

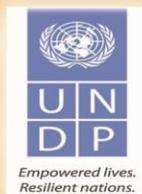


**ALIGNMENT OF GUYANA'S NATIONAL ACTION PLAN TO THE  
UNCCD'S 10-YEAR (2008-2018) STRATEGIC PLAN**

**NATIONAL STOCKTAKING ACTIVITY IN SUPPORT OF AN  
ALIGNED NATIONAL ACTION PLAN**



**RAPID STOCKTAKING REPORT**



February 2015



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## **Acronyms**

ADP	Agricultural Diversification Programme
CCD	Convention to Combat Desertification
CDC	Civil Defence Commission
CDPs	Community Development Projects
CI	Conservation International
CIDA	Canadian International Development Agency
CBOs	Community Based Organisations
DLDD	Desertification, Land Degradation and Drought
DLUPP	Development of Land Use Planning Project
EIS	Extractive Industrial Sector
EMC	Environmental Management Consultants
EPA	Environmental Protection Agency
EWS	Early Warning Systems
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFC	Guyana Forestry Commission
GGMC	Guyana Geology & Mines Commission
GLDA	Guyana Livestock Development Authority
GL&SC	Guyana Lands and Surveys Commission
GoG	Government of Guyana
GRDB	Guyana Rice Development Board
INCD	Intergovernmental Negotiating Committee

IICA	Inter-American Institute for Cooperation on Agriculture
JICA	Japan International Cooperation Agency
LCDS	Low Carbon Development Strategy
LD	Land Degradation
NAREI	National Agricultural Research and Extension Institute
MEAs	Multi-lateral Environmental Agreements
MNRE	Ministry of Natural Resources and the Environment
MRVS	Monitoring, Reporting and Verification Systems
NAP	National Action Programme / National Action Plan
NCSA	National Capacity Self Assessment
NGO	Non-Governmental Organisation
NMHS	National Meteorological and Hydrological Service
NRMP	Natural Resources Management Project
NWIS	National Water Information System
OCC	Office of Climate Change
PAC	Protected Areas Commission
PACD	Plan of Action to Combat Desertification
PISLM	Partnership Initiative on Sustainable Land Management
REDD	Reducing Emissions from Deforestation and Degradation
SEES	School of Earth & Environmental Sciences
SLM	Sustainable Land Management
SLUC	Special Land Use Committee
UNCCD	United Nations Convention to Combat Desertification

UNCED	United Nations Conference on Environment and Development
UNCOD	United Nations Conference on Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VCP	Voluntary Cooperation Programme
WWF	World Wildlife Fund

## **1.0 Introduction**

### **1.1 Background to the Project**

The Guyana Lands and Surveys Commission (GL&SC) is Guyana’s National Focal Point for the United Nations Convention to Combat Desertification (UNCCD) and the Government institution responsible for the implementation of the Project “*Support the alignment of the National Action Plan to the United Nations Convention to Combat Desertification’s 10 Year Strategy (2008-2018).*”

The Project addresses Guyana’s need to continue to fulfill its obligations under the UNCCD, with particular focus on Decision 3 of the UNCCD COP 8 and builds on the current status and achievements of Guyana with respect to planning to align the National Action Programme (NAP) and UNCCD Reporting.

### **1.2 Objective of the Rapid Stocktaking Exercise**

One key component of the Project is the conduct of a Rapid Stocktaking Exercise on NAP relevant policies and plans for relevance and appropriateness, and human and scientific capacities for long term monitoring and data management, inclusive of recommendations for the development of the necessary capacities in support of NAP Alignment and Implementation.

The GL&SC, following a competitive bid process, has engaged the services of Environmental Management Consultants (EMC) to support the Rapid Stocktaking Exercise.

### **1.3 Approach and Methodology**

EMC in approaching the Rapid Stocktaking Exercise has adopted the following methodology:

#### **1.3.1 Information Collection**

1. *Desktop Review of Existing Literature.*  
These include the United Nations Convention to Combat Desertification and related documents such as the UNCCD 10-Year Strategy (2008-2018), National Reports, NAP, National Policy and Planning documents related to environment and land management, among others.
2. *Stakeholder Identification and Engagement*  
The EMC consultancy team worked with the GL&SC to identify key stakeholders to be engaged and involved as part of the Rapid Stocktaking and NAP alignment process. The stakeholder audience includes Government Ministries and Agencies, the research and scientific community, private sector and Non-Governmental Organisations (NGOs). A complete list can be found in Appendix I. A combination of

structured, semi-structured and informal interviews were administered to the Convention Focal Point along with the stakeholders identified and other stakeholders from the NGO and Private Sector Grouping.

### **1.3.2 Information Analysis and Stocktaking Report Preparation**

Based on information collected, the current national situation with regard to NAP implementation has been described. This draws on actions identified in the NAP, progress to date as provided by the National Focal Point and other stakeholders, the National Reports and current Policies, Plans and Programmes, including legislation which forms the enabling environment for the UNCCD and NAP implementation.

As part of the Rapid Stocktaking Exercise, the challenges and opportunities for building human capacity for long term monitoring and data management were examined. The National Capacity Self Assessment (NCSA) and Sustainable Land Management Projects and their outputs and recommendations regarding UNCCD were key reference points in identifying these challenges and opportunities.

## 2.0 The UNCCD and Guyana

### 2.1 Global Context - Land Degradation and Desertification

Land degradation refers to any diminishment of biodiversity and ecosystem functioning that negatively impacts the provision of ecosystem services and ultimately impedes poverty eradication and sustainable development. Land degradation can be caused by human activities and natural processes and is exacerbated by climate change. In addition to unsustainable agricultural and livestock management practices, other sector activities contribute to land degradation thereby reducing socio-ecological resilience and food/water security. When degradation occurs in arid, semi-arid and dry sub-humid areas where productivity is constrained by water availability, it is referred to as desertification. Ecological and economic systems are also disrupted by drought, which, like degradation, occurs in most parts of the world, including humid regions<sup>1</sup>.

From the 1970s to the early 2000s, the percentage of the Earth's land area afflicted by serious drought has doubled. While the world's drylands continue to be the most vulnerable and threatened by desertification, land degradation and drought (DLDD), land degradation is a global phenomenon with 78% of total degraded land located in terrestrial ecosystems other than drylands<sup>2</sup>.

DLDD processes have accelerated in the last century. Global assessments indicate that the percentage of total land area that is already degraded or being degraded has increased from 15% in 1991 to 24% in 2008: with more than 20% of all cultivated areas, 30% of natural forests, and 25% of grasslands undergoing some degree of degradation. DLDD directly affects approximately 1.5 billion people around the world (by 2008 estimates) and has a disproportionate impact on women and children<sup>3</sup>.

Productive lands will become increasingly scarce due to increase pressures from population growth, climate change, unsustainable land use, land degradation and growing urban areas. In addition, competition for productive lands will increase as a result of growing demands for food, fodder and agricultural raw materials for industrial and energy use.

The global scenarios show that coping with DLDD and its related ecological and socio-economic consequences will likely to improve after the implementation of proactive management approaches. Responding effectively to DLDD requires a coordinated and coherent approach at the national and international levels.

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<sup>1</sup> UNCCD TST Issues Brief: Desertification, Land Degradation and Drought

<sup>2</sup> UN General Assembly, 2012. High-level meeting on addressing desertification, land degradation and drought in the context of sustainable development and poverty eradication.

<sup>3</sup> Bai ZG, Dent DL, Olsson L, Schaepma ME., 2008. Global assessment of land degradation and improvement. Identification by remote sensing. Report 2008/01, ISRIC – World Soil Information: Wageningen.

## 2.2 United Nations Convention to Combat Desertification (UNCCD)

The international community has long recognized that desertification is a major economic, social and environmental problem of concern to many countries in all regions of the world. In 1977, the United Nations Conference on Desertification (UNCOD) adopted a Plan of Action to Combat Desertification (PACD). Unfortunately, despite this and other efforts, the United Nations Environment Programme (UNEP) concluded in 1991 that the problem of land degradation in arid, semi-arid and dry sub-humid areas had intensified, although there were "local examples of success".

As a result, the question of how to tackle desertification was a major concern for the United Nations Conference on Environment and Development (UNCED), which was held in Rio de Janeiro in 1992.

UNCED supported a new, integrated approach to the problem, emphasizing action to promote sustainable development at the community level. It also called on the United Nations General Assembly to establish an Intergovernmental Negotiating Committee (INCD) to prepare, by June 1994, a Convention to Combat Desertification.

UNCCD was adopted in Paris on June 17, 1994 and entered into force on December 26, 1996. The UNCCD is the sole legally binding international agreement linking environment and development to sustainable land management. The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found. As of November 2014 there are 195 parties to the Convention. From 1995, June 17 every year has been observed as World Day to Combat Desertification and Drought.<sup>4</sup>

## 2.3 The UNCCD 10 Year Strategy

The UNCCD 10-Year Strategy (2008-2018) was adopted in 2007 by Parties to the Convention with the overall aim of improving the implementation of the Convention. The vision of the Strategy is *"to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability."*

The Strategy provides a unique opportunity to address some of the Convention's key challenges, to capitalize on its strengths, to seize opportunities provided by the new policy and financing environment, and to create a new, revitalized common ground for all UNCCD stakeholders. The Strategy contains the "strategic objectives" to be achieved over the 10 years, and the "operational objectives" that guide the actions of short and medium-term effects.<sup>5</sup>

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<sup>4</sup> GL&SC 2006. Guyana's National Action Programme to Combat Desertification

<sup>5</sup> UNCCD. Ten Year Strategy Leaflet <http://www.unccd.int/Lists/SiteDocumentLibrary/10YearStrategy/Strategy-leaflet-eng.pdf>

The Strategic Objectives are:

1. To improve the living conditions of affected populations.
2. To improve the condition of affected ecosystems.
3. To generate global benefits through effective implementation of the UNCCD.
4. To mobilize resources to support implementation of the Convention through building effective partnerships between national and international actors.

The Operational Objectives are:

1. Advocacy, awareness raising and education.  
*To actively influence relevant international, national and local processes and actors in adequately addressing desertification/land degradation and drought-related issues.*
2. Policy framework.  
*To support the creation of enabling environments for promoting solutions to combat desertification/land degradation and mitigate the effects of drought.*
3. Science, technology and knowledge.  
*To become a global authority on scientific and technical knowledge pertaining to desertification/land degradation and mitigation of the effects of drought.*
4. Capacity-building.  
*To identify and address capacity-building needs to prevent and reverse desertification/land degradation and mitigate the effects of drought.*
5. Financing and technology transfer.  
*To mobilize and improve the targeting and coordination of national, bilateral and multilateral financial and technological resources in order to increase their impact and effectiveness.*

For both the Strategic and Operational Objectives, expected impacts and outcomes are identified.

Countries, and in particular developing country Parties and affected country Parties who have adopted the Strategy, have committed to operationalizing the Strategy in accordance with their national priorities; to align their National Action Programmes with the Strategy; and to report on progress made in keeping with UNCCD guidelines.

## **2.4 Guyana's Context**

### **2.4.1 Country Setting**

Guyana 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. Guyana is one of the eight countries that share the vast Amazon Basin and is the only English-speaking country in South America.

The country is usually considered to consist of four (4) main natural regions; the Coastal Plain, Hilly Sand and Clay Region, Interior Savannahs and Forested Highlands. The Coastal Plain lies about 1.4 meters below mean high tide level and is protected by natural and man-made sea defences. It is 430 km long and varies in width from 26 to 77 km. Most of the population resides on the coastal plain which consists of the most fertile lands in the country. The Hilly Sand and Clay Region varies in height from 2 m to 400 m and is found immediately south of the coastal belt. The soil consists of sand and is covered with dry evergreen climax vegetation. The Intermediate Savannah is situated between the Coastal Plain and the Hilly Sand and Clay Region. The Highland Region consists of the Pakaraima Mountains forming a part of the extensive Guiana Highlands that cover an area of 1,300,000 sq km in Guyana, Venezuela and Brazil<sup>6</sup>. Figures 1 and 2 illustrates the natural regions.

