as part of the draft national report to Rio+20.

The consulting team will prepare a workshop report. To facilitate preparation of this report, the Team shall include a rapporteur to cover workshop proceedings. The National Report shall be reviewed by the appropriate government agencies and the principal United Nations partners

C) Prepare a Draft National Report

A national report capturing the outcomes of both the stocktaking exercise and the multi-stakeholder meeting will be completed following the workshop. The questions that have been answered during these first two phases will now be presented in a succinct and focused manner. The report should address the UNCSD objective and the two new themes in the context of the traditional themes of sustainable development, the present situation, experiences gained and aspirations of the country. The report should aim to provide a number of recommendations for the UNCSD. A list of guiding questions is in Annex 2. In addition, the Questionnaire for Member States on Experiences, Success Factors, Risks and Challenges with regard to Objectives and Themes of the UNCSD will guide the reporting.

The national report should:

1. Be a minimum of 20 pages, and be written in a clear, concise and readable manner;
2. Include a brief summary of the workshop;
3. Identify the key issues and barriers to addressing sustainable development including options for green economy, from the perspective of government, major groups and donors;
4. Propose institutional arrangements for sustainable development;
5. Focus on the proposed solutions to removing the identified barriers; and
6. Make recommendations to strengthen the national sustainable development agenda based on the multi-stakeholder dialogue and the outcomes of the workshop.

The report may be modified and adopted by the National Focal Point prior to submission to the UNCSD

Time Frame & Deliverables

The consulting team will deliver to UNDESA, UNDP and MNR&E the following:

- 1) First Draft the National Report, which includes an interim analysis and background no later than February 27, 2012
- 2) Workshop proceedings (report) – completed and submitted 2 weeks after the workshop or 16 March 2012
- 3) National Sustainable Development Strategy Report to be completed by March 27, 2012.

UNDESA contacts:

Latin America and Caribbean:

Thomas Hamlin, Technical Adviser, Division for Sustainable Development, hamlin@un.org

Appendix II Guiding Questions from UNDESA

- How can the new Ministry of Natural Resources and the Environment best integrate planning and decision-making to achieve sustainable development in Guyana?
- Has Guyana supported any of the Multilateral Environmental Agreements? Please list and provide details on responsible institution/Ministry, effect on policies and planning.
- What actions have been introduced in Guyana to strengthen political support for sustainable development? E.g. has the support to MEAs lead to sustainable development to be mainstreamed into development policies and planning?
- Has Guyana introduced or promoted integrated planning and decision making for sustainable development? If so, under what title (NSDS, PRSP, NCSA or NEAP, other)? What are the lessons from this experience?
- Are there specific industry sectors or resource areas (e.g., water, energy, biodiversity, transport, other) where national political commitment to achieve sustainable development goals has been especially strong? If so, what factors explain that commitment?
- Has national and local government in Guyana been actively involved in developing and/or implementing programmes/projects locally for Agenda 21? If so, where? What have the achievements been so far?
- What institutions have been developed for sustainable development in Guyana? Have changes been made to existing institutions in this context?
- Have the Ministry of Finance or important line ministries been engaged in public policy and planning for sustainable development? Is there for instance coordination across Planning, Health, Environment, Transport, and Energy agencies on transport and land use?
- What new and emerging challenges are likely to affect the prospects for sustainable development in the coming decade? What mechanisms have been put in place in Guyana to address these challenges: At the local level? At the national level?
- Is there a consensus among policy makers in Guyana on the meaning of the term green economy in the context of sustainable development and poverty eradication? If so, how is it defined?
- What would green economy mean in Guyana? Are there studies in Guyana that identify success factors, challenges or risks associated with green economy policies identified? Have green economy actions been taken so far in Guyana?

Appendix III List of Key Informants/Stakeholders

Name	Position	Organization
1. Ms. Aiesha Williams	Freshwater Coordinator	World Wildlife Fund- Guianas
2. Dr. Ashok Sookdeo	Director	Ministry of Health
3. Ms. Chrisel Shepherd	President	Ecotrust Society School of Earth & Environmental Science
4. Mr. Dale Beresford	Vice President	Guyana Trade Union Congress
5. Ms. Kim Halley	Treasurer	Guyana Trade Union Congress
6. Mr. Damian Fernandes	Natural Resources Specialist	Ministry of Natural Resources and the Environment
7. Mrs. Clydecia Spitzer	Multilateral Environmental Agreements Specialist	Ministry of Natural Resources and the Environment
8. Mr. Gavin Agard	Forestry Specialist	Ministry of Natural Resources and the Environment
9. Mr. Ashton Simon	Indigenous Relations Specialist	Ministry of Natural Resources and the Environment
10. Mr. Rawle Edinboro	Chief Planning Officer	Ministry of Housing and Water; Central Housing and Planning Authority
11. Ms. Fayola Azore	Planning Officer	Ministry of Housing and Water; Central Housing and Planning Authority
12. Mr. George Jervis	Permanent Secretary	Ministry of Agriculture
13. Mr. James Singh	Commissioner	Guyana Forestry Commission
14. Dr. Indarjit Ramdass	Executive Director	Environmental Protection Agency
15. Mr. Indranauth Haralsingh	Director	Guyana Tourism Authority
16. Ms. Jean Ramkhellawan	President	Guyana Association of Professional Engineers
17. Ms. Khadija Musa	Resident Coordinator	United Nations
18. Dr. Lystra Fletcher-Paul	Guyana Representative	Food and Agricultural Organization (FAO)
19. Ms. Angela Alleyne	Assistant Food and Agriculture Representative- Programming	Food and Agricultural Organisation (FAO)
20. Dr. Marlene Cox	Vice Chancellor	University of Guyana, Turkeyen Campus.

21. Mr. Mohandatt Goolsarran	Director	Ministry of Education (National Centre for Educational Resource Development)
22. Mr. Navin Chandarpal	Advisor to the President on Sustainable Development, Science and Technology	Office of the President
23. Mr. Phillip DaSilva	Deputy Director	University of Guyana Tain Campus
24. Mr. Ramesh Dookhoo	Chairman	Private Sector Commission
25. Mr. Shyam Nokta	Head	Office of Climate Change
	Advisor to the President on Climate Change	Office of the President
26. Mr. Wendell Alleyne	Environmental Manager	Guyana Geology and Mines Commission
27. Mr. Quincy Thom	Environmental Officer	Guyana Geology and Mines Commission
28. Mr. Darcy Waldron	Senior Environmental Officer	Guyana Geology and Mines Commission
29. Mr. Ryan Smith	Environmental Officer	Guyana Geology and Mines Commission
30. Mr. Yudhistir Prashad	Chairman	Water Users Association

Appendix IV Some Principles of the Rio Declaration on Environment and Development

- Principle 3** The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.
- Principle 4** In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.
- Principle 10** Environmental issues are best handled with the participation of all concerned citizens, at the relevant level.
- Principle 11** States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply.
- Principle 17** Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.
- Principle 22** Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices.