The Forested Region spans the entire length of the country with elevation southwards, and in which is located lush, almost pristine, tropical forests and extensive mineral deposits. Geologically, the southern section of this region forms a part of the Pre-Cambrian Brazilian Shield and it is a continuation of the Amazon Forest. The Interior Savannahs are located in the southwest of Guyana, and are divided into the North and South Savannahs by the Kanuku Mountains. Cattle ranching and farming are two of the main activities in the Interior Savannahs.

Guyana is a tropical country with an equatorial climate that is characterized by seasonal rainfall, high humidity and small variations in temperature. There are two rainy seasons, which occur from April to June and from November to January. The average daily temperature is about 26.7 degrees Celsius, and annual precipitation of 2500-3200 mm.<sup>7</sup>

The country has a relatively stable population of approximately 747,884 persons<sup>8</sup> and remains primarily an agriculture and resource-based economy. Guyana's economy has historically been highly dependent on the exports of only a few of natural resource commodities – gold and sugar accounted for over 50% of Guyana's exports, and when combined with four other commodities (rice, shrimp, timber, and bauxite), they account for 86% of exports (and 69% of GDP). Today, Guyana remains primarily an agriculture and resource-based economy in terms of its production base. The agriculture, forestry and fishing sector accounted for approximately US \$67,579 million to the GDP in 2012.<sup>9</sup>

The Extractive Industrial Sector (EIS)/mineral sector as part of the contribution of natural capital to Guyana's economy has experienced rapid growth in recent years both in terms of production and value, especially in the gold industry. The EIS provides finance for investment in infrastructure, boosting produced capital. As of 2012, mineral production declared value was US\$40,411 million of the GDP of that year.<sup>9</sup>

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<sup>6</sup> GL&SC 2006. Guyana's National Action Programme to Combat Desertification

<sup>7</sup> GL&SC 2006. Guyana's National Action Programme to Combat Desertification

<sup>8</sup> Guyana Bureau of Statistics. 2014. Guyana Population and Housing Census, 2012. Preliminary Report.

<sup>9</sup> Guyana National Budget. 2014.



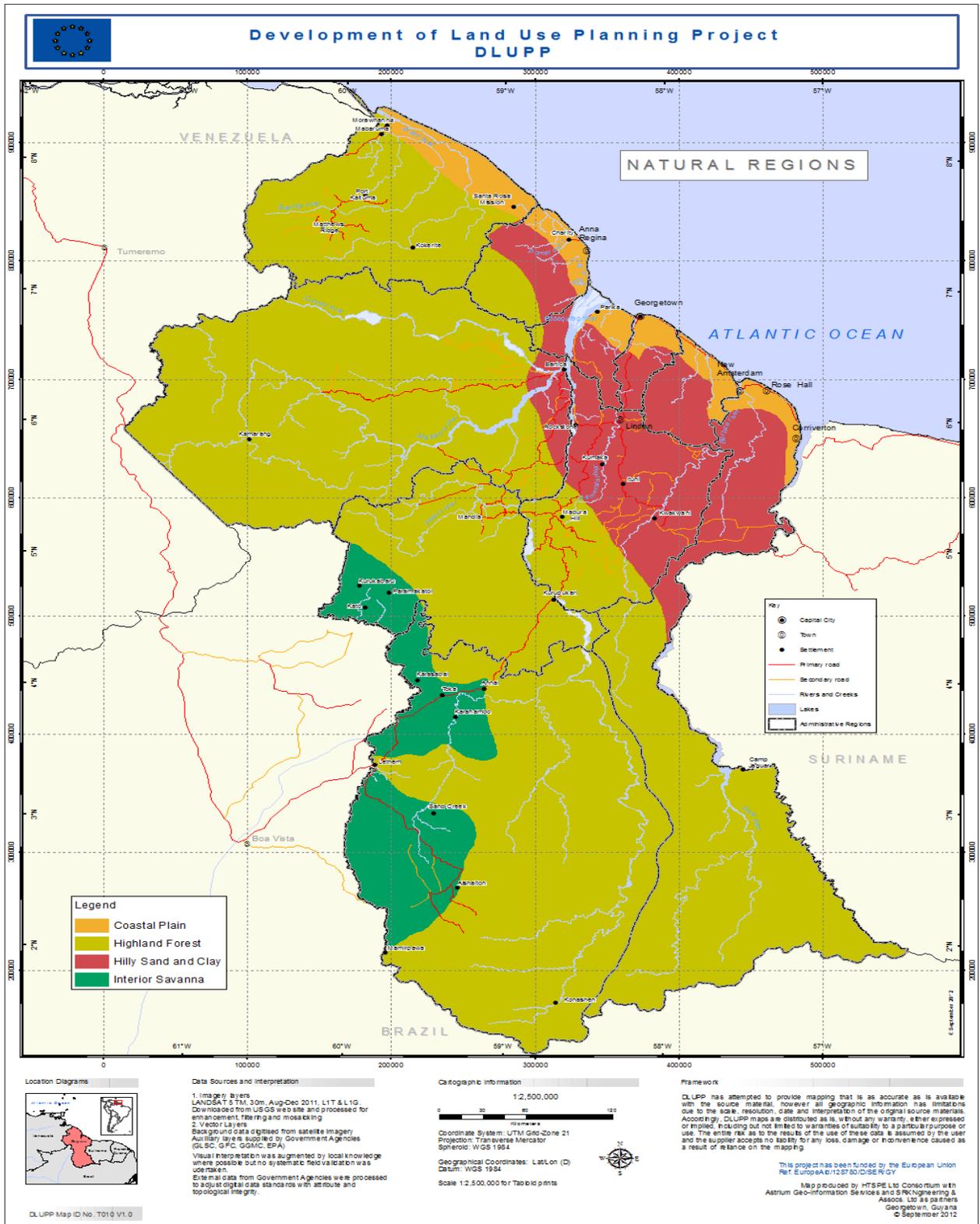


Figure 2: Map showing Natural Regions of Guyana

## 2.4.2 Land Degradation in Guyana

Historically, relatively low deforestation and degradation rates have been reported for Guyana. As at January 2012 Guyana had approximately 87% of its land area covered by forests, approximately 18.5 million ha. Guyana currently records a comparatively low deforestation rate, reported in its Interim Measures MRVS Report, as ranging between 0.02% and 0.079% per annum. Deforestation rates typically expand along with economic development.<sup>10</sup>

Much of the original vegetation of the coast of Guyana has been removed. The total area covered by mangrove forests in Guyana has declined over the past twenty-five years. Recent estimates provided by the Guyana Forestry Commission (GFC) using 2009 data has shown that the estimated regional coverage of mangroves in the country is approximately 22,632.4 ha; representing a marked decline from estimates of 91,000 ha in 1980 and 80,000 ha in 2005.<sup>11</sup>

Development activities in Guyana have led to changes in the extent and integrity of natural ecosystems. These changes have been most apparent in forests and coastal systems. Factors which contribute to land degradation are loss of forest and vegetation due to inappropriate logging, irresponsible mining and urbanization; improper land management; changing climatic patterns and coastal erosion due to flooding. Land degradation is occurring at an increasing rate corresponding to an increase in the exploitation of natural resources and coastal erosion. Figure 3 overleaf, taken from pg. 119 the national study on land degradation in 2008 outlines the combined agents of land degradation. .

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<sup>10</sup> Guyana Forestry Commission. 2013. Guyana REDD+ Monitoring Reporting and Verification System (MRVS), Year 3 Interim Measures Report – 01 January 2012 – 31 December 2012, Version 3

<sup>11</sup> Da Silva P. 2014. Avifaunal Diversity in a Mangrove Reserve in Guyana, South America; International Journal of Science Environmental and Technology, Vol.3, No.1, 2014. 23-32.

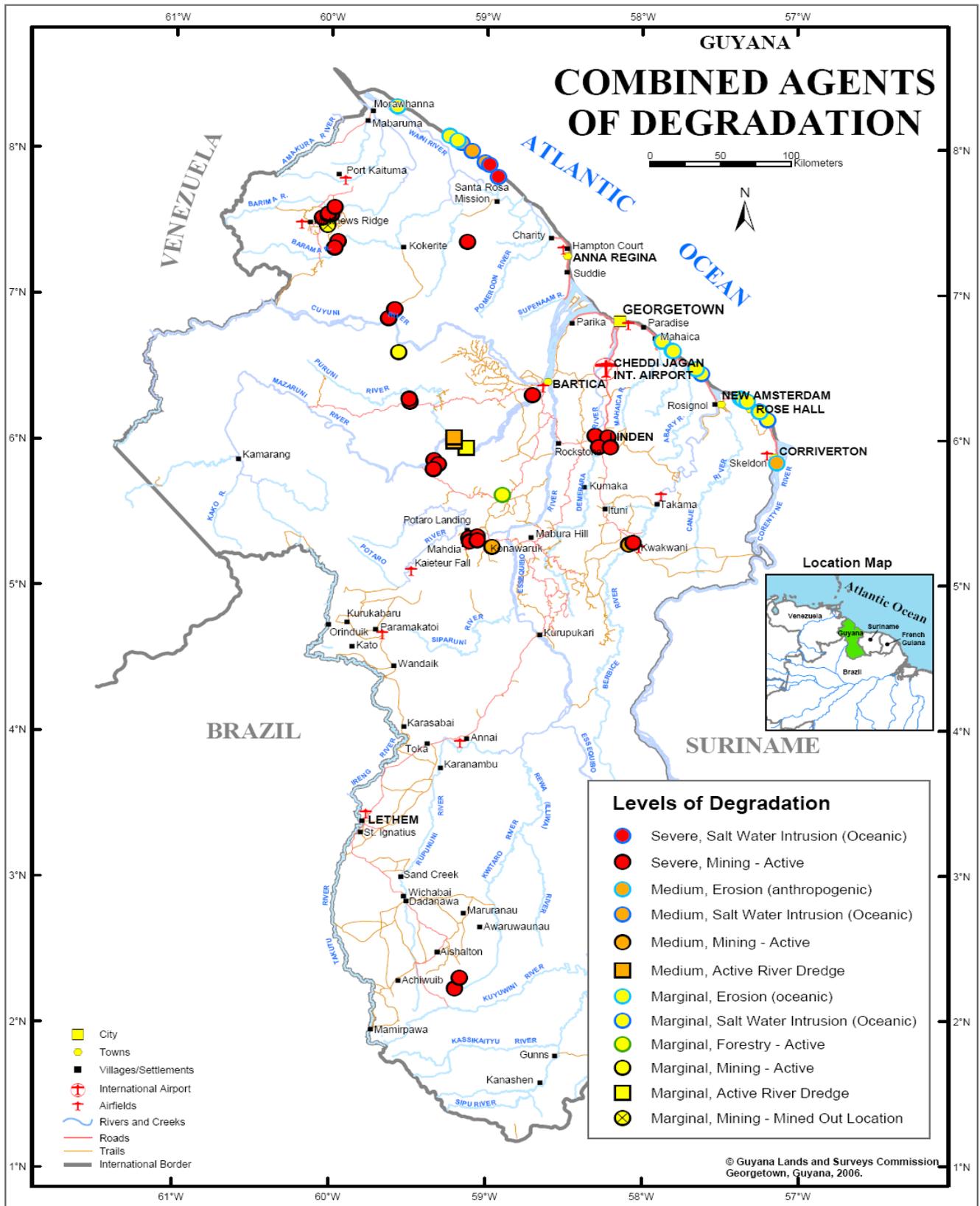


Figure 3: Map showing Agents of Degradation

## 2.5 Guyana's Obligations under UNCCD

Guyana ratified the UNCCD on September 24, 1997. As a Party to the Convention, Guyana has committed to the following:

- Give due priority to combating desertification and mitigating the effects of drought, and allocating adequate resources in accordance with circumstances and capabilities;
- Establishing strategies and priorities, within the framework of sustainable development plans and/or policies, to combat desertification and mitigate the effects of drought;
- Addressing the underlying causes of desertification and paying special attention to the socio-economic factors contributing to desertification processes;
- Promoting awareness and facilitating the participation of local populations, particularly women and youth, with the support of nongovernmental organizations, in efforts to combat desertification and mitigate the effects of drought;
- Providing an enabling environment by strengthening, as appropriate, relevant existing legislation and, where they do not exist, enacting new laws and establishing long-term policies and action programmes.

Following ratification of the UNCCD, the Hydrometeorological Department of the Ministry of Agriculture was identified as the Focal Point from 1997 to 2003. At the time, the Department was also serving as the Focal Point for the UNCCD and desertification was seen as closely linked to climate change. However, by 2003 the focus was modified as the issue of DLDD was no longer considered only a climate change issue but one which included land degradation and sustainable land management. The Focal Point responsibilities were then transferred to the GL&SC.

The Hydrometeorological Department being the National Focal Point Agency, prepared the National Reports on the Implementation of the UNCCD in 2000 and 2002 while the GL&SC prepared the National Reports in 2006, 2010, 2012 and 2014 for the UNCCD Secretariat.<sup>12</sup>

The Reporting structure of the UNCCD Secretariat has changed over the years, and the Fourth Reporting Cycle to UNCCD consisted of two reports, 2010 and 2012. A Fifth Reporting Cycle commenced and GL&SC has submitted one report in 2014 for the period 2010-2014 and is expected to submit another National Report under this Cycle in 2015, as a second leg of the Reporting Process.

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<sup>12</sup> GL&SC 2006. Guyana's National Action Programme to Combat Desertification

During the preparation of the National Action Plan in 2006, a UNCCD Steering Committee was established to provide guidance to the work. Previously, when the role was assigned to Hydromet, a National Climate Committee had oversight for UNCCD implementation, and acted as the National Coordinating Committee.

At GL&SC, a National Steering Committee was established with oversight responsibility to offer guidance and oversee the planning of activities for the preparation of the NAP. The Committee would have meetings as necessary. After the NAP was prepared in 2006, there is no record of the Committee meeting from 2007.

## **2.6 Guyana's approach to the National Action Programme**

Guyana prepared its National Action Programme (NAP) in April 2006 in keeping with the requirements of the UNCCD. The compliance with international commitments such as UNCCD includes the reporting obligations of the country which is detailed in the NAP as priorities, key immediate and critical long term actions. The Reports have been used to inform what has been done under the NAP, ie implementation actions of the country for the UNCCD.

At the time of preparing the NAP, it was recognized that Guyana's threats from natural disasters do not come from volcanoes, hurricanes or earthquakes, rather, the principal threat stems from the low-lying nature of its populated seacoast. This has made the country vulnerable to flooding from sea level rise, intense precipitation and breaches of the sea defences.

At the time of preparing the NAP, Guyana's natural resources were not viewed as under immediate threat that warranted quick reaction and land degradation had not reached a critical proportion as is evident in many parts of the world. As such, Guyana's approach to the preparation of the NAP was one of prevention rather than response and adopting an approach that was proactive and preventative rather than reactive.

## **3.0 Brief Overview of Guyana's National Action Programme**

### **3.1 Introduction**

The NAP approved in 2006 serves to guide Guyana's actions to address land degradation and to promote sustainable land management. This overarching document provides the framework to shape the country's efforts to manage some of the key issues associated with land degradation such as flooding, droughts, salt water intrusion (mostly along the coast of the country) and natural resource utilisation in the forestry, mining and agriculture sectors<sup>13</sup>.

Consideration for synergies and strengthening of existing national and planning frameworks for sustainable development were factored into the preparation process of the NAP. In addition, the roles of various institutions were considered in its implementation.

This Section of the Rapid Stocktaking Report aims to provide, in summary, an overview of the NAP and critical elements for implementation by the GL&SC.

### **3.2 Key Elements of the National Action Programme**

The National Action Programme or Plan is presented in three (3) broad sections. The first two sections serve as background for the action plan and implementation framework (third section).

In particular, the document provides a general overview of the international context related to the UNCCD along with country background information and the policy framework of the Guyana at the time of its preparation. It recognised that sustainable development is the underlying principle and took note of a number of national strategies, action plans and natural resources legislation to formulate the action programme.

Efforts made by Guyana, at the time of NAP preparation, to address desertification, land degradation and drought were highlighted. More specifically, it recognised a number of priority issues necessary to advance actions to prevent and mitigate land degradation and desertification and promote sustainable land management. These issues, as expressed in the NAP, are listed below and updates on implementation to-date are further highlighted in Section 4 of this report:

- Approval of the draft Land Use Policy to set the overarching framework for sustainable land management. This policy is expected to identify guidelines for land use as well as criteria for multiple land uses;
- The need for capacity building and institutional strengthening of the GL&SC and related Agencies for sustainable land management and to meet UNCCD obligations;
- The need for a more proactive National Steering Committee for UNCCD in spite of good collaboration and cooperation among members;

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<sup>13</sup> GL&SC.(2006). Guyana's National Action Programme to combat Land Degradation

- The need to mobilise funds to implement the NAP 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 related 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;
- The 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; and
- While there exists a framework, there is need to improve institutional cooperation and collaboration for sustainable land management and better linkage between developing actions over the short to long term to address land degradation and promote sustainable land management.

The third section of the document outlines the action programme and implementation framework to address land degradation and promote sustainable land management. It identifies a number of high priority issues and corresponding actions as well as synergies for implementation. These are further elaborated in Section 3.3 and include effective planning and management of resources, access to and availability of funding and harmonising and strengthening institutions.

Four (4) specific project concepts, inclusive of activities and budgets, were elaborated in the NAP to address the key immediate and long term priority issues and these are:

1. Key immediate actions
  - a. Conduct a comprehensive assessment of current land use practices and factors contributing to degradation.
  - b. Finalisation of a National Land Use Policy and Developing a National Land Use Plan.
2. Critical long term actions
  - a. Harmonise and strengthen institutional arrangements for land planning and management.
  - b. Identify and Implement Early Warning Systems (EWS) for disaster preparedness.

These critical areas were identified for immediate implementation as important precursors to the development of the National Land Use Plan and important first steps in understanding the potential for land degradation in order to implement preventative and mitigation actions. It was also recognised that the finalisation of the National Land Use Policy is critical in guiding the development of the National Land Use Plan. Moreover, the flooding incidents of 2005 and 2006 not only exposed the country's vulnerability but

underscored that there are increases in extreme climatic events and therefore the need to establish systems to prepare, monitor and mitigate impacts becomes urgent.

### 3.3 Proposed actions outlined in the NAP

The NAP outlines actions to address the issues associated with land degradation, desertification and promote sustainable land management. It specifically identifies eleven (11) high priority issues, as listed below and elaborated in **Table 1** with corresponding actions.

Issue 1	Need for rational planning and management of land resources.
Issue 2	Need to harmonize and rationalize legislation to remove overlaps, and promote effective coordination, information exchange and institutional synergies.
Issue 3	Need for financial resources.
Issue 4	Public Education and Public Awareness.
Issue 5	Increasing Capacities.
Issue 6	Traditional knowledge.
Issue 7	Promotion of regional* aspects of preventing land degradation.
Issue 8	The need to alleviate poverty and improve the quality of life
Issue 9	The need to achieve food security and sustainable development and management of agriculture.
Issue 10	The need for sustainable management of drainage basins and watersheds.
Issue 11	The need for EWS and Emergency Plans to mitigate drought, floods and other natural disasters.

\* Latin America and the Caribbean

**Table 1: Proposed Actions outlined in the NAP**

Higher Priority Issues	Actions	Mechanisms/Synergies
<p>1. Need for rational planning and management of land resources</p>	<ul style="list-style-type: none"> <li>a. Conduct a comprehensive assessment of current land use practices and factors contributing to degradation.</li> <li>b. Finalisation of a National Land Use Policy and Developing a National Land Use Plan.</li> <li>c. Develop a system for landuse planning at the Regional level.</li> <li>d. Promote soil conservation and stringent management through sustainable agricultural practices.</li> <li>e. Provide technical assistance to finalize and implement regulations in the environment and natural resource sector to prevent and mitigate land degradation.</li> </ul>	<p>Strengthen inter-Agency cooperation Technical Assistance</p> <p>Capacity Development and Training</p>
<p>2. Need to harmonise and rationalize legislation to remove overlaps, promote effective coordination, information exchange, and institutional synergies.</p>	<ul style="list-style-type: none"> <li>a. Review and develop legislation in relation to natural resources management and land use planning and management at the national, regional and local level.</li> <li>b. Harmonise and strengthen institutional arrangements for land planning and management.</li> <li>c. Strengthen institutional arrangements for natural resources and environmental management.</li> <li>d. Strengthen the existing Land Information Systems for information access, sharing and management.</li> <li>e. Prioritise data needs for land planning and management and develop a programme of research and data collection.</li> </ul>	<p>Technical Assistance</p> <p>Policy directions from Cabinet Sub Committee</p> <p>Capacity Development and Training</p> <p>Sharing of HR among Agencies</p>

<p>3. The need for financial resources</p>	<p>a. Develop a financing strategy for SLM with emphasis on seeking donor support financing.</p> <p>b. Maximise in-kind contribution from GL&amp;SC and other institutions.</p> <p>c. Network with institutions to share resources to achieve objectives</p>	<p>Technical Assistance for securing funds</p> <p>Pooling of resource among institutions to maximise in-kind contributions</p>
<p>4. Public education and public awareness</p>	<p>a. Undertake Gap Analyses and Design Education and Awareness Programme for SLM.</p> <p>b. Maximise existing tools such as GL&amp;SC newsletter and brochure series, GL&amp;SC webpage local media.</p> <p>c. Implement Programme through networking at the regional and local level with Govt NGO, civil society and communities.</p> <p>d. Educate hinterland communities on sustainable use of the forests to address issues of forest fires and conservation practices.</p>	<p>Inter-Agency Coordinating Body</p> <p>Technical Assistance</p> <p>Capacity Development and Training</p> <p>Sharing of HR among Agencies</p>
<p>5. Increasing Capacities</p>	<p>a. Undertake a Skills Assessment for SLM.</p> <p>b. Develop a Training Programme to deliver essential skills needed for SLM with training including University of Guyana, targeted short courses and workshops in areas such as GIS, LUP, EIA, among others.</p>	<p>Inter-Agency Coordinating Body</p> <p>Technical Assistance</p> <p>Capacity Development and Training</p> <p>Sharing of HR among Agencies</p> <p>Use of MoU's to enhance Inter-Agency Cooperation.</p>

Other Important Issues	Actions	Mechanisms/Synergies
6. Traditional knowledge	<ul style="list-style-type: none"> <li>a. Develop a mechanism to gather local knowledge and information on a regular basis.</li> <li>b. Developing Database and Inventorising Best-Practices.</li> <li>c. Incorporating traditional and local knowledge best practice into the system for land planning and management.</li> </ul>	Technical Assistance Capacity Development and Training Information Sharing
7. Promotion of regional* aspects of preventing land degradation	<ul style="list-style-type: none"> <li>a. Linkages with Regional Action Programme.</li> <li>b. Development of regional support project for sustainable and management.</li> <li>c. Participation in the implementation of the Regional Action Programme (developed for LAC in 2003).</li> <li>d. Participation in a regional initiative for EWS and Information Network for land management.</li> </ul>	Policy Guidance from Cabinet Sub-Committee Technical Assistance
8. The need to alleviate poverty and improve the quality of life	<ul style="list-style-type: none"> <li>a. Subsequent to 1 (a) Identify and implement alternative livelihoods initiatives.</li> <li>b. Diversify agriculture practice with value adding and promote efficient multiple land use.</li> </ul>	Policy guidance from Cabinet Sub-Committee Inter-Agency Coordinating Body Technical Assistance Capacity Development and Training