Appendix V

Pillars of Sustainable Development	Guyana's Status in 1992 (time of Rio Summit)	Progress since 1992 (Rio Summit)
Economic Sustainability		
	<ul style="list-style-type: none"> • During the Economic Recovery Programme (ERP) Guyana abolished virtually all price controls, increased fees for public services, abolished import prohibitions, unified the exchange rate, simplified the tariff structure, and established market-based interest rates. By 1990 performance in all the major sectors was at its worst, since independence. However, from 1991 to 1997 results were impressive: annual GDP growth rate averaged 7.1%; the deficit of the non-financial public sector decreased in the same period from 16.3 % of GDP to 3.2%; financial transfers (including transfers to public enterprises) declined from a yearly average of 8.0% of GDP to 1.3%; and poverty rates declined from 43.2% to 35%¹³, although still relatively high. The economy heavily relied on the production and export of a few raw materials¹⁴. • According to the 1993 Household Income and Expenditure Survey (HIES)/Living Standards Measurement Survey (using the head count approach) about 43% of Guyana's population lived below the poverty line, with 29% living in extreme poverty, while the highest incidence of 	<ul style="list-style-type: none"> • Except for 2003 and 2005 Bank of Guyana Report 2012 shows that Guyana's economy has been posting positive growth rates for over a decade. The report also shows that the macro-economic environment has been strong in recent times. There have been stable prices during the period 2006-2009 (except for 2006, when the country implemented the Value Added Tax (VAT)) - measured by the Consumer Price Index (CPI) declined from 8.2 % in 2005 to 4.5 % during 2009 and has remained single digit. Per capita GDP has risen from US\$ 1,694 in 2006 to US\$ 2501.7 in 2010. The country also enjoys exchange rate stability as well. US\$ to G\$ has been steady at US\$ 1 = G\$ 200 for most of the decade of the 2000s. • Guyana remains primarily an agriculture and resource-based economy in terms of its production base, but its GDP is now more heavily weighted in an expanding services sector - combined services average 60% plus of the GDP in 2010. • The country's underground economy has been shrunk from an estimated of 47% of economic activity during the 1990s (Faal, 2003), due to reforms such as the value added taxes, the

¹³ Guyana Public Expenditure Review (August 2002)

¹⁴ Guyana National Development Strategy, 2001.

Pillars of Sustainable Development	Guyana's Status in 1992 (time of Rio Summit)	Progress since 1992 (Rio Summit)
	<p>poverty was found in rural areas, particularly in interior locations.</p> <ul style="list-style-type: none"> • Guyana was heavily indebted. In 1990, debt service payments and interest amounted to 140 % and 53 % respectively of export earnings. Guyana's foreign debt by the end of 1991 amounted to US\$2.1 billion with debt service payments amounting to 105 % of current revenue. • In 1990 an estimated 40 % of workers earned the minimum wage, equivalent to only US\$0.5 per day. Three factors--the flourishing illegal economy, the cash remittances that Guyanese citizens received from relatives living abroad, and the country's near self sufficiency in food production--were all that kept the economic decline from becoming a disaster¹⁵. 	<p>recent rebasing of the GDP.</p> <ul style="list-style-type: none"> • The fiscal deficit and current account deficit expressed as a % of GDP declined continuously from 12.5% and 19.1% in 2005 to 3.7% and 11.3% respectively during 2010. • Guyana's net international reserves surged to US\$724.4 million at the end of 2010 from US\$160.5 million at the end of 2005 • Poverty declined during 1992/93 to 1999 from 43 to 36 %, after which no reduction was seen during the period of stagnation (1998-2005) as it remained at 36 % at the end of 2006. • Between the period 2006 and 2010, the country again witnessed high levels of foreign investment, like it did during 1991-1997, while remittances continued to outstrip foreign investment inflows.
Social Sustainability		
	<i>Social</i>	<ul style="list-style-type: none"> • Extreme poverty decreased from 28.7 % in 1993 to 18.6 % in 2006

¹⁵ <http://countrystudies.us/guyana/53.htm>: Tim Merrill, ed. *Guyana: A Country Study*. Washington: GPO for the Library of Congress, 1992.

Pillars of Sustainable Development	Guyana's Status in 1992 (time of Rio Summit)	Progress since 1992 (Rio Summit)
	<ul style="list-style-type: none"> • Structural Adjustment had dire consequences for the social sectors which received, at that time approximately 8% of total revenue¹⁶. Conditions in telecommunications, road infrastructure (particularly on the coast) and public utilities were relatively poor. • Between 1980 and 1990, the population fell by 4.8 %. With natural rate of increase of 1 % per year, this represented about a 15 % decline in Guyana's population.¹⁷ Population in 1990 was 723, 673 (Bureau of Statistics). • In 1991, 50.1 % of household has access to safe drinking water and 31% had access to improved sanitation (Bureau of Statistics). • In 1991, national secondary enrolment was 54.5%. • Infant mortality rate was 43 per 1000, while crude birth rate was 25.19. • Wage and employment were 'frozen'; hence high level of unemployment. • High emigration of the highly educated, resulting in a shortage of skilled workers and a severe brain drain. 	<ul style="list-style-type: none"> • Unemployment rate fell from 11.7 % in 1992 to 10.7 % in 2006. • Net primary school (teacher) employment rate has been consistently above 95 % since 2000. • Mortality rate has decreased from 120 per 1000 live births in 1991 to 17 per 1000 live births in 2008. • The prevalence of HIV/AIDS in the population has decreased from 7.1 % in 1995 to 1.1 % in 2009. • Malaria infection has decreased from 5,084 per 100,000 persons in 2005 to 1,541 persons per 100,000 in 2008. • Guyana is ranked 24th out of 186 countries for highest proportion of women in parliament. • About 88. % of households in Guyana have access to potable water supply. • 84 % of households are using toilets or improved pit latrines.

¹⁶ <http://www.gina.gov.gy/archive/researchp/debtburden.htm>

¹⁷ <http://www.imf.org/external/pubs/ft/scr/2006/cr06364.pdf>

- *The Ministry has a critical role in achieving a balanced approach to the utilization of the country's natural resources.*
- *An effective communication mechanism will be essential to this as well. Important will be the close collaboration of key agencies that have a role in forest utilization to bring into synergy these utilization activities to ensure that deforestation and forest degradation remains at a low level and that social and economic development take place at the same time to support the economy and local communities. This is already being implemented.*
- *The whole idea of the Ministry is for integrated planning and decision making. It could be an institution that can sit above all the various sectors and try to coordinate policy and decision making. The Ministry has to ensure that the planning in each sub- sector results in achieving this balance.*
- *The Ministry is responsible for the management of key sectors such as forestry and mining which have many challenges in relation to environmental protection and as such, has to ensure that the planning in each sub- sector results in achieving this balance.*
- *This Ministry is a good move since the various national environmental agencies would not be scattered here and there. Since they are all under one umbrella, they will be able to have synergies and information sharing so as to understand in the wider perspective what is happening as it relates to environmental issues.*
- *Now that there is the creation of the new Ministry , with respect to sustainable land management, stakeholders can work together, for example, the miner and forester can work together, and therefore, before the miner goes into an area the forester can take the economically viable trees before the actual mining takes place. Therefore, with these various projects, stakeholders can work together to achieve sustainability. With such integration, wastage can be prevented.*
- *Before the establishment of this Ministry, certain aspects of resource management were not targeted directly since there was little monitoring and evaluation as resources were utilized. With the establishment of the new Ministry we can measure to see whether or not there has been progress towards sustainability of our resources.*
- *This Ministry is a strategic move from the government. This means that there will be more focus on the natural resources and by extension on sustainable development; because sustainable development has been a core strategy for developing countries such as Guyana. This is for the general use of the resources that we have and for the practice of sustainable development. With the new Ministry, we can help to better coordinate activities of the country towards sustainable development. It's good that it covers mining, forestry etc. And now that the associated agencies are now under natural resources, protected areas are other projects can be well underway. So now that we have this Ministry, integrated planning can be achieved.*
- *The new Ministry brings a more focused approach to this area of natural resources and the environment, since it is concentrated in one person who would be able to guide policy, develop plans and work strenuously with international organizations and funding agencies to ensure we have a very sustainable approach to managing our natural resource such as plants and animals, gold and diamond mining, oil etc. By first integrating the different responsibilities of each line agency to ensure that existing overlaps in institutional mandates and operational mandates are removed.*

Appendix VII

Civil Society/Local Communities and Indigenous People's Involvement in Sustainable Development Initiatives

In recognition of the importance of participation of all levels of society, public participation in decision making and activities to promote sustainable development, several NGOs and community groups have embarked upon laudable initiatives. Chief among these are the following:

The Guyana Mangrove Restoration Project¹⁸

The Guyana Mangrove Restoration Project is funded by a partnership between the Government of Guyana and the European Union. The project is implemented by the Ministry of Agriculture through the National Agriculture Research & Extension Institute (NAREI). The objective of the project is to seek the commitment of Guyanese towards the protection and development of sustainable mangrove forests. The project commenced activities in February 2010 and is working in the areas of administrative capacity development, research, community development and capacity building, mangrove restoration (replanting), monitoring and awareness and education.