<p>9. The need to achieve food security and sustainable development and management of agriculture.</p>	<ul style="list-style-type: none"> <li>a. Support and promote agricultural research.</li> <li>b. Promote diversification in the agriculture sector through non-traditional crops and other means.</li> <li>c. Expand agricultural production by opening up new areas.</li> <li>d. Expand community-based agriculture initiatives e.g PRSSP.</li> <li>e. Promote value-added in the agricultural sector.</li> <li>f. Promote soil conservation and stringent management through sustainable agricultural practices such as strip cropping, terracing, mulching and crop rotation.</li> </ul>	<p>Policy guidance from Cabinet Sub-Committee</p> <p>Inter-Agency Coordinating Body</p> <p>Technical Assistance</p> <p>Capacity Development and Training</p>
<p>10. The need for sustainable management of natural resources and drainage basins and watersheds.</p>	<ul style="list-style-type: none"> <li>a. Promote and support sustainable management in forest and mining.</li> <li>b. Restoration and protection of biodiversity and watersheds in collaboration with relevant agencies.</li> <li>c. Undertake a groundwater situation analysis including an assessment of salt water intrusion.</li> <li>d. Undertake a study and situation analysis of both coastal and hinterland surface water systems.</li> <li>e. Support the implementation of the approved Drainage and Irrigation Master Plan.</li> <li>f. Strengthen and expand the system of Drainage and Irrigation.</li> <li>g. Strengthen the current D&amp;I Management System and expand the Water User's Association and their role in management.</li> </ul>	<p>Inter-Agency Coordinating Body</p> <p>Technical Assistance</p> <p>Capacity Development and Training</p>

<p>11. The need for EWS and Emergency Plans to mitigate the impacts of drought, floods and other natural disasters</p>	<ul style="list-style-type: none"> <li>a. Identify and Implement actions to reduce natural and man-made fires.</li> <li>b. Identify and Implement EWS for disaster preparedness.</li> <li>c. Develop a comprehensive National Disaster Response and Management Plan.</li> <li>d. Strengthening of institutional arrangements for disaster preparedness and response, undertake vulnerability studies in the Regions where agriculture and mining are prevalent.</li> </ul>	<p>Inter-Agency Coordinating Body</p> <p>Technical Assistance</p> <p>Capacity Development and Training</p> <p>Sharing of HR among Agencies</p>
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\* Latin America and the Caribbean

### **3.4 Implementation Schedule of the NAP**

The implementation schedule of the NAP spans a period of five (5) years. It was recognised that the major challenge to the NAP process is funding, especially, with the limited funding mechanisms under the UNCCD for Parties<sup>14</sup>. In this regard, sources of funding were identified for the NAP Focal Point and these include:

1. UNCCD Convention Secretariat;
2. GEF/World Bank facilitated by UNDP through the LDC-SIDS Portfolio Project for Sustainable Land Management;
3. UNDP through the NCSA project; and
4. Support from the Government of Guyana.

In addition, through the process of preparation, it was recognized that the implementation of the NAP should consider initiatives towards improving the land planning and management system, in particular, the development of the Land Use Policy. Further, the need for capacity building, education and awareness at all levels and especially in the hinterland regions were documented during this process and stakeholders such as civil society and the private sector should be involved and integrated into the process in order to achieve the broader objectives of sustainable land management with the limited resources available. Details regarding Guyana's efforts to date to implement the NAP can be found in Section 4 of this report.

### **3.5 Institutional Framework**

The key responsibility for leading and coordinating the implementation of the NAP rests with the Guyana Lands and Surveys Commission. The GL&SC collaborates with key natural resources and environmental management institutions in executing this function. In particular, this level of collaboration occurred through the National Steering Committee (NSC) of the UNCCD. The NSC had oversight responsibility for the implementation of the UNCCD activities and comprises the following institutions: (i) GL&SC, (ii) GFC, (iii) Guyana Geology & Mines Commission (GGMC), (iv) Environmental Protection Agency (EPA), and (v) Civil Defence Commission. The Committee provided guidance and advice, as well as, overlooked the planning of activities related to the preparation of the NAP.

In addition, a number of synergies and mechanisms emerged during the stakeholder engagement process to prepare the NAP and critical among these were (i) inter-agency collaboration, (ii) sharing of human resources among the key natural resources institutions (to bridge the technical capacity gap in the short term), (iii) technical assistance, and (iv) capacity building and training. The institutional arrangements for NAP implementation were recognised as critical and over the years a few changes were made and these are further elaborated in Section 4 of this report.

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<sup>14</sup> GL&SC.(2006). Guyana's National Action Programme to combat Land Degradation

## 4.0 Status of Implementation of Guyana's National Action Programme

### 4.1 Progress on NAP Actions

Although negotiations leading to a Multilateral Environmental Agreement's (MEAs) adoption and the careful drafting of its provisions are vital elements in ensuring it can be implemented, the ultimate responsibility for complying with its terms rests with the country Parties. Implementation at the national level is at the core of a MEA's effectiveness, and each Party to a MEA is responsible for complying with the obligations it imposes and for taking the necessary measures to bring about that compliance<sup>15</sup>.

Guyana's efforts in implementing the obligations of the UNCCD are discussed in Section 2.5 and 2.6. This section outlines the progress made in implementing the NAP Programme Areas, including relevant policies and plans and human and scientific capacities for long term monitoring and data management. As was indicated in Section 3, a number of actions were outlined in the NAP to assist in meeting these obligations. A summary of progress made by Guyana to implement the NAP Programme Areas is presented in **Table 2** and specific details are presented thereafter.

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<sup>15</sup> Manual on Compliance With and Enforcement of Multilateral Environment Agreements. UNEP. Downloaded from <http://www.oas.org/dsd/Tool-kit/Documentos/ModulleVI/Compliance%20with%20MEAs.pdf>

**Table 2: Summary of Progress on the Implementation of the NAP**

Programme Areas	Action	Status
<b>1. Need for rational planning and management of land resources</b>	a. Conduct a comprehensive assessment of current land use practices and factors contributing to degradation.	<ul style="list-style-type: none"> <li>▪ A National Land Degradation Assessment was conducted in 2008, inclusive of drivers of land degradation.</li> <li>▪ A Pilot Area was assessed (Local Area Degradation Assessment), with the pilot site covering an area within Region # 10, including Linden.</li> </ul>
	b. Finalisation of a National Land Use Policy and Developing a National Land Use Plan.	<ul style="list-style-type: none"> <li>▪ A draft National Land Use Policy was prepared in 2004 and revised in 2007.</li> <li>▪ A report was prepared in 2012 that recommended integration of Sustainable Land Management into the draft Land Use Policy. A National Land Use Plan was prepared and approved in 2013 and implementation has commenced.</li> </ul>
	c. Develop a system for land use planning at the regional level.	<ul style="list-style-type: none"> <li>▪ Methodology for Regional Land Use Planning developed and updating and demonstration of the methodology was completed.</li> <li>▪ Land Use Planning System of tier levels of planning prepared as a Paper by the Development of Land Use Planning Project (DLUPP).</li> <li>▪ Land Use Coordinating Committee approved and functional.</li> </ul>
	d. Promote soil conservation and stringent management through sustainable agricultural practices.	<ul style="list-style-type: none"> <li>▪ Occurs indirectly through the Environmental Impact Assessment and Management Planning for medium and large agricultural development.</li> <li>▪ Included as a programme area in the National Agriculture Strategy.</li> </ul>
	e. Provide technical assistance to finalize and implement regulations in the environment and natural resource sector to prevent and mitigate land degradation.	<ul style="list-style-type: none"> <li>▪ Some legislation passed including the Mining Amendment Regulations 2005 made under the Mining Act 1989, the Forest Act 2009, the Protected Areas Act 2011, Environmental Protection Litter Enforcement Regulations 2013, the Wildlife Management and Conservation Regulations 2013 and the draft Environmental Protection Compliance and Enforcement Regulations.</li> <li>▪ Other initiatives undertaken relevant to developing/preparing regulations to prevent land</li> </ul>

Programme Areas	Action	Status
		<p>degradation include the National Building Codes, National Forest Plan 2011, the National Forest Policy Statement 2011, GFC’s Code of Practice for Timber Harvesting Operations and the National GIS policy (Drafted 2013).</p> <ul style="list-style-type: none"> <li>▪ The establishment of the Land Reclamation Committee in 2014 will contribute to this programme area by providing technical guidance and recommendations.</li> <li>▪ Ministry of Public Works’ Sea and River Defence Unit has integrated into its sector policy the use and development of the shore zone.</li> </ul>
<p><b>2. Need to harmonise and rationalize legislation to remove overlaps, promote effective coordination, information exchange, and institutional synergies</b></p>	<p>a. Review and develop legislation in relation to natural resources management and land use planning and management at the national, regional and local level.</p>	<ul style="list-style-type: none"> <li>▪ Some legislation passed including the Mining Amendment Regulations 2005 made under the Mining Act 1989, the Forest Act 2009, the Protected Areas Act 2011, Environmental Protection Litter Enforcement Regulations 2013, the Wildlife Management and Conservation Regulations 2013 and the draft Environmental Protection Compliance and Enforcement Regulations. The Forest Act was amended in 2010 making mangroves a protected species.</li> </ul>
	<p>b. Harmonise and strengthen institutional arrangements for land planning and management.</p>	<ul style="list-style-type: none"> <li>▪ Legal Framework Report prepared on Land Use Planning</li> <li>▪ Regulation drafted to strengthen the process of regional land use planning and supports the system of planning at the national, regional and local levels. Harmonising has commenced, for example, a tripartite Memorandum of Understanding was developed and signed by the Ministries of Natural Resources and the Environment, Agriculture and Public Works that seek to harmonize efforts as it relates to the management and monitoring of coastal activities.</li> <li>▪ MNRE has prepared a Strategic Plan which outlines measures for improvement in institutional arrangements and coordination.</li> <li>▪ Implementation of the “<i>Mainstreaming Biodiversity into Mining</i>” project to include aspects of inter- institutional coordination.</li> </ul>
	<p>c. Strengthen institutional arrangements for natural resources and environmental management.</p>	<ul style="list-style-type: none"> <li>▪ Achieved through creation of MNRE in 2011 which allows for greater coordination among the principal natural resources agencies.</li> <li>▪ Cross sectoral committees are being created to implement specific activities within the sector,</li> </ul>

Programme Areas	Action	Status
		<p>such as the Land Reclamation Committee and the Mangrove Action Committee.</p> <ul style="list-style-type: none"> <li>▪ NGOs and CBOs are actively participating and contributing.</li> </ul>
	<p>d. Strengthen the existing Land Information Systems for information access, sharing and management.</p>	<ul style="list-style-type: none"> <li>▪ Strengthened with networking access and continued data extraction and updating using satellite imagery.</li> <li>▪ Creation of a centralized GIS Unit by the MNRE which collects information inclusive of activities which result in land degradation. This should also contribute to improved harmonization.</li> <li>▪ Data include national land datasets from GL&amp;SC and other Agencies.</li> <li>▪ Inventories are being conducted such as the GFC inventory on coastal mangroves conducted in 2011.</li> <li>▪ MRVS Framework to provide information on land use change and degradation.</li> </ul>
	<p>e. Prioritise data needs for land planning and management and develop a programme of research and data collection.</p>	<ul style="list-style-type: none"> <li>▪ Land use methodology includes a list of data needs.</li> <li>▪ Data needs prioritised for land use planning and management for national and regional levels, research and data collection is continuous to support plans.</li> </ul>
<p><b>3. The need for financial resources</b></p>	<p>a. Develop a financing strategy for SLM with emphasis on seeking donor support financing</p>	<ul style="list-style-type: none"> <li>▪ The Financing Strategy is an output under the NAP Alignment Project.</li> <li>▪ Implementation of NAP done through specific projects and programmes.</li> <li>▪ Work done under the SLM Project including the Medium Term Investment Plan, Funding Needs Assessment for SLM Priorities and Incentives to Promote Investment in SLM all provided recommendations for financing investments in SLM.</li> </ul>
	<p>b. Maximise in-kind contribution from GL&amp;SC and other institutions</p>	<ul style="list-style-type: none"> <li>▪ In-kind contributions from MNRE and its agencies continue to support low cost needs such as reporting to UNCCD, staff resources, public awareness, project management, etc.</li> </ul>
	<p>c. Network with institutions to share resources to achieve objectives</p>	<ul style="list-style-type: none"> <li>▪ Networking with Local and Regional Institutions is ongoing and has been successful to-date, especially for UNCCD National Reports and Project approvals</li> </ul>

Programme Areas	Action	Status
<b>4. Public education and public awareness</b>	a. Undertake Gap Analyses and Design Education and Awareness Programme for SLM	<ul style="list-style-type: none"> <li>▪ NCSA Strategy and Action Plan included a Gap Analyses and a brochure was designed to increase awareness of the Focal Point to the UNCCD.</li> <li>▪ SLM Project increased awareness of SLM through consultation workshops, training, distribution of reports, etc.</li> <li>▪ Activities conducted to integrate SLM into school curriculum including the preparation of a Teachers Kit and a Training Video.</li> <li>▪ Development of public outreach materials on mangrove including a video and teacher's guide done in 2011.</li> </ul>
	b. Maximise existing tools such as GL&SC newsletter and brochure series, GL&SC webpage local media.	<ul style="list-style-type: none"> <li>▪ GL&amp;SC webpage is used for promoting of SLM and brochures and posters are produced and distributed.</li> <li>▪ EPA publishes articles on land degradation and the UNCCD.</li> <li>▪ GGMC creates and distributes brochures which report on activities within the mining sector.</li> </ul>
	c. Implement Programme through networking at the regional and local level with Govt, NGO, civil society and communities.	<ul style="list-style-type: none"> <li>▪ Some training conducted at the regional and local levels including Disaster Risk Management.</li> <li>▪ NGOs and Civil Society Organisations involved in natural resources and conservation activities have been engaged in activities relating to SLM.</li> <li>▪ GFC promotes SLM through sustainable resource use on its website, and through brochures and posters.</li> </ul>
	d. Educate hinterland communities on sustainable use of the forests to address issues of forest fires and conservation practices.	<ul style="list-style-type: none"> <li>▪ Technical assistance is being provided to Hinterland communities involved in mining.</li> <li>▪ Climate Change manual prepared and distributed by Conservation International and Iwokrama and training of trainers commenced.</li> <li>▪ Amerindian communities receive on an annual basis Presidential grants for community development projects (CDPs) as well as financing from the Ministry of Amerindian Affairs for their CDPs.</li> <li>▪ Forested Amerindian Villages have the option of op-in under the low carbon development strategy which would see them receiving monies to not harvest forest.</li> </ul>

Programme Areas	Action	Status
<b>5. Increasing Capacities</b>	a. Undertake a Skills Assessment for SLM	<ul style="list-style-type: none"> <li>▪ Was completed under the NCSA Strategy and Action Plan with specific focus on the UNCCD.</li> </ul>
	b. Develop a Training Programme to deliver essential skills needed for SLM with training including University of Guyana, targeted short courses and workshops in areas such as GIS, LUP, EIA, among others.	<ul style="list-style-type: none"> <li>▪ Training workshops conducted by SLM Project covered a wide range of SLM areas including Land Degradation Assessment in Drylands Methodology, Early Warning System, Watershed Management, Resource Valuation and Teachers Training Kit. GIS Training completed under Development of Land Use Planning Project (DLUPP). Capacity was developed in the areas of national land use planning, updating of the regional land use methodology and spatial planning.</li> <li>▪ Programmes offered by the University of Guyana covers some of the target areas and contribute to SLM including those offered by School of Earth and Environmental Sciences (SEES), the Faculties of Agriculture and Forestry, Technology and Natural Sciences. The Geography programme offered by SEES includes Land Use Planning, GIS, Physical Geography, Land Evaluation and Urban and Regional Planning. Specialized training for the forestry and mining sectors offered by the Forestry Training Centre Inc. and the Guyana Mining School and Training Centre Inc.</li> <li>▪ Training conducted by NGOs such as WWF, Iwokrama, CI, etc. and other institutions such as Bina Hill Institute contributes to SLM.</li> </ul>
<b>6. Traditional knowledge</b>	a. Develop a mechanism to gather local knowledge and information on a regular basis.	<ul style="list-style-type: none"> <li>▪ There is traditional knowledge and information existing. However, no mechanism for capturing local knowledge and information exists. Nevertheless, in some areas, traditional knowledge is being captured and utilized, such as with the MRVS programme.</li> </ul>
	b. Developing Database and Inventorising Best-Practices	<ul style="list-style-type: none"> <li>▪ Best practices information stored in PRAIS reports, and other reports such as those by the MNRE Land Reclamation Project.</li> </ul>
	c. Incorporating traditional and local knowledge best practice into the system for	<ul style="list-style-type: none"> <li>▪ Community MRV scheme being developed in the North Rupununi is based on local knowledge and should provide a ‘best practice’ model for communities across the country.</li> </ul>

Programme Areas	Action	Status
	land planning and management	<ul style="list-style-type: none"> <li>▪ Management plan for Amerindian areas are being developed by communities such as the recently produced management plan for the South Central Rupununi Area (Wapichan Territory). Ministry of Amerindian Affairs plays a critical role in enhancing livelihood in Amerindian communities through plans and programmes developed based on traditional knowledge.</li> <li>▪ Village Mangrove Action Committees are active in mangrove areas and work to promote mangrove awareness and management while implementing projects in their communities that are environmentally-friendly and beneficial to the community.</li> </ul>
<b>7. Promotion of regional* aspects of preventing land degradation</b>	a. Linkages with Regional Action Programme	<ul style="list-style-type: none"> <li>▪ Linkage by GL&amp;SC with regional programmes every year for training and reporting.</li> </ul>
	b. Development of regional support project for sustainable land management.	<ul style="list-style-type: none"> <li>▪ Regional support available through the Caribbean Network for Integrated Rural Development (CNIRD), which is a NGO originating in Trinidad and Tobago aimed at supporting regional partnership to realize UNCCD implementation and support training of Caribbean member countries.</li> </ul>
	c. Participation in the implementation of the Regional Action Programme (developed for LAC in 2003).	<ul style="list-style-type: none"> <li>▪ Participation in the implementation of the Regional Action Programme when participation is required.</li> </ul>
	d. Participation in a regional initiative for EWS and Information Network for land management.	<ul style="list-style-type: none"> <li>▪ The Hydrometeorological Department has attended one regional initiative on EWS in Latin America.</li> </ul>
<b>8. The need to alleviate poverty and improve the quality of life</b>	a. Subsequent to 1 (a) Identify and implement alternative livelihoods initiatives	<ul style="list-style-type: none"> <li>▪ Alternative livelihoods identified and initiatives are being implemented, including: <ul style="list-style-type: none"> <li>○ Alternative livelihood in mangrove areas such as tourism, bee keeping, etc.</li> <li>○ Community Based Tourism, especially in Amerindian communities such as Surama and those of the North Rupununi.</li> <li>○ Promotion of Non-Timber Forest Products (NTFPs)</li> </ul> </li> </ul>

Programme Areas	Action	Status
		<ul style="list-style-type: none"> <li>○ GEF Smalls Grant Project which is promoting alternative/sustainable livelihoods.</li> <li>○ Promoting farming via hydroponics and traditional methods in mining areas such as Mahdia targeting the miners and the Mahdia Secondary School Students.</li> <li>▪ Amerindian Development Fund established under the LCDS to provide support for the socio-economic and environmental development of Amerindian communities and villages through community development projects.</li> <li>▪ In addition, several NGOs and CBOs are involved in activities promoting alternative and sustainable livelihoods.</li> </ul>
	b. Diversify agriculture practice with value adding and promote efficient multiple land use	<ul style="list-style-type: none"> <li>▪ Agricultural diversity is being pursued.</li> <li>▪ Much emphasis is placed on diversification in the National Agriculture Strategy, for both crop and livestock.</li> <li>▪ Agro-processing and value-added is being pursued to become a new growth pole for agriculture.</li> <li>▪ Institutional strengthening to pursue these initiatives is being done such as the Crop Development Unit established at NAREI (National Agriculture Research and Extension Institute), the Livestock Development Unit established at GLDA.</li> </ul>
<b>9. The need to achieve food security and sustainable development and management of agriculture</b>	a. Support and promote agricultural research	<ul style="list-style-type: none"> <li>▪ Agricultural research is being conducted by institutions within the Ministry of Agriculture including the NAREI, the Guyana Rice Development Board, etc. GGMC is also aiding in agricultural research by promoting the growth of vegetables via hydroponics at Mahdia for the students of the Mahdia Secondary School.</li> </ul>
	b. Promote diversification in the agriculture sector through non-traditional crops and other means	<ul style="list-style-type: none"> <li>▪ The Ministry of Agriculture has developed a National Agriculture Strategy (2013 – 2020) that focuses on a wide range of activities including diversification of agriculture. The Ministry has also developed a Disaster Management Plan.</li> <li>▪ The Agricultural Diversification Programme (ADP) aims to promote diversification in the agriculture sector through non-traditional crops and other means.</li> <li>▪ Promotion of the use of hydroponics for planting vegetables by GGMC.</li> </ul>

Programme Areas	Action	Status
	c. Expand agricultural production by opening up new areas	<ul style="list-style-type: none"> <li>▪ GL&amp;SC continues make land available for agricultural production by opening up new areas for leasing. These include areas in the Canje Basin and in the Intermediate and Rupununi Savannahs. Coastal areas are also being considered, such as those under the Aurora Land Development Project consistent with the National Land Plan.</li> </ul>
	d. Expand community-based agriculture initiatives e.g PRSSP	<ul style="list-style-type: none"> <li>▪ Expanded community-based agriculture initiatives include for e.g. IICA, CIDA, organic cocoa, etc.</li> </ul>
	e. Promote value-added in the agricultural sector.	<ul style="list-style-type: none"> <li>▪ Ministry of Agriculture promotes value-added and marketing in the agricultural sector.</li> </ul>
	f. Promote soil conservation and stringent management through sustainable agricultural practices such as strip cropping, terracing, mulching and crop rotation	<ul style="list-style-type: none"> <li>▪ Importance of soil health is being recognized and is a main priority area in the National Agriculture Strategy.</li> <li>▪ Land management is being integrated into agricultural activities, such as those practiced by GuySuCo and sustainable agriculture being promoted by NAREI.</li> </ul>
<b>10. The need for sustainable management of natural resources and drainage basins and watersheds</b>	a. Promote and support sustainable management in forest and mining	<ul style="list-style-type: none"> <li>▪ Several initiatives are being undertaken to promote sustainable management in the mining and forestry sectors including enforcement of regulations, compliance with standards and code of practices, monitoring, reduced impact practices, alternative measures, etc.</li> </ul>
	b. Restoration and protection of biodiversity and watersheds in collaboration with relevant agencies.	<ul style="list-style-type: none"> <li>▪ Measures to protect biodiversity are outlined in the recently revised National Biodiversity Strategy and Action Plan and several initiatives are being undertaken including education and awareness, policies and legislations, institutional strengthening, implementation of projects, etc.</li> <li>▪ The National Protected Areas System and other conservation measures are also being implemented.</li> <li>▪ Restoration activities are also being conducted, such as replanting of mangroves in coastal areas under the Mangrove Management Action Plan and the reclamation of mined out areas by</li> </ul>

Programme Areas	Action	Status
		<p>the GGMC and under the MNRE Land Reclamation Project.</p> <ul style="list-style-type: none"> <li>▪ Water quality monitoring is done quarterly within the six Mining Districts.</li> </ul>
	c. Undertake a groundwater situation analysis including an assessment of salt water intrusion	<ul style="list-style-type: none"> <li>▪ A Project is expected to be executed by GWI to monitor groundwater resources, risk of above normal withdrawal rates/ decreased aquifer levels and saline water intrusion into the groundwater.</li> </ul>
	d. Undertake a study and situation analysis of both coastal and hinterland surface water systems	<ul style="list-style-type: none"> <li>▪ Water quality monitoring is being conducted within the six Mining Districts on a quarterly basis and the data is stored in a database by GGMC.</li> <li>▪ A National Integrated Water Resources Management Policy and Roadmap was prepared in 2013.</li> <li>▪ A National Wastewater Management Strategy was recently prepared by the Ministry of Housing and Water.</li> </ul>
	e. Support the implementation of the approved Drainage and Irrigation Master Plan	<ul style="list-style-type: none"> <li>▪ Plan is being implemented by the NDIA with over 50% execution. The Plan is currently being reviewed and updated.</li> </ul>
	f. Strengthen and expand the system of Drainage and Irrigation	<ul style="list-style-type: none"> <li>▪ Drainage to prevent flooding is being improved with construction of the East Demerara Northern Relief Structure (Hope Canal) and the proposed rehabilitation of the Cunha Canal.</li> <li>▪ Expansion of the current drainage and irrigation system is also being pursued.</li> <li>▪ To supply irrigation water, improvement in conservancies is also being pursued such as the Conservancy Adaptation Project for the EDWC which is now completed. Similar initiatives will be extended to the Boeraserie and Tapakuma Conservancies.</li> </ul>
	g. Strengthen the current D&I Management System and expand the Water User's Association and their role in management.	<ul style="list-style-type: none"> <li>▪ The participation of farmers and farming communities in the management of drainage and irrigation systems, such as the Water Users' Associations (WUAs) is to be optimized so that management of water, drainage and irrigation can be improved.</li> </ul>
<b>11. The need for EWS</b>	a. Identify and Implement actions to reduce	