The National Mangrove Management Action Plan covers a three-year period from 2010 to 2012. Alternative funding will be sought to continue the plan when the EU funds expires. The long-term sustainability of the project will depend on the alternative funding sources, and revision and modification of the mangrove action project. The momentum built through successful implementation of the projects of this action plan will contribute to long term sustainability. To this end, a well-conducted campaign of visibility and education is a vital part of the programme. The overall objective is to respond to climate change and to mitigate its effects through the protection, rehabilitation and wise use of Guyana's mangrove ecosystems through processes that maintain their protective function, values and biodiversity while meeting the socio-economic development and environmental protection needs in estuarine and coastal areas. The operational duration of the project is 48 months from the signature of the Financing Agreement (no 9732/GUA) in mid 2010.

The communities that are closest to the pilot sites are active participants in the replanting process and site development, and monitoring of the pilot sites. The Pilot Sites currently considered within the plan include Mon Repos, Hope Beach, and Ruimzeight in Region Three, where one of the most significant examples of natural regeneration can be found.

The success of the project will be determined by the level of involvement, support for and ownership of the process by local communities. Much of this is dependent on a strategic and sustained approach to community development and public awareness. Much therefore depends on the success of public awareness and education campaigns. The recognition of the vital roles that mangroves play; the extraordinary environment to which they have adapted and their vulnerability to external pressures, should become part of the Nation's consciousness. As this understanding grows, and a sense of shared national responsibility fostered, the work of restoration and protection will be made easy. The Project works along with various community groups and facilitates community discussions, youth group sessions and community events.

The project values community input and in 2010, during the initial stages of project implementation, several consultations were held with coastal communities from Region One to Region Six. Several major issues were identified by communities and these ranged from the general lack of awareness of the laws that relates to mangrove and seashore areas, citizens' responsibilities and alternatives to activities that affect mangroves.

Recommendations were made to deal with mangrove cutting, livestock grazing and hauling of boats in mangrove areas.

¹⁸ Information taken from <http://www.mangrovesgy.org/>

As a result of the region-wide community consultations, the Project conducts targeted discussion sessions with various community groups (fishermen, livestock owners, Beekeepers among others) to provide clarifications and to find potential solutions when they are directly affected by the project.

Importantly, the Project will assist few small-scale Beekeepers with marketing of their honey from areas which are to be identified from along the coast. Along with the Beekeeper Association, the Project will also assist with labels and bottling of the final product.

Project partners include the European Union, Ministry of Agriculture, and NAREI

In April 2000, the Guyana Marine Turtle Conservation Society (GMTCS) was established as a Friendly Society and, among many other remarkable achievements in the area of monitoring, research, education and awareness, has been identified by the EPA, as the Lead Agency in the planning and establishment of Shell Beach Protected Area. Shell beach was declared a legally Protected Area in October 2011. GMTCS is organized into an executive decision making arm or Board and an Administrative arm which comprises the central core office. As a result of its strong on-the-ground activities, three satellite field stations have been established in Region 1 at Moruca, Shell Beach, and Mabaruma.

The Guyana Marine Turtle Conservation Society (GMTCS)

The vision of GMTCS is: to manage the ecosystem of the shell beach area by promoting the conservation and sustainable utilisation of the resources of the area for the benefit of all stakeholders.



Currently GMTCS is involved in the following:

- **Monitoring Programme:** nightly sea turtle patrols to ensure no harm comes to nesting females. Tourists and visitors to the area usually accompany the sea turtle officers on these trips.
- **Conservation Camps for youths:** over the years camps have been held to provide conservation education for youths, parents and teachers from local communities, whose families depend on fishing and other resource use from the Shell Beach area. Education is regarded as an essential component of assisting the communities with making the transition from one where some individuals kill nesting turtles for food and profit to one where the turtles are offered complete protection and sanctuary, while they are at the most vulnerable stage of their lives.
- **Sea Turtle By-catch Study and Activities:** With the increasing movement of fishing vessels to the northwest of Guyana, there are ever-increasing numbers of incidental catch of sea turtles by drift seines (which sometimes extends to about 3.2 km). Incidental catch of sea turtles has also increased with the growing usage of the area by local community fishermen from the Waramuri, Santa Rosa and Almond Beach Communities. The first Sea Turtle By-catch study in 2006 showed 55-108 sea turtles (very conservative estimates but a significant number for Guyana), were caught accidentally in fishermen' nets. As a result of incidental capture, sea turtle meat (and eggs) once sold clandestinely in traditional user communities in the Northwest are now moving to the capital city of Georgetown. As a result of this, the GMTCS is working closely with WWF, Ministry of Fisheries, and Industrial, Artisanal and community fishermen to reduce the number of sea turtle by-catch, for example, by use of turtle excluding devices.

- **Community Activities:** Local communities are involved in a number of activities to ensure that sea turtle activities are always on their radar, and that sea turtle meat and eggs are not consumed or sold. The communities have drafted their local laws and have shown an interest in placing sea turtle protection and conservation within it. Additionally, several communities are developing sustainable livelihood alternatives such as eco-tourism based activities incorporating visits to Shell Beach to view sea turtles and marketing of their “Northwest Organics” products, such as crab wood oil.

As a result of its designation as a Lead Agency by the EPA for the establishment of the Shell Beach Protected Area, GMTCS will broaden its mandate to: (i) assume the role of lead organisation for the Shell Beach Protected Area process leading up to the declaration of the site as a Protected Area; and (ii) collaborate with the Guyana Protected Areas Secretariat/EPA on the process that will establish a protected area in the Shell Beach area with the objective of protecting rare and endangered species and habitats, and indigenous lifestyles while promoting sustainable utilization of the resources of the area for the benefit of all stakeholders, in particular local stakeholders

Environmental Community Health Organisation (ECHO)

The recently formed Guyana-chapter of the Environmental Community Health Organisation (ECHO), a youth non-governmental organisation, aims at promoting public environmental awareness and environmentally friendly attitudes and practices related to waste management and climate change. To this end, ECHO has undertaken several initiatives; including:

- Green Ambassador Programme that seeks to empower youth to be agents of change in their schools and local communities;
- Environmental seminars for Ecoclubs to raise serious environmental issues such as climate variability and climate change, water purification and conservation and basic sanitation;
- Establishment of eco-centres for the education and training of youth and other citizens in ecosystems health and well-being; and
- Demonstration projects such as tree planting exercises and clean-up campaigns.

Amerindian People’s Association (APA)

Mission Statement : To promote the social, economic, political and cultural development of Amerindian communities in solidarity with each other and to promote and defend their rights. The main subject areas of activity or programmes are:

- Education/training;
- Human rights;
- Environment;
- Women’s issues;
- Advocacy;
- Indigenous peoples issues; and
- Legal services

More information can be obtained from www.apa.org.gy

The Private Sector

The private sector in Guyana has been more involved in national consultations on environmental regulations. To a lesser extent, a number of companies have been taking steps to achieve more sustainable forms of operations. Some examples include (i) Banks DIH that distributes wastes from the brewery across the country to feed livestock and have recently installed a waste water treatment plant; the Demerara Distilleries Limited has a methane producer; and Toolsie Persaud Company Limited has installed technology to prevent the emission of cement dust into the atmosphere.

A National Working Group (NWG) has been established by the public sector (through the Office of the President) and the private sector (through the Private Sector Commission) with the assistance of the UNDP to foster and facilitate partnerships and to support Sustainable Development Oriented Business Practices. The NWG is expected to achieve, among other things, information sharing to enhance knowledge of the Millennium Development Goals (MDGs) and contribute effectively towards their attainment.¹⁹

*Local and Indigenous Participation*²⁰

Indigenous peoples in Guyana account for approximately 10 % of the population and occupy significant land mass. Traditional knowledge has been an important part of Guyana's land management historically with the accompanying cultural traditions. Emphasis is placed on traditional knowledge and experiences as evidenced by partnerships with local and international NGOs and local communities which help promote and strengthen traditional knowledge and skills, e.g. Iwokrama and CI who through Community Resource Evaluations assist in the documentation of resources and practices in Amerindian communities.

An Arapaima Harvest Management Plan was prepared and was approved, in 2010, to increase the local Arapaima (*Arapaima gigas*) population.

A Paper was published in 2003 to justify the protection of the Red Siskin in the South Rupununi Savannahs, after healthy populations of the endangered bird species was discovered there. The EPA has designated the South Rupununi Conservation Society (SRCS) as the lead agency for the protection and conservation of the species.

The National Agriculture Research and Extension Institute (NAREI) works with traditional farmers to preserve threatened crop genetic stock through traditional seed storage and vegetative field gene banks, and to conduct research on land-race species. NAREI has established three outstations for plant genetic resource-safe depositories for conservation.

The Makushi Research Unit (MRU) has been established by the North Rupununi District Development Board (NRDDB), Iwokrama and the University of Guyana Amerindian Research Unit as a research initiative in 1995 to study the ethnobiology of the North Rupununi. The Unit consists of predominantly women researchers from local communities who conduct enquiries on social, economic, and ecological aspects of life in the North Rupununi. The MRU plays an important role in understanding local knowledge systems and cultural affirmation. It is also a primary force in ensuring local communities in the North Rupununi are informed of research.

The MRU has been recently supported by the Gender Equality Fund of the Canadian International Development Agency (CIDA). MRU projects include working with the Ministry of Education to develop Makushi language teaching in schools. The group published several books including "Makusipe Komanto Iseru" freely translated as "Sustaining the Makushi Way of Life".²¹

¹⁹ For more information see http://www.undp.org.gy/web/index.php?option=com_content&view=article&id=93

²⁰ This information is obtained from Guyana Fourth Report on the Fulfillment of obligations to the UNCBD. 2010.

²¹ Source: www.iwokrama.org

The Bina Hill Institute (BHI) which was established in 2001 provides training in traditional knowledge systems, natural resource management and skills for employment and economic development. The BHI, located at Annai Central in Region 9 (Upper Takatu/Upper Essequibo), works with several partners under the umbrella of the NRDDDB, to develop training, research and other resources in the North Rupununi. For example, the institution is used as a base when conducting fisheries surveys for arapaima and aquarium fish. The institute provides youth (especially those who did not complete secondary school) with an opportunity to further their training and education. The skills taught are aimed at building students' capacity in areas that will increase their employment marketability and preserve traditional knowledge systems and language. To this end, the BHI offers courses such as Wildlife Management, Forestry, Computer Science, Agriculture and other skills and leadership programmes, and is currently in the process of expanding its training in the areas of: natural resource management; traditional knowledge systems; and capacity building for occupational and economic development. Recently, the BHI, in collaboration with the UNDP-GSI and Iwokrama, authored a training manual on ecosystem services, which is now an instruction manual for its vocational training courses.

The institute also started a radio station in 2004 called Radio Paiwomak (FM 97.1) which is the first hinterland radio station in Guyana. The radio station is located within the BHI complex and operates under the umbrella of the NRDDDB. The station affirms the culture and tradition of the Makushi people by producing and broadcasting programmes highlighting local culture and issues about the environment and biodiversity. Some of these programmes are in the local language (Makushi), and the station serves nine communities in the area.

Iwokrama International Centre for Rain Forest Conservation and Development

The Iwokrama International Centre for Rain Forest Conservation and Development²², established in 1996 by statute, continues to provide leadership in the area of sustainable forest utilisation, resource inventory and monitoring, as well as capacity building for local communities living in or adjacent to the forest reserve. This is in keeping with its mandate to promote the conservation and the sustainable and equitable use of tropical rain forests in a manner that leads to lasting ecological, economic, and social benefits to the people of Guyana and to the world in general, by undertaking research, training, and the development and dissemination of technologies.

The Centre manages the nearly one million acre (371,000 hectares) Iwokrama Forest in central Guyana. The Iwokrama Forest represents 1.7% of Guyana's area. In order to ensure efficient management, the Iwokrama Forest is divided into two areas, namely, the Sustainable Utilization Area (458,778 acres/185,661 hectares) and the Wilderness Preserve (458,951 acres/185,731 hectares). The thematic programmes that inform the Centre's activities are sustainable forest management; conservation and utilisation of biodiversity; and sustainable human development. Over the years, this International NGO has established partnerships with local communities and the private sector. These partnerships combine traditional knowledge, science and business to develop "green", socially responsible and sustainable forest products and services, like low-impact timber harvesting, ecotourism, training forest rangers and guides, and harvesting aquarium fish.²³

Opportunities under REDD Plus are also being explored, given the Centre's rich biological resources and other ecosystem services. Additionally, the Centre is a leader in the area of research by means of three large projects: The Forest Research Network; the Guiana Shield Initiative (GSI); and a programme focussed on capacity building to reduce deforestation and degradation in Guyana. An internationally prestigious Science Committee comprising scientists from around the world was formed in 2010 to help guide the Centre's research agenda.

Conservation International-Guyana

Conservation International-Guyana (CI-G), one of the field offices of the Virginia-based conservation organization, Conservation International (CI), has been integrally involved in national actions and initiatives aimed at the conservation and protection of biodiversity and climate change mitigation and adaptation initiatives. Recently, CI-G signed an agreement with the Government of Guyana to formalize the organization's

²² The Centre was established by Government and Guyana and the Commonwealth Secretariat and is governed by an International Board of Trustees.

²³ Details can be obtained from the Centre's official website at <http://www.iwokrama.org>

role in promoting biodiversity conservation as part of a National Protected Areas System. According to the agreement, CI-G will actively engage in three key areas: data collection and analysis, facilitation of involvement of indigenous communities, and public education and awareness. Other areas of collaborative management include:

- The 200,000 acres (80,000 hectares) lease to CI for conservation in the Upper Essequibo Region and the establishment of an associated Concession's Community Fund, which channels US\$10,000 annually to support a variety of environmentally sound, economically viable programmes, including a community-owned ecology in Rewa Village, livestock rearing, and handicraft making;
- A tripartite Memorandum of Understanding (MoU) signed by the Wai Wai of Southern Guyana (Konashen), the Government of Guyana and CI-G for assistance in establishing a Community Owned Conservation Area. This MoU was initiated by the local community to receive assistance in the process of developing a plan for their lands in the Konashen District (1.5 million acres) that is currently managed as a Community Owned Conservation Area.

Conservation International also provides support for the documentation of traditional knowledge in the South Rupununi. Some of the studies include:

- 1) Community Resource Evaluation (May-Dec, 2002) in the villages of Katoka, Yupukari, Kaicum-bay, Parishara, Nappi, Hiowa, St. Ignatius, Kumu, Quarrie, Moco Moco, Parikwarinawa, Shuli-nab, Quiko, Meriwau, Sand Creek, Rupunau, Shea, Maruranau.
- 2) Socio-economic Survey of Amerindian communities in Kanuku Mountains area in the villages of Katoka, Yupukari, Kaicum-bay, Parishara, Nappi, Hiowa, St. Ignatius, Kumu, Quarrie, Moco Mo-co, Parikwarinawa, Shulinab, Quiko, Meriwau, Sand Creek, Rupunau, Shea, Maruranau.
- 3) The recently designated protected area in the Kanuku Mountains region of Guyana (Aug 1993), Potarinau Amerindian reservation, Shea village, Yakarinta, Karanambo and Pia-rara ranches.

World Wildlife Fund Guianas

The WWF Guianas has local offices in Guyana, Suriname and French Guiana. The work programme of the local office, which was established in 1998, is guided by its mission: to "conserve nature and ecological processes by ensuring that the use of renewable resources is sustainable both now and in the longer term". To fulfill its mission, the programme promotes partnerships among local communities, private and public sector institutions, NGOs, and funding organizations to improve the management of the natural environment of the forests and freshwaters.

The organisation's operations focus on five (5) thematic areas: Sustainable Forest Management; Gold Mining and Mercury Pollution Abatement; Protected Areas; Wildlife Conservation and Marine Turtle Conservation.