Programme Areas	Action	Status
<b>and Emergency Plans to mitigate the impacts of drought, floods and other natural disasters</b>	natural and man-made fires.	
	b. Identify and Implement EWS for disaster preparedness	<ul style="list-style-type: none"> <li>▪ A Situational Analyses of EWS was conducted in 2009.</li> <li>▪ An EWS Framework for Guyana was prepared in 2010 and approved.</li> <li>▪ An EWS Study to be conducted and Protocol prepared under the NAP Alignment Project.</li> </ul>
	c. Develop a comprehensive National Disaster Response and Management Plan	<ul style="list-style-type: none"> <li>▪ The following Policy, Plans and Guidelines were prepared and approved and are currently being implemented:               <ul style="list-style-type: none"> <li>○ A National Disaster Risk Management Policy.</li> <li>○ A National Integrated Disaster Risk Management Implementation Strategy.</li> <li>○ A National Integrated Disaster Risk Management Plan.</li> <li>○ A National Multi-Hazard Preparedness and Response Plan.</li> <li>○ Integrated Disaster Risk Management Guidelines for Agriculture Planning and Environmental Management.</li> </ul> </li> <li>▪ Standard Operation Procedures for National Emergency Operation Centres was prepared but is currently being revised.</li> </ul>
	d. Strengthening of institutional arrangements for disaster preparedness and response	<ul style="list-style-type: none"> <li>▪ Measures for the strengthening of institutional arrangements for disaster preparedness and response are outlined in the National Disaster Risk Management Policy and the National Multi-Hazard Preparedness and Response Plan.</li> <li>▪ The Plans are being implemented by means of specified training and the conduct of stimulation exercises.</li> <li>▪ Training has commenced and was conducted across the country in the various administrative Regions in Disaster Risk Management. This is an ongoing programme. Community Based Disaster Risk Management Training was conducted in specific regions (Regions # 4, 6 &amp; 10).</li> <li>▪ The Civil Defence Commission (CDC) has been assigned the responsibility to prepare and respond to all types of disasters which can occur in Guyana.</li> <li>▪ A Volunteer Corp comprising of various skills and expertise to help respond to emergencies was established by the CDC.</li> </ul>

#### **4.1.1 NAP Relevant Policies and Plans**

The principal NAP relevant Policy is Guyana's National Land Use Policy which is still in draft with its last revision in 2007. The Policy places much of its focus on land administration and does not specifically provide for sustainable land management (SLM). A review of the Draft Policy, done under the SLM Project recommended that SLM principles be integrated into the Draft Land Use Policy while at the same time offering a framework for a SLM Policy as another option.

The principal NAP relevant Plans are the National Land Use Plan and the GL&SC Strategic Plan (2013-2017). The National Land Use Plan which was approved by Cabinet in 2013 and provides land use options for multiple land uses based on resources. The GL&SC Strategic Plan (2013 – 2017), under Strategic Objective 1- includes reporting on compliance with international commitments such as the UNCCD. Neither of these Plans makes reference to the NAP. In addition to the National Land Use Plan, four Regional Land Use Plans have been prepared.

A key national strategy document, the Low Carbon Development Strategy (LCDS) also has relevance to the NAP. Guyana's LCDS was prepared in 2009 and has since been updated in 2013. The LCDS presents Guyana's vision and plan for the country's forest to be protected and maintained in an effort to reduce global carbon emissions and at the same time attract financial resources to support low carbon development. The LCDS is currently in its implementation phase and is being supported through a partnership between GoG and the Kingdom of Norway whereby Norway has committed to providing support to the tune of US\$250 million up to 2015 in support of Guyana's avoided deforestation (REDD+) efforts and the building of a working model of REDD+. At the time of preparing this report, Guyana has earned U.S\$115 million as payment for forest climate services under this partnership, representing the second largest interim REDD+ mechanism globally (the Brazil-Norway partnership being the first) and has been able to maintain 99% of its forests. The LCDS also outlined how Guyana intends to ensure that at least 10% of the country's land area would be under some form of protection. Activities have progressed in this area, including the enactment of the Protected Areas Act and the establishment of the Protected Areas Commission (PAC). Guyana's policy objective in this area is to achieve the UNCBD target of having at least 17 % of the country's land and inland water under some form of protection by 2020.

Under the framework of the LCDS, a national system referred to as Monitoring, Reporting and Verification System (MRVS) to monitor [measure], report and verify emissions or removals of carbon from the forest sector was developed by the GFC and is currently being implemented. The MRV system provides the basis for reporting in accordance with the principles and procedures agreed to by GoG in relation to reducing emissions from deforestation and forest degradation. In addition to the MRVS there are other forest governance initiatives being pursued under the LCDS which are intended to improve sustainability and enforcement of standards to prevent environmental degradation and excessive forest loss. Some of these measures include the country's

commitment to the Extractive Industry Transparency Initiative and the European Union Forest Law Enforcement, Governance and Trade (EU-FLEGT) programme.

Other initiatives undertaken relevant to the prevention of land degradation include the National Forest Plan 2011, the National Forest Policy statement 2011, GFC Code of Practice for Timber Harvesting Operations and the National GIS policy (Drafted 2013). The Sea and River Defence Policy also addresses the use and development of the shore zone.

In addition, some legislation were passed which supports the implementation of the national policies and plans including the Mining Amendment Regulations 2005 made under the Mining Act 1989, the Forest Act 2009, the Protected Areas Act 2011, Environmental Protection Litter Enforcement Regulations 2013, the Wildlife Management and Conservation Regulations 2013 and the draft Environmental Protection Compliance and Enforcement Regulations. The Forest Act was amended in 2010 making mangroves a protected species.

#### **4.1.2 Human and Scientific Capacity**

Limited financial resources and dedicated staff have been the main challenges to NAP implementation. Implementation of the NAP was done primarily through project support from UNDP/GEF and Delegation of European Union (DEU) as the funding source for Land Degradation/SLM and Planning. These respective projects were able to address areas outlined in the NAP. The work of other Agencies would also have contributed to meeting actions outlined in the NAP and these include activities under the Land Reclamation Committee being overseen by the MNRE and GFC's initiatives on MRVS as part of their broader focus on REDD+.

#### **4.1.3 Planning, Coordination and Management**

In this area the NAP outlined actions relating to the need for rational planning and management of land resources and the need to harmonise and rationalize legislation to remove overlaps, promote effective coordination, information exchange, and institutional synergies. Activities undertaken to implement the specific actions to address these needs are discussed below:

- A National Land Degradation Assessment was conducted in 2008 and presented the extent and drivers of land degradation. In addition to the National Assessment a Pilot Area was also assessed (Local Area Degradation Assessment), with the pilot site covering an extensive area within Region # 10, including Linden. These assessments were done under the Capacity Development and Mainstreaming for Sustainable Land Management (SLM) Project.
- The draft National Land Use Policy which was prepared in 2004 is yet to be finalized but was revised in 2007. The Policy aims to streamline land use planning and to create conditions necessary to achieve types of land uses which

are sustainable, socially desirable and environmentally compatible on state lands and provides the framework for coordination among land uses, as well as, facilitates integration of land use. A report was prepared in 2012 recommending integration of Sustainable Land Management into the draft Land Use Policy. The National Land Use Plan was prepared and approved in 2013 and implementation has commenced. This Plan provides support to decision making by looking at development options and constraints throughout the country. It was compiled by assessing current land use, potential constraints and stakeholders' concerns. It also provides the methodology and data for preparation of three Regional Land Use Plans. The GL&SC Strategic Plan (2013 – 2017), under Strategic Objective 1- includes reporting on compliance with international commitments such as the UNCCD. Neither the National Land Use Plan nor the GL&SC Strategic Plan makes reference to the NAP.

- A methodology was developed for Regional Land Use Planning by the Natural Resources Management Project (NRMP). Updating and demonstration of the methodology was completed and a Land Use Planning System of tier levels of planning was prepared as a Paper by the Development of Land Use Planning Project (DLUPP). In addition, a Legal Framework Report prepared on Land Use Planning and regulation was drafted to strengthen the process of regional land use planning, and a Discussion Paper on a Land Use System were prepared to support the system of planning at the national, regional and local level. To date regional land use plans were prepared for:
  - Lethem - Linden Road Corridor
  - Soesdyke – Linden Highway
  - Region # 6 (East BerbiceCorentyne)
  - Region # 9 Sub Region 1 (Rupununi)
- The Land Use Coordinating Committee was approved and is now functional.
- Soil health is a main priority area in the National Agriculture Strategy 2013-2020 which states that it should be promoted through the prudent utilization of biological, chemical and physical methods using an eco-system agronomic approach. Some measures to promote soil conservation and stringent management through sustainable agricultural practices occur indirectly through the Environmental Impact Assessment and Management Planning for medium and large agricultural development. Companies pursuing large scale agricultural activities are required to outline measures to prevent land degradation in their Environmental Management Plan.
- Legislation within the environment and natural resources sector were passed, including some which contributes directly to the prevention and mitigation of land degradation such as the Mining Amendment Regulations 2005 made under the Mining Act 1989, the Forest Act 2009, the Protected Areas Act 2011, Environmental Protection Litter Enforcement Regulations 2013, the Wildlife

Management and Conservation Regulations 2013 and the draft Environmental Protection Compliance and Enforcement Regulations. These compliment previously existing legislation, including the Environmental Protection Act 1996 and the Environmental Protection Regulations 2000.

- There is some progress in the harmonization and strengthening of institutional arrangements for land planning and management with the creation of the Ministry of Natural Resources and the Environment (MNRE). Further, institutional arrangement for land use planning was prepared to respond at divisional level of operation (awaiting approval by MNRE).
- A National Project Board was established in 2014 with oversight responsibility for the implementation of the NAP Alignment Project and meets every three months. The Board comprises the following institutions:
  1. Guyana Lands and Surveys Commission (Implementing Agency)
  2. Guyana Forestry Commission
  3. Ministry of Local Government & Regional Development
  4. Ministry of Natural Resources & Environment
  5. Ministry of Finance
  6. Ministry of Amerindian Affairs
  7. Guyana Office for Investment
  8. Central Housing and Planning Authority
  9. Office of Climate Change
  10. Ministry of Agriculture
  11. Guyana Geology and Mines Commission
  12. Environmental Protection Agency
  13. Civil Defence Commission
  14. Protected Areas Commission
  15. Private Sector Commission
  16. Office of the President
  17. United Nations Development Programme
- Strengthening of institutional arrangements for natural resources and environmental management was achieved through the creation of a MNRE in 2011. MNRE was created to facilitate the efforts of Government to continue to focus on expanding and diversifying the economy on the basis of rational use of Guyana's natural resources. The Ministry has the responsibility to coordinate activities in the forestry, mining, environmental management, wildlife, protected areas, and land use planning sectors. In addition, the Ministry has overall responsibility for the following institutions: GFC, GGMC, Guyana Gold Board, GL&SC, EPA, Wildlife Management Authority, National Parks Commission and PAC to allow for greater coordination among the principal natural resources agencies. MNRE has prepared a Strategic Plan which outlines measures for improvement in institutional arrangements and coordination.

- Land Information Systems were strengthened with networking access and continued data extraction and updating using satellite imagery. Data include national land datasets from GL&SC and other agencies. There was also the creation of a centralized GIS Unit by the MNRE which collects information inclusive of activities which result in land degradation. This should also contribute to improved harmonization. Inventories are being conducted such as the GFC inventory on coastal mangroves conducted in 2011.
- Cross sectoral committees are being created to implement specific activities within the sector, such as the Land Reclamation Committee and the Mangrove Action Committee. NGOs and CBOs are also actively participating and contributing, thus enhancing the institutional capacity.
- Land use methodology includes a list of data needs for land use planning and management at national and regional levels. The data needs were prioritized and research and data collection is continuous to support plans.

#### **4.1.4 Access to, and Availability of Financial Resources**

This programme area focused on the need for financial resources and included actions such as to develop a financing strategy for SLM, maximize in kind contributions and sharing of resources amongst institutions and agencies. Some activities relating to these actions include:

- The Financing Strategy is to be developed under the NAP Alignment Project. However, some work was done under the SLM Project relating to financing of SLM activities, including the Medium Term Investment Plan, the Funding Needs Assessment for SLM Priorities and Incentives to Promote Investment in SLM.
- There have been in-kind contributions which continue to support low cost needs such as reporting to UNCCD, staff resources, website information, etc.
- Networking with Local and Regional Institutions is also ongoing and has been successful, especially for UNCCD National Reports and Project approvals.
- Implementation of the NAP is being done through projects and programmes executed by agencies under the MNRE. For example, the National Land Use Plan was prepared by the GL&SC with funding from the Delegation of European Union; the National Land Degradation Assessment Study was undertaken by the Capacity Development and Mainstreaming for SLM Project, which also completed other priority actions required by the NAP such as EWS, Watershed Management, Valuation of resources and public awareness.
- Other projects also contribute to activities relating to the NAP, for example projects under the Amerindian Development Fund and the Global Environment

Facility (GEF) Small Grants Project, NAP relevant activities are also being supported by NGOs.

#### **4.1.5 Education, Awareness and Capacity Building**

Activities under the programme area were intended to promote public education and public awareness and increasing capacities to ensure implementation of the NAP. Actions include:

- A Gap Analyses was conducted as a part of the NCSA Strategy and Action Plan and a brochure was designed to increase awareness of the Focal Point to the UNCCD.
- The SLM Project increased awareness of SLM through consultation workshops, training, distribution of reports, etc. Efforts were also made to have SLM integrated into the school curriculum, including the preparation of a Teachers Kit and a Training Video.
- The use of existing tools to promote SLM is being utilized. This includes the usage of the GL&SC website, publishing of materials by the EPA on land degradation and the UNCCD and the creation and distribution of brochures which report on activities within the mining sector by GGMC. GFC also promotes SLM through sustainable resource use on its website, and through brochures and posters.
- Some training was conducted at the regional and local levels including Disaster Risk Management. NGOs and Community Based Organisations (CBOs) involved in natural resources and conservation activities were engaged in activities relating to the promotion of SLM.
- Hinterland communities would, from time to time, be educated on sustainable use of the forests to address issues of forest fires and conservation practices through the efforts of the GFC and NGOs/CBOs. In addition, Amerindian communities receive on an annual basis Presidential Grants for community development projects as well as financing from the Ministry of Amerindian Affairs for their community development projects (CDPs). Further, forested Amerindian Villages have the option of op-in under the low carbon development strategy which would see those communities receiving monies to not harvest forest.
- The NCSA Strategy and Action Plan also included a skills assessment with specific focus on the UNCCD.
- Specific training initiatives were conducted and programmes available to promote SLM, including:

- Training workshops conducted by the SLM Project which covered a wide range of SLM areas including Land Degradation Assessment in Drylands Methodology, EWS, Watershed Management, Resource Valuation and Teachers Training Kit. Capacity was developed in the areas of national land use planning, updating of the regional land use methodology and spatial planning.
- GIS Training was also completed under DLUPP.
- Programmes offered by the University of Guyana covers some of the target areas and contribute to SLM. These include SEES Bachelor of Science (B.Sc.) Degree in Environmental Sciences and Bachelor of Arts (B.A.) Degrees in Geography and Postgraduate Diploma/Master of Science (MSc) Degree in Environmental Management, with two specialisation streams in Natural Resources Management; and Climate Change and Disaster Management and other programmes offered by the Faculties of Agriculture and Forestry, Technology and Natural Sciences. The Geography programme offered by SEES includes Land Use Planning, GIS, Physical Geography, Land Evaluation and Urban and Regional Planning.
- Specialized training courses for the forestry and mining sectors are offered by the Forestry Training Centre Inc. and the Guyana Mining School and Training Centre Inc.
- A Climate Change Manual was prepared and distributed by Conservation International and Iwokrama and training of trainers commenced.
- Other training conducted by NGOs including the World Wildlife Fund (WWF), Iwokrama, Conservation International (CI), and other institutions such as Bina Hill Institute contributes to SLM.

#### **4.1.6 Traditional Knowledge**

In terms of traditional knowledge, actions outlined in the NAP included developing a mechanism to gather local knowledge and information on a regular basis, developing database and inventorising best-practices, and incorporating traditional and local knowledge best practice into the system for land planning and management. Activities undertaken in this regard include:

- Best practices information is stored in *Performance Review and Assessment of the Implementation System* (PRAIS) reports and other reports from MNRE's Land Reclamation Project
- The Community monitoring, reporting and verification (MRV) scheme being developed for integration onto the wider national Monitoring, Reporting and Verification System, managed by the GFC, in the North Rupununi is based on

local knowledge and will hopefully provide a ‘best practice’ model for communities across the country.

- Management plans for Amerindian areas are being developed by communities such as the recently produced management plan for the South Central Rupununi Area (Wapichan Territory).
- Ministry of Amerindian Affairs plays a critical role in enhancing livelihood in Amerindian communities through plans and programmes developed based on traditional knowledge. In fact, the Ministry is mandated "*to enhance the quality of life of Amerindian People in Guyana through the formulation and implementation of policies and programmes which facilitate cultural, social and economic development, promote equity and advance the rights of Amerindian people*".

#### **4.1.7 Regional Collaboration**

Regional collaboration initiatives outlined in the NAP includes linkages and participation in the Regional Action Programme and participation in regional initiatives such as EWS and Information Network for land management. Actions undertaken include:

- Linkages with the Regional Action Programme occur through participation in training and reporting. There is also other participation in the Regional Action Programme when participation is required.
- Regional support is available through an NGO and Caribbean Network for Integrated Rural Development (CNIRD). CNIRD is a NGO originating in Trinidad and Tobago and is aimed at supporting regional partnership to realize UNCCD implementation and support training of Caribbean member countries.
- The Hydrometeorological Department has attended one regional initiative on EWS in Latin America.

#### **4.1.8 Enhanced Livelihoods**

The NAP included actions to contribute to the alleviation of poverty and improving the quality of life through identifying and implementing alternative livelihoods initiatives and diversifying agriculture practice with value adding and promote efficient multiple land use. Some specific actions in this regard include:

- Alternative livelihoods were identified and initiatives are being implemented. These include:
  - Alternative livelihood in mangrove areas such as tourism, bee keeping, etc., through the Guyana Mangrove Restoration Project.

- Community Based Tourism, especially in Amerindian communities such as Surama and those of the North Rupununi.
  - Promotion of Non-Timber Forest Products (NTFPs)
  - The GEF Smalls Grant Project is also promoting alternative/sustainable livelihoods by providing funding for projects such as savannah farming instead of shifting cultivation and planting crops in the savannah instead of clearing forests.
  - Promoting farming via hydroponics and traditional methods in mining areas such as in Mahdia targeting the miners and the Mahdia Secondary School Students.
- Several NGOs and CBOs are involved in activities promoting alternative and sustainable livelihoods. These include the North Rupununi District Development Board, the Konashen Community, South Central People's Development Association, Kanuku Mountain Community Representative Group, Village Mangrove Action Committees, etc.
  - The Amerindian Development Fund, which was established under the LCDS, aims to provide support for the socio-economic and environmental development of Amerindian communities and villages through community development projects. 160 communities are to benefit from this project.
  - Agricultural diversity is being pursued and much emphasis is placed on this in the National Agriculture Strategy, for both crop and livestock. In addition, agro-processing and value-added is being pursued to become a new growth pole for agriculture in the Agriculture Vision 2020. A Crop Development Unit was established at the National Agriculture Research and Extension Institute (NAREI) to assist with crop development and a Livestock Development Unit established at the Guyana Livestock Development Authority (GLDA) to assist with the livestock industry.

#### **4.1.9 Food Security and Sustainable Agriculture**

The NAP outlines a number of actions for achieving food security and sustainable development and management of agriculture. Several initiatives are being undertaken in these areas through the work of several agencies under the Ministry of Agriculture and other institutions, including NGOs. Some of these actions are outlined below:

- Agricultural research is being conducted by institutions within the Ministry of Agriculture including the NAREI, the Guyana Rice Development Board (GRDB), etc. There has been significant progress in this regard, for example, the GRDB has been producing newer and improved varieties of rice to be cultivated, while promoting new techniques and measures to aid with improved crop management and increased productivity. GGMC is also aiding in agricultural research by promoting the growth of vegetables via hydroponics in Mahdia for the students of the Mahdia Secondary School.

- The Ministry of Agriculture has developed a National Strategy for Agriculture in Guyana which focuses on a wide range of activities including the diversification of agriculture. Initiatives include the promotion of other crops in the coastal areas and large scale agricultural development in the savannah regions. There is the Agricultural Diversification Programme (ADP) which aims to promote diversification in the agriculture sector through non-traditional crops and other means. It is a three-year project that should increase export competitiveness and employment in the fruits/vegetables and tilapia aquaculture sectors. Downstream processing of agricultural produce is also occurring through processing and packaging plants.
- GL&SC continues to contribute to expanding agricultural production by opening up new areas for leasing. These include areas in the Canje Basin and in the Intermediate and Rupununi Savannahs. Coastal areas are also being considered, such as those under the Aurora Land Development Project.
- Expanded community-based agriculture initiatives are being promoted and implemented, such as initiatives by Inter-American Institute for Cooperation on Agriculture (IICA), Canadian International Development Agency (CIDA), organic cocoa, etc.
- The importance of soil health is being recognized, which will contribute to the promotion of soil conservation and management. Soil health is a main priority area in the National Agriculture Strategy which states that it should be promoted through the prudent utilization of biological, chemical and physical methods in an eco-system agronomic approach. The Strategy states that Guyana will ensure implementation of affordable and practical Integrated Soil Management which will emphasize the management of nutrient flows, but will not ignore other important aspects of soil health, such as maintaining organic matter content, soil structure and soil biodiversity. Some agricultural activities, such as those practiced by GuySuCo, already integrate land management.

#### **4.1.10 Sustainable Development**

A key programme area of the NAP is the need for sustainable management of natural resources, drainage basins and watersheds. Actions in this regard include promote and support sustainable management in forest and mining, restoration and protection of biodiversity and watersheds conduct ground and surface water situation analysis and strengthen and expand the drainage and irrigation system. Progress on activities under this programme area includes:

- Several initiatives are being undertaken to promote sustainable management in the forestry sector. The forest sector is highly regulated to ensure that activities do not contribute to significant forest loss and impact biological resources. The

GFC has implemented several measures to ensure Sustainable Forest Management (SFM) of state forest. Some of these measures are as follows:

- Developed principles, policies and guidelines for improved forest management and timber harvesting practices. This is reflected in the NFP and National Forest Plan, the Forest Act and management and operational guidelines.
- Forest concessionaires are required to obtain Environmental Authorisation from the EPA and prepare Forest Management and Annual Operational Plans for their operations. Larger concessionaires are required to conduct Environmental and Social Impact Assessments and prepare Environmental Management Plans.
- Embraced the principles of Reduced Impact Logging and has developed a Code of Practice for Timber Harvesting which outlines measures for compliance by operators within the sector.
- All large concessions must allocate 4.5% of the total area to biodiversity conservation during the life of the concession.
- Logging activities must be conducted by a cycle ranging from 40-60 years and harvesting is done only in approved blocks. There is an annual allowable cut for each concession.
- Training in Reduce Impact Logging and other measure are being provided through the Forestry Training Centre Inc.
- GFC monitors each operation to ensure compliance with the required measures.

Guyana has embraced the REDD+ framework at a national scale and through this mechanism the country is consistently developing its efforts to reduce deforestation and forest degradation and in particular through the application of sustainable forests management.