For example, WWF Guianas supports:

- (i) sustainable forest management through training, increasing of awareness of forest operators, providing assistance to government agencies, national and international NGOs, and promoting sustainable forest management techniques; and
- (ii) voluntary initiatives of private companies willing to run their forest operations according to standards and criteria approved by FSC (Forest Stewardship Council). Forest Certification is a tool to guarantee that the products derived from forests, which are well managed taking into account environmental, social, and economic principles and criteria.

Appendix VIII Some Sector Initiatives

Health

From a health perspective, since 1992 a lot of money has been invested in terms of health infrastructure to provide greater access to health care to a wider cross section of the population. Additionally, training has been done in terms of human resource capacity building: 300 doctors are arriving in Guyana next year from Cuba. Currently the health Ministry has a number of training programs such as radiography assistance, environmental health assistance, laboratory assistance, dental assistance etc. Guyana also has a more structured approach to health i.e. the National Health Strategy so that at every three years priorities are set for the health sector.

With respect to climate change the National Health Sector Disaster Plan was developed to incorporate some of the threats particularly flooding. In the building of hospitals, the building is subject to a hospital safety index to improve the design of hospitals to take into consideration the whole aspect of the green economy, risk management and climate change. There is also a draft of our climate change initiatives i.e. things being done in the health sector, in collaboration with PAHO, to reduce the threats of climate change.

Mining Sector

Mining is cited by the Guyana Interim Measures Report (2010) as the major driver of deforestation, even though, as shown below, major initiatives have been taken to promote sustainable development in the sector. Two notable achievements are in the areas of capacity building and environmental regulations as a command and control mechanism, as highlighted below.

- The Government of Guyana amended its Mining Act in 1989 and the Mining Environment Regulations (MER) was promulgated by Parliament in 2005. Those regulations govern environmental management for small scale mining and are similar to those for large and medium scale mining, except for the submission of Environmental Management Plans (EMP). The small scale miners are only required to submit to the GGMC for approval, clean-up plans for their site(s) in the event of a spill. On the other hand, medium scale miners must submit to the GGMC an EMP, which spells out how the miner intends to achieve his/her environmental targets and obligations, and outlines the measures that will be taken by the miner during the planning stage of mining up to and including closure. As part of the general requirements, issues relating to discharges into the river or creek; use of settling ponds; disposal of petroleum products and poisonous substances; inspection of environmentally damaged areas; responsibility of the miner for environmental damage; disposal of effluent; and tailings pond. In addition, the general requirements provides for the Commission to publish or approve a Code of Practice for Environmental Mining. Moreover, Part XXIX of these amended regulations provides the general penalty for contravening any of the provisions of these Regulations; and the penalties for: breach of terms and conditions of license or permit; failing to provide information; giving false information; failing to submit any document; failing to disclose information; obstructing an authorised officer; and second offence. By law, miners are required take all necessary mitigation measures to protect the environment prior to and during the course of mining in accordance with the Environmental Management Agreement that provides selected details on the mitigation measures that miners should practice during the course of mining. Moreover, training programmes in environmental management systems and environmental management were developed and implemented in response to the specific needs of for different categories of officers of the GGMC, as well as miners. This programme has received financial support from the WWF Guianas.

Energy Sector

Energy is considered key to Guyana's pursuit of sustainable development. Notable initiatives in the energy sector include:

- An Energy Policy which seeks to reduce national dependence on fossil-based energy sources, encourage and support new investments in use of renewable sources of energy, and promoting rational and efficient use of energy. It should be noted that this policy is an outcome of the Caricom Energy

Programme: CREDP. One of the major policy options that is gaining the attention of the Government of Guyana is the development of indigenous and renewable sources of energy, including hydropower (for example, Amaila Falls Hydropower Development), biomass²⁴ and biofuels, solar, wind, tidal and industrial and non-industrial by-products. The pursuit of renewable energy sources is a direct mitigation measure to reduce Guyana's dependence on fossil fuels, and reduce greenhouse gas emissions.

- Formulation of an Agro-Energy Policy to guide Guyana's development of a competitive and sustainable agro-energy sector.
- Promotion of a rural energy development through adopting innovative mechanisms and maximizing the protection of the environment for self-sufficiency and replication.
- The implementation of the Guyana Skeldon Bagasse Cogeneration project.
- National public awareness campaign on energy conservation including measures necessary to secure the efficient management of energy and the source of energy in the public interest and encourages the development and utilization of renewable sources of energy.

Tourism Sector

Guyana has sustainable tourism at its core in terms of sustainable development. Four sets of tourism regulations have been established to ensure that our tour operators, interior lodges, resorts, hotels etc. are working with standard operating procedures to promote sustainable tourism in Guyana. Tourism stakeholders in Guyana are also looking at green practices to implement their own mini green leaf programmes for their hotels and guest houses to ensure they are eco-certified nationally before seeking international accreditation.

Both national and local government have been actively involved so far with hinterland communities and indigenous communities. The whole rural electrification process of having solar panels is a driving force for community based tourism. This community based tourism is used as a means of empowering women. This is a part of Agenda 21 to provide alternative forms of livelihood to communities.

Additionally, the tourism industry is engaged in activities that seek to promote low carbon tourism: (i) a brochure is currently being prepared by the Guyana Tourism Authority (GTA) to encourage people to come to Guyana to have a low carbon experience; (ii) a low carbon perspective is also showcased when the GTA attends tradeshows and (iii) internationally renowned television networks - the History Channel (for three months) and the Discovery Channel are currently in Guyana to showcase sustainable tourism and sustainable development.

Transport Sector

The Institute for Applied Science and Research (IAST), since 2006, has executed a project targeted at the production of biodiesel on a commercial basis in Guyana. The aim is to foster the adaptation of biodiesel and feedstock technologies so that by 2020 the country would derive 65% of its diesel demand from agricultural feedstock. To this end, the IAST has several initiatives, including: (i) construction of pilot demonstration facilities for ethanol and biodiesel, (ii) development of standards and testing capabilities for controlling the quality of bio-fuels; (iii) promoting investment in bio-fuels; (iv) provision of technical due diligence for proposals to develop bio-fuels.²⁵

This development of bio-fuels is expected to have a significant positive impact on the transportation sector.

At another level, the Ministry of Public Works has been involved in a research programme to upgrade and modify the existing hybrid system (uses both utility and solar powers). Through this initiative, seven of the traffic signal systems by year-end will utilize solar energy as its primary source of power, and utility energy

²⁴ Bagasse, rice husks, wood waste, wood, and plant and animal residue.

²⁵ <http://www.iast.gov.gy/departments.html>

(Guyana Power and Light) as its secondary source. Once the solar energy becomes the primary source of power for the signals, the utility bill is expected to reduce by one-third of its current amount.

Disaster Management and Prevention²⁶

Guyana, with the support of the international donor agencies, has implemented several policy instruments and activities toward improving coastal zone management and disaster risk management in the context of climate change adaptation, as highlighted in various sections of this document. Subsequent to the 2005 floods, the GOG, with UNDP support hosted a national disaster risk management planning workshop that underscored the need for a national comprehensive plan of action for disaster response and risk reduction. This recognition led to a process of negotiation with the GEF under the Special Climate Change Fund. In 2007, Guyana was granted \$US3.8 million, to finance a Conservancy Adaptation Project, which is under implementation. In addition, the European Union is providing support for coastal zone management and sea defence (for example, a Strategic Environment Assessment was done for the sea defence sector), while the GEF is providing support for the development of early warning systems.

To complement current disaster management and to deal with other challenges, the IADB has provided the sum of US\$1.2 million to support national initiatives aimed at developing country risk indicators and risk evaluation, strengthening of national and local capacity for integrated disaster risk management, and an investment programme for flood prevention and mitigation. This project will seek to: (i) systematically reduce disaster risk in the face of a changing climate, and (ii) accurately assess the impacts of sea level rise and climate change and strengthen disaster risk management institutions, including reorienting toward emphasis on ex ante risk reduction; (iii) incorporate sea level rise and climate change in the design of sea defence and flood protection works; and (iv) manage flood risk within the context of a comprehensive development framework which integrates climate change adaptation planning, disaster risk management, coastal zone management, and environmental and watershed management.

The UNDP has approved a project for Guyana, which complements the IADB project, and aims at "Strengthening National and Local Capacities for Disaster Response and Risk Reduction. The four components of the project are identified as: (i) community-based risk and vulnerability mapping; including demography of vulnerable communities; (ii) strengthen response capacities: Emergency preparedness at National and community level; (iii) capacity building for early warning systems (linked to existing project supported by UNDP at Ministry of Agriculture and Guyana Lands and Surveys Commission; and (iv) coordination support, awareness generation and communication strategy: improve information, coordination and communication capacities.

Recent achievements include:

- A Draft Risk Management Policy which aims to establish the guiding principles and architecture for disaster risk management (DRM) in Guyana by presenting the institutional structures, roles, responsibilities, authorities and key processes required to achieve a coordinated, coherent and consistent approach. This policy also seeks to provide an overarching framework for decision-making and coordination across DRM sectors inclusive of government, civil society, private sector, and the international community.
- A Damage Assessment and Needs Analysis Framework which is critical to critical Guyana's capacity to restore all sectors to normality after a disaster. It will not only assist in directing initial response activities. It will also guide the recovery and rehabilitation processes.
- A National Multi-Hazard and Preparedness Plan (2011) that aims to enhance the country's ability to manage all disasters using a comprehensive disaster management approach by (i) providing details on arrangements to cope with the effects of natural and/or man-made disasters occurring in Guyana, and assigning responsibilities and to provide coordination of emergency activities connected with major disasters, in general and specific ways.

²⁶ IADB Design and Implementation of an Integrated Disaster Risk Management Plan / GY-T1050

Appendix IX Guyana's Support of Multilateral Environmental Agreements

Guyana's support of the Multilateral Environmental Agreements (MEAs) is chronicled in national reports submitted to the individual secretariats for: the United Nations Framework Convention on Climate Change (UNFCCC); the United Nations Convention on Biological Diversity (UNCBD); and the United Nations Framework Convention to Combat Degradation (UNCCD). These Conventions were three of the five major outcomes of the Rio Summit held in 1992.

What follows is an outline of initiatives which have not been covered in other sub-sections of this report. Importantly, there are synergies between the MEAs; therefore every effort is made to avoid repetition.

Institutional Arrangement for Implementation

In an attempt to fulfil the various obligations under the three Conventions, the Government of Guyana identified and strengthened Focal Point Agencies to implement measures under each Convention. Thus, The Ministry of Agriculture was identified in 2007 as the Focal Point Agency (FCA) for the UNFCCC and this decision provided the basis for the work of the National Climate Unit. Prior to this arrangement, the Hydrometeorological Services Division performed assumed that role. On the other hand, the Guyana Lands and Surveys Commission was given responsibility for the UNCCD as the FCA in 2004, while the Environmental Protection Agency, established in 1996, took responsibility for the UNCBD, through its Natural Resources Management Division.

National Capacity Self Assessment of Conventions

In 2006, Guyana undertook Stock-taking and Thematic Assessments of each of the three Conventions. Those assessments produced reports that effectively informed policy makers of the key issues and problems that the country has to resolve in order to fulfil its obligations under the Conventions, and in so doing, adopt a more proactive approach to the threats. Subsequently, a Cross-Cutting Capacity Issues Assessment that examined possibilities of synergies, a Strategy and Action Plan were produced. These initiatives provided the basis for the "Incorporating Priority Work of the Conventions into Annual Work Plans of the FPAs (2009) so that national institutions could be strengthened (over time) to address national environmental responsibilities.

Progress on UNFCCC Obligations

With reference to the UNFCCC, the NCU was mandated to "*facilitate the development of a sound knowledge base of the realities of climate change and the identification and implementation of appropriate mechanisms and actions for effective response.*" Thus, the NCU embarked on programmes in five areas in an effort to fulfil the mandate and specific objectives: research, education, public awareness and outreach programmes; capacity building; monitoring; and preparation and submission of national reports. Some of the main achievements in response to the UNFCCC are outlined below.

National Climate Committee

The National Climate Committee (NCC), which was initially established in 1995 and recently re-suscitated has wide- representation of about 28 stakeholder groups in society (as discussed in Module 1 of the current Consultancy). The objectives of the NCC, which are briefly outlined below, indicate the extent to which the Committee has strengthened Guyana's capacity in the area of policy formulation and project:

- Examine national conditions as they relate to climate change and make recommendations to the Advisor to the President on Sustainable Development, Natural Resources and Environment Advisory Committee (NREAC) and relevant Ministers on appropriate national measures to address these conditions;

- Advise the NREAC and relevant Ministers on developments and the need for policies and regulations in relation to activities responding to climate change;
- Promote technical, scientific, technological and financial co-operation among agencies, institutions and organizations in Guyana with responsibilities related to climate activities;
- Advise the NREAC and relevant Ministers on proposals and negotiating positions to promote Guyana's interest in relation to climate change issues at appropriate global and regional forums; and
- Monitor the implementation of National Policies, Programmes and Action Plans related to climate and make recommendations for appropriate changes and revisions.

National Plans and Studies

A number of plans and studies have been developed/conducted to meet specific obligations. These include: (i) Guyana Climate Change Action Plan, 2001; National Climate Change Adaptation Policy and Implementation Plan for Guyana; Guyana Initial and Second National Communications to the COP, 2002, 2011; Integrated Coastal Zone Management Action Plan, 2000; and a mitigation exercise by the EPA and CIDA/SENES to monitor the rice and wood sectors. The latter produced recommendations on technological changes to reduce greenhouse gas emissions into the atmosphere.

A number of studies were funded through the GEF CPACC and MACC projects which have been geared towards addressing issues of mainstreaming climate change into development sectors, training and public awareness. Key outcomes include: A Coastal Vulnerability Study of Guyana; 2000; a National Agriculture Sector Adaptation Strategy to address Climate Change in Guyana, 2008 and a training workshop on "Adaptation to Climate Change in the Agriculture sector" was held jointly by the CARICOM Climate Change Centre, the National Climate Unit and the School of Earth and Environmental Sciences for key governmental officials representing 19 Caribbean countries. The workshop aimed at training a range of regional professionals in carrying out climate change impacts studies on the agriculture sector. It provided guidance on modalities for extracting and utilizing climate data and climate change projections and for employing these parameters, in juxtaposition with critical variables in the agricultural sector, to determine in a more quantitative manner, what are the likely impacts (negative or positive), on outputs from the sector.

Education

Education, training and public awareness programmes and activities have been undertaken by a number of stakeholder agencies/institutions, including the National Climate Unit, the Guyana Energy Authority, Environmental Protection Agency, the School of Earth and Environmental Sciences of the University of Guyana, Pan American Health Organization, Conservation International and the Iwokrama International Centre. Such activities which have benefited the nation as a whole may be summarized as follows:

- Development of educational materials such as booklets for school and farmers; and brochures on topics such as greenhouse gas and climate change, climate change adaptation and mitigation, and energy conservation with reference to appliances, lighting, motor vehicles and building designs.
- Climate change workshops, particularly for persons who reside outside of Georgetown and the immediate coastland of Guyana. For example, public outreach programmes have targeted Regional Officers, health workers, public sector workers and other member of the community in Regions 3 and 5;
- Mounting of billboards at strategic locations and poster exhibitions at the National Library and the University of Guyana campus.
- Panel discussions on national television;
- Publication of newspaper articles and special supplement that focus on the science of climate change, the need for adaptation and mitigation, the involvement of the public in finding solutions;

- Broadcasting of climate change videos and movies on national television;
- Climate change and flood symposia, particularly in observance of Earth Day, Guyana Environment Week and World Environment Day;
- Establishment of special climate change booths, for example at national exhibitions such as those held at events to mark Fisherman's Day, Grow More Food Campaign, and the Hydro-Meteorological Office Open Day; and
- Public lectures and presentation of specific papers at special events such as the National Agriculture Research Institute's Workshop on "Enhancing Food Security and Mitigating Climate Change held in October, 2008.

Data collection and information management and systemic observation²⁷

The provision of information is based on an effective national research and data collection programmes. Currently, climate change research activities are undertaken by several institutions, with some degree of institutional collaboration, in the absence of a more coordinated approach that could be facilitated by National Climate Change Research Action Plan. Chief among these institutions are: Hydrometeorological Service; University of Guyana; National Agriculture Research Institute; Institute of Applied Science and Technology; Guyana Energy Authority, Guyana Forestry Commission and the Iwokrama International Centre. Some of the broad research topics and issues related to climate change are:

- Estimate of carbon stock in soils (carbon sequestration) in the tropical rainforests;
- Impacts of El Nino and La Nina weather phenomena on a hinterland community and local coping and adaptation strategies;
- Renewable energy sources, especially, hydroelectric power, bio-fuels, wind and solar energy; and
- The role of forests in mitigating climate change.

Through the EU funded Forestry Network (FORENET) for ACP countries, major research activities aimed at addressing climate change policy issues will be conducted in the Guyana forests. However, dissemination and accessibility remain an issue. In the absence of a National Climate Information Centre, it is a challenge to access all research reports on issues pertaining to climate change in Guyana. Once this facility is established as a type of clearing house mechanism, the general public and decision-makers will be able to use the valuable information to guide individual and collective choices and decisions.

Systemic observation is another key component of the SNC. In recognition of the importance of Hydrometeorological data, the Hydrometeorological Service of the Ministry of Agriculture network maintains a network of at least of eight synoptic stations located on the coast, in the savannahs and in the rainforest regions of Guyana, plus ninety or more rainfall stations located around the country. The efficient operation of the networks is affected mainly by the lack of adequate staff to carry out regular and timely maintenance.

Another initiative related to Early Warning System (EWS) deemed necessary for Guyana to deal with the impacts of, and responses to climate change, is the recent establishment of the Doppler Radar System, which will forecast rainfall in real time.

To complement these national initiatives, the Guyana Sugar Corporation operates seventy-three rainfall stations and six climatological stations on the coast in the sugar estates. Linden Mining Company assists this Service with human resource at a climatological station in the interior region. There are also fifteen surface water stations, one A-sand aquifer and two shallow wells stations that are operated and maintained by the Hydrometeorological Service.

²⁷Information obtained from Final Report on Analysis of Capacity Building Activities Framework prepared for the SNC Focal Point in 2009.

Guyana has benefited from the CPACC Project which provided for the installation of two tide gauges that have been installed at the mouths of Essequibo River and the Berbice River. Thus, sea levels and climatological data are transmitted to a Regional Centre at the University of the West Indies in Trinidad. The Centre provides quality assurance of the data, and then posts the details on the Internet.

Currently, the Hydrometeorological Service maintains a hydrological database and a climatological database, using HYDATA 3.0 and CLICOM Version 3.1 software. Both pieces of software have been provided under the Voluntary Cooperation Programme of the World Meteorological Organization. However, due to skill constraints and equipment needs, there are still years for which records have not been processed.

In response to the limited human resource capacity within the Hydrometeorological Service, the Government of Guyana has collaborated with the Caribbean Institute for Meteorology and Hydrology (CIMH) to provide training opportunities for six staff members.

The Geographic Information System (GIS) data bases provided by the Environmental Protection Agency, Guyana Forestry Commission, Guyana Lands and Survey Commission (GSLC) and the Iwokrama International Centre are essential to national climate change adaptation and mitigation initiatives. For example, climate variability can be linked to land cover change using GIS. The information provided can then be used for monitoring purposes and for informing land use decisions.

In March 2009, Guyana established, through the SNC, a national website²⁸ dedicated to climate change.

Guyana has benefited also from data bases of regional institutions. For example, under the CPACC and subsequently, the just concluded MACC projects, a website was established and maintained at the Regional Archiving Centre (RAC)²⁹ at the University of the West Indies Engineering Institute, in collaboration with the University Surveying Department. The website (which was initially in Barbados) provides links to other relevant global information sources on climate change.

Additionally, there are the information technology activities of the CCCCC. The website hosting activity of the Centre was conceptualized as a regional node as part of the UNFCCC technology information transfer and public education and outreach (under Article 6) clearing house mechanism, and that the network will proactively try to deliver information to clients, especially national governments, leading to policy changes in preparing the region to effectively adapt to climate change. This aim could not be achieved due to a number of issues; hence the MACC/CCCC established a new a new website, www.caribbeanclimate.bz, which came on line in February 2007. The new site is managed to perform the functions of a regional node in the UNFCCC network, by providing and exchanging climate friendly data and information to and with the Caribbean professionals, practitioners and the public-at-large as well as co-operators and partners³⁰.

Progress on UNFCCB Obligations

Guyana has already submitted its first, second, third and fourth national reports to the Convention Secretariat and have formulated several policies mentioned earlier in this Stock-taking Report and pieces of legislation outlined in Articles 6-19, 22 and 26 of the UNCCB³¹. Some other noteworthy initiatives³² are mentioned below.

²⁸ (<http://www.guyanaclimatechange.gov.gy>)

²⁹ The RAC focuses on regional climate change and sea level rise.

³⁰ Some of the technical partners generating information and data for the MACC/CCCC include NOAA, Centre for Marine Sciences (UWI), Caribbean Emergency Disaster Response Agency, Climate Studies Group (UWI), Department of Survey and Land Information (UWI) and CERMES (UWI).

³¹ The UNCCB is built on three (3) pillars or main objectives (i) Conservation; (ii) Sustainable use of its components; and (iii) Fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

³² Information is taken from the Final Report: Stocktaking of Existing Capacity and Mechanisms. UNCCB. 2009.

The NRMD-EPA

The NRMD, an operational division of the EPA, has the responsibility to coordinate the conservation and sustainable use of biodiversity, inclusive of wildlife. The work of the Division also includes the regulation of, access to, and benefit sharing from the use of biodiversity. NRMD has three (3) units in place – Biodiversity, Protected Areas and Wildlife – that work together to ensure EPA achieves the functions as stipulated in the EP Act 1996. In so doing, the Division has implemented a number of projects over the years related to biodiversity use and conservation.

National Biodiversity Committee (NBC)

The EPA established a National Biodiversity Committee, which is essentially is a sub-committee of the Natural Resources and Environment Advisory Committee (NREAC). The committee comprises representatives from key natural resource agencies and provides advice on policies, strategies and programmes for biodiversity conservation.

Biosafety

Guyana, in August 2008, acceded to the Cartagena Protocol on Biosafety to the Convention on Biological Diversity. The Protocol aims to “ensure an adequate level of protection in the field of safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements”.

Protected Areas

The KfW (or the German Bank for Reconstruction and Development) Small Grants Component of the Guyana Protected Areas Systems (GPAS) Project is being implemented by the EPA. The project has an overall goal to conserve ecosystems through livelihoods enhancement of various Amerindian communities living in or in close proximity to protected or proposed protected areas.

Under the national protected areas system programme, Guyana has established 3 (legally) protected areas: Kaieteur National Park and the Iwokrama Forest Reserve and Shell Beach. Additionally, in 2002, Conservation International (CI) entered into an agreement with the Government of Guyana through the Guyana Forestry Commission to set aside 200,000 ha of pristine rainforest as a „Conservation Concession. CI obtained a 30-year logging license for a portion of the Upper Essequibo River watershed. The objective is to manage the area for conservation instead of allowing timber exploitation. Guyana’s on-going commitment towards the protection of 10 % of its forests also contributes to the global effort.

One of the principal limitations in developing a system of protected areas is that management plans are required as well as personnel to monitor and be onsite. Additionally, there are several sites recognised for their biological interest and proposed for protection. The process is however very lengthy and the development of a comprehensive system of protected areas will require considerable financial and technical support in order to ensure their viability and stability as a coherent protected areas system. This will require government’s completion of its draft protected areas strategy, and the preparation and enactment of protected areas legislation.

Research

The National Agricultural Research Institute (NARI) has developed capacity for genetic characterization of economically important species, such as coconut, mango, cassava and avocado by means of a joint initiative between the NARI and United States of America Department of Agriculture (USDA), with funding provided through USAID. The project aims to collect and conserve genetic resources of crop plants and other related species, as well as, to enhance NARI’s in-house research capacity. The joint NARI-USDA project has also incorporated a long term collaborative agreement for plant biotechnology.

NARI has established three (3) out-stations for plant genetic resource safe depositories for

conservation and integrated study of five (5) targeted crop species. The institution continues to collect and preserve threatened crop genetic diversity through traditional seed storage and vegetative field gene banks.

*Monitoring*³³

While monitoring of biological diversity is important, there is no formalised programme and as such monitoring is conducted in an *ad hoc* manner by the different agencies involved in natural resource management. To help address this problem, the EPA has a designated Monitoring Officer. Financing for monitoring activities comes from the core budget which is limited for this activity.

Initiatives towards the implementation of this article are highly inadequate. Individual International and National NGOs have various programmes for monitoring wildlife populations such as amphibian (emphasis on frogs), mammals and birds (emphasis on harpy eagles, bats, manatees, tapir and jaguars). Some organizations, including the Environmental Protection Agency, the Guyana Forestry Commission, the Guyana Geology and Mines Commission, and the Wildlife Division have done monitoring at various levels. Through Tropenbos and the Iwokrama International Centre some work has been done but it has been limited to the areas where they operate. Training in monitoring techniques is not readily available in Guyana. This Article has not been a priority for Guyana. There are some efforts in the area of taxonomy but at a very minimal level. These include work done at the Centre for the Study of Biological Sciences. Adequate monitoring and enforcement of the conditions placed on developers and bringing existing developers into compliance are two areas that can be improved on. Adequate provisions for mitigation are often not in place.

Information Resource and Databases

In exercise of its functions the EPA shall in accordance with the EP Act 1996, Section 4 (3) (c) “*carry out surveys and obtain baseline information on the natural resources including ecosystems and micro ecosystems, population counts, species identification, location and condition and **make such surveys, studies and information available to members of the public at their request and upon payment of the cost of photocopies***”. This led to the establishment of a database for research work, inclusive of work related to biodiversity documentary undertaken in Guyana.

The EPA’s biodiversity research process and its database capture the researchers, both international and local, and the type of work conducted. Based on the number of permits issued in 2007, a significant number were for faunal research work and mostly conducted in Region 9.

In execution of this function, the EPA in 2006 launched the National Biodiversity Research Information System (NBRIS) project. This project supports the EPA to effectively manage biodiversity resources with particular emphasis on the Biodiversity Research Process and allows for better data management and generation of reports. A key function of the system is to facilitate online registration and application by researchers. NBRIS serves as an electronic data repository for all research applications.

Incentives

Guyana does not formally implement any incentive measures that promote biodiversity protection. However, general incentive measures implemented include tax exemptions for the importation of equipment and technology that are used in natural resources exploitation by large companies. These incentives while available to investors have not been specifically crafted and designed to promote sustainable use or protection of natural resources.

Forest Certification, which facilitates access to important markets, is a valuable incentive for sustainable forest management. Other initiatives include a voluntary legal verification system that is promoted by the GFC and the pursuit of economic alternatives to support conservation of biodiversity at Shell Beach targeting women as part of the efforts to support conservation of biodiversity and to reduce pressures on the resources. Importantly, the GFC is also pursuing sustainable economic alternatives related to chainsaw use for logging, while the EPA is currently conducting an assessment on the Implementation of Incentive Measures for Biodiversity Management and Conservation. Payment for Ecosystem Services provided by standing forests which is discussed in Section 3 of this Report also provides a means of incentivising biodiversity protection.

³³ Information obtained from Guyana’s Third National Report to the UNCBD: 2004-2006.

Technical Cooperation

Guyana is part of the regional network, IABIN. Technical and scientific cooperation was also limited to the extent of regional programmes related to the Guiana Shield Initiative and Amazon Cooperation Treaty Organisation (ACTO). Through the Guiana Shield Initiative Project, Guyana cooperates with Suriname, Venezuela, Colombia and Brazil. The project commenced in 2000 and the first phase concluded in 2004. The second phase of the project is expected to start in 2007. The first phase of the project aimed at establishing the foundation for an eco-regional approach to conservation and sustainable development of the Guiana Shield. In the second phase, at least three (3) pilot areas will be selected to gain experiences with payment for ecosystem services. Iwokrama forest reserve (371,000 ha) has been identified as Guyana's pilot site. This project is expected to demonstrate how tropical forests can be conserved and sustainably used to provide ecological, social and economic benefits to local, national and international communities.

More recently, Conservation Funding Guiana Shield Facility (GSF) was set up with a seed funding of USD3 million provided by the UNDP and the European Union to provide incentives for conservation of ecosystems, to build capacity, help achieve national priorities in relation to national development aspirations and reporting required under the MEAs. Project beneficiaries include governments, civil society and community based organisations in the member countries.

Progress on UNCCD Obligations³⁴

The FPA

The GL & SC, which was established in 2001, has three operational divisions: Land Administration; (ii) Land Information and Mapping; and (iii) Surveys. In spearheading the fulfillment of obligations of the UNCCD, the GL & SC has submitted national reports for 2000, 2002, 2006. 2008, prepared a National Action Programme to combat Land Degradation (2006), as well as a Draft Land Use Policy. The former provides for strategies for poverty eradication sustainable agricultural practices; alternative livelihoods; systemic observations; hydrological services; sustainable management of natural resources; and education

The work programme of the GL & SC in respect of the UNCCD is guided by a National Steering Committee (NSC) which comprises representatives of the GL & SC, GFC, GGMC, EPA and Civil Defence Commission (CDC).

Notably, a number of UNCBD and UNFCCC commitments also support the fulfilment of obligations under the UNCCD.

Currently, there is no legislation that is specific to UNCCD, land degradation, sustainable land management or land use planning. Sector specific legislation (such as the Forests Act, Mining Act, Iwokrama Act, Kaieteur Act) mentioned earlier in this sub-section offer safeguards with regard to land degradation by outlining sustainable management stipulations and guidelines. These initiatives are complemented by inter-agency coordination and collaboration and are currently promoted through the Cabinet Sub Committee on Natural Resources, the NREAC, and a number of other committees. However, it is recognized that there is a need for developing synergies, harmonization and capacity building.

While efforts are underway to move forward with UNCCD implementation, there are a number of priority issues to be addressed in order to prevent and mitigate land degradation and to move towards sustainable land management. These issues were identified through the NCSA process and are outlined as follows:

- Approval of the draft Land Use Policy to set the overarching framework for sustainable land management. It is expected that this policy will identify guidelines for land use as well as criteria for multiple land uses.
- The need for capacity building and institutional strengthening of the GLSC and related Agencies for sustainable land management and to meet UNCCD obligations.

³⁴ Information obtained from Guyana's Third National Report on the implementation of the UNCCD 2006. Supplemented by key respondents' interviews.

- The need for a more proactive National Steering Committee for UNCCD in spite of good collaboration and cooperation among members.
- The need to mobilise funds to implement the NAP perhaps through developing a financing strategy to draw on regional and international mechanisms.
- A concerted and sustained effort towards education and awareness to address the generally low level of awareness and knowledge of land degradation in other Agencies, Government Institutions and society at large.
- The need for a comprehensive study and assessment of the current land uses and practices and factors contributing to land degradation along with information gathering and developing a national clearing house (Focal Point) for information regarding land use, and land degradation. As well, there is need to develop early and forecasting warning systems for droughts and floods.
- The need for the harmonising of legislation and institutional framework for sustainable land management and land use planning.
- The need to improve institutional cooperation and collaboration for sustainable land management and better linkage between Government Agencies and NGO's and civil society for sustainable land management.