A national system to monitor [measure], report and verify emissions or removals of carbon from the forest sector was developed by the GFC and is currently being implemented. The MRV-system provides the basis for reporting in accordance with the principles and procedures agreed to by GoG in relation to reducing emissions from deforestation and forest degradation.

Strong forest governance that exemplifies the principles of sustainable forest management, forest legality, and sustainable development of forest resources, and concurrently balances the social, economic and environmental dimensions, has

been a top priority for the GoG and the European Union<sup>16</sup>. As part of executing this common mandate, Guyana and the EU are currently negotiating a Voluntary Partnership Agreement (VPA) under the existing EU FLEGT Action Plan with the objective of concluding negotiations by September 2015. Guyana and the EU anticipate that the conclusion and effective implementation of the VPA will contribute to the sustainable management of Guyana's forests rural employment and economic development. A VPA will be legally binding on both parties once negotiations are completed and the agreement is concluded. When fully operational, the system provides confidence to the EU buyers that Guyana's timber products were legally sourced.

In addition to the MRVS and the VPA there are other forest governance initiatives being pursued under the LCDS which are intended to improve sustainability and enforcement of standards to prevent environmental degradation and excessive forest loss. Some of these measures include the country's commitment to the Extractive Industry Transparency Initiative, Independent Forest Monitoring and preparation of a NLUP. Other measures include institutional strengthening and capacity building of regulatory agencies in the natural resources sector.

Further, in 2009, the Governments of Guyana and Norway signed a Memorandum of Understanding which set out how the two countries will “*work together to provide the world with a relevant, replicable model for how REDD-plus can align the development objectives of forest countries with the world's need to combat climate change.*” This agreement has resulted in significant steps being undertaken to ensure deforestation is reduced and degraded forest land restored, some of which are described above.

The GFC/MNRE is currently collaborating with the Ministry of Amerindian Affairs and United Nations Development Programme (UNDP) on the Amerindian Land Titling Project which is an initiative of the Government of Guyana designed to advance the process of titling Amerindian communities, demarcating Amerindian Villages and demarcating extensions to Amerindian villages. The project seeks to enable Amerindians to secure their lands and natural resources with a view towards sustainable social and economic development. It is expected that titling of communities will strengthen land tenure security and the expansion of the asset base of Amerindians, enabling improved long term planning for their future development. It is also expected to enhance the opportunities for villages to op-in to the REDD+ and LCDS.

- In the mining areas the focus is on reclamation of previously mined out areas, while ensuring current mining practices include mine rehabilitations. There are abandoned mining areas across Guyana which require some form of reclamation

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<sup>16</sup> Joint statement on a Voluntary Partnership Agreement (VPA) on Forest Law Enforcement, Governance and Trade (FLEGT) between Guyana and the European Union, Georgetown, 2012.  
[http://eeas.europa.eu/delegations/guyana/documents/press\\_corner/euguyanaflegt.pdf](http://eeas.europa.eu/delegations/guyana/documents/press_corner/euguyanaflegt.pdf)

and restoration. In the past efforts were made to reclaim some of these sites as pilot projects. The Government now plans to intensify these efforts through a Land Reclamation Project which is focused solely on reclamation of mined out areas. The initiative will support the country's commitment to REDD+ and sustainable forestry management and the implementation of the LCDS. A Land Reclamation Committee was recently established to focus on reclaiming of areas degraded by mining activities.

Some reclamation efforts to date include accessing the mined-out pits in Region Seven (Cuyuni-Mazaruni) and Region Eight (Potaro- Siparuni) and conducting studies and surveys in the most recent mined-out areas while replanting trees and other protective vegetation in the old mined-out areas. These exercises, which are primarily carried out by the GGMC, had recently focused on replanting some 10 hectares of mined-out white sand covered land in Mahdia, Region Eight with the *Acacia mangium*, a multi-purpose plant that facilitates soil fertility by fixing nitrogen in the soil. Replanting efforts are also currently ongoing at Isseneru, Noitgedacht, Aranka, and Arakaka. These activities will spread to other areas. At Noitgedacht GGMC has been utilising the mined-out land for three purposes; the planting of *Acacia mangium* and cultivating crops between the *Acacia mangium*, utilising the old mining pits as fish ponds for sport fishing, and the construction of a recreational facility for the benefit of the youths in the area.

The MNRE Land Reclamation Project has so far identified several sites to conduct reclamation activities, including gold and bauxite mined out areas.

Efforts are also being made to have miners comply with the environmental requirements and reclaim mined out areas and practice progressive reclamation. This will be done through enforcement by the GGMC. The Mining Amendment Regulations 2005 require mining operations to prepare Reclamation and Closure Plans and conduct reclamation and closure activities. Large scale mining operations are already rehabilitating mined out areas as part of their Closure Plan.

Guyana has also signed on to the Minamata Convention on Mercury and has commenced activities through the GGMC, which is the country's focal point of the Convention. A draft Phase Out Plan for mercury were prepared in 2014 and work is currently being done to assess the impact of mercury on the mining sector.

Assessments are also being conducted to determine the impacts of mining on the ecology in mining areas. Once recent exercise was conducted in September 2014 with the EPA, GGMC and WWF collaborating in undertaking an Ecological and Physio-chemical Assessment of the Konawaruk and Mazaruni Rivers. Water quality monitoring is also being done quarterly within the six mining districts by GGMC.

- Measures to protect biodiversity are outlined in the recently revised National Biodiversity Strategy and Action Plan and several initiatives are being undertaken including education and awareness, policies and legislation, institutional strengthening, implementation of projects, etc.
- The National Protected Areas System and other conservation measures were also implemented. Guyana has over the years implemented measures to ensure the conservation and protection of the biological and other natural resources. The LCDS outlined how Guyana intends to ensure that at least 10% of the country's land area would be under some form of protection. Guyana's policy objective is to achieve the UNCBD target of having at least 17% of the country's land and inland water under some form of protection by 2020.

Protection and conservation efforts have a long history, stretching back to 1929 and the creation of the Kaieteur National Park, which was one of the first protected areas in the region. Since then Guyana has made steady progress in conservation and protected areas development. Key accomplishments include the establishment of the Iwokrama International Centre in 1996 and the creation of the community owned conservation area at Kanashen in 2006. These achievements ultimately paved the way for the Protected Areas Act of 2011, which was a watershed moment for protected areas in Guyana. For the first time, Guyana has in place a national legislative framework that allows for the establishment, management and growth of an effective system of protected areas.

The passage of the Act was followed by the legal establishment of two new protected areas in the Kanuku Mountains and Shell Beach. These areas joined the existing Kaieteur National Park and Iwokrama Rainforest Reserve, and the Community Owned Conservation Area at Kanashen, which together account for approximately 8.6% of Guyana's landmass. The system also includes the National Park, Zoological Park and the Botanical Gardens.

With the Act in place, 2012 saw the appointment of PAC Board, recruitment of staff members, establishment of the PAC Office and finally the opening the Commission in November of 2012. The initial focus was on operationalizing the legal and institutional framework, raising awareness in communities on the new legislation and the work of the PAC, and preparing management plans for the areas within the National Protected Areas System.

Progress was made possible in part through a number of long-standing partners for Guyana's protected areas, including the EPA, the Government of Germany, CI, WWF, Flora and Fauna International and the Guyana Marine Turtle Conservation Society (GMTCS). The PAC is now working to create new partnerships. One example is the signing of a MoU with Panthera, which paves the way for future collaborations with the private sector and corporate groups.

Current activities are focused on the rehabilitation of the National Park, Zoological Park and the Botanical Gardens under the Three Parks Initiative, facilitating the creation of the National Protected Areas Trust Fund, developing a strategic plan for the PAC, a systems plan for the protected areas system, management plans for individual protected areas, and establishing a field presence in these protected areas. Partnerships will also be strengthened with local communities, the private sector, NGOs and other important stakeholders in-country and overseas.

In addition to the national efforts, conservation is also practiced at local levels, mainly through the initiatives of NGOs and CBOs. Some of these measures include sustainable resource extraction and alternative means of livelihood including sustainable tourism operations. The Iwokrama International Centre for Rainforest Conservation and Development is currently managing a reserve of 371,000 hectares of rainforest as a protected area to ensure lasting ecological, economic and social benefits and is working with communities within and around the forest to develop sustainable practices in resource management and use.

Conservation International (CI) is involved in several initiatives to ensure conservation, including supporting the establishment of the Kanuku Mountains Protected Area and the establishment of the Kanashen Community Owned Conservation Area.

Currently, WWF is also involved in several initiatives in Guyana to promote conservation, including biodiversity assessments, supporting the establishment and management of protected areas, supporting the concept of green economies and payment for ecosystem services, pollution abatement in the gold mining sector, and promoting marine turtle conservation and sustainable fisheries. The GMTCS executes the marine turtle conservation programme at Shell Beach and is involved in the direct monitoring of sea turtles nesting.

There has also been an increase in activities from CBOs relating to conservation. The Kanashen Community Owned Conservation Area which was established by the community and is now the largest protected area in the country and is managed exclusively by the community. This effectively brings more than one million acres of rainforest under sustainable management while ensuring the continued development of the Wai Wai people and their traditional way of life.

Karanambu Trust is involved in activities to ensure the conservation of the Rupununi savannah and wetlands ecosystem. The North Rupununi District Development Board (NRDDB) also promotes conservation through its activities, and is involved in several initiatives such as sustainable community tourism, community monitoring, reporting verification system, training and awareness, natural resources management, etc. The South Rupununi Conservation Society is working to protect the endangered Red Siskin (*Carduelis cucullata*), a bird that was trapped to near extinction to supply the cage bird trade. Other communities in

the Rupununi are involved in the sustainable management of their traditional lands and resources while some coastal CBOs are engaged in sustainable utilization of resources from mangrove areas.

- Restoration activities are also being conducted, such as replanting of mangroves in coastal areas under the Mangrove Management Action Plan and the reclamation of mined out areas under the Land Reclamation Project.
- Drainage to prevent flooding is being improved with the construction of the East Demerara Northern Relief Structure (Hope Canal) and the proposed rehabilitation of the Cunha Canal. Expansion of the current drainage and irrigation system is also being pursued, including the Aurora Land Development Project, Phases 2 and 3 of the MMA-ADA Project, additional drainage canal such as the one at Cottage, acquiring of more pumps, etc. To supply irrigation water improvement in conservancies are also being pursued such as the Conservancy Adaptation Project (East Demerara Water Conservancy) and extending these initiatives to the Boeraserie and Tapakuma Conservancies.
- The improvement in the management of the country's water resources is also being pursued. In 2013 a National Integrated Water Resources Management Policy and Roadmap was prepared to ensure water resources are managed in a manner to safeguard the health, safety and welfare of Guyana's citizens and ecosystems and to ensure effective, efficient, and equitable use of water resources consistent with the sustainable development goals of the nation. In 2014 a National Wastewater Strategy was prepared and outlined the approach to sustainably manage wastewater over the period 2014-2034 and to reduce land-based pollution to terrestrial and coastal waters from untreated wastewater thus allowing Guyana to meet the requirements of the LBS Protocol<sup>17</sup>.
- The National Agriculture Strategy states that the participation of farmers and farming communities in the management of drainage and irrigation systems, such as the Water Users' Associations (WUAs) is to be optimized so that management of water, drainage and irrigation can be improved. The WUAs have been assisting with the maintenance of the secondary drainage and irrigation systems in key farming areas.

#### **4.1.11 Disaster Preparedness and Response**

The NAP also recognized the need for EWS and Emergency Plans to mitigate the impacts of drought, floods and other natural disasters and outlines several actions in this regard. Progress on activities under this programme area includes:

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<sup>17</sup> The Protocol Concerning Pollution from Land-Based Sources and Activities (LBS Protocol) is a regional mechanism assisting the United Nations Member States in the Wider Caribbean Region to meet the goals and obligations of two international agreements: The United Nations Convention on the Law of the Sea (UNCLOS) and the Global Plan of Action for the Protection of the Marine Environment from Land-Based Activities (GPA). UNCLOS calls upon States to adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources. The GPA highlights the need for action to reduce the pollutant load to the seas from land-based sources and activities.

- A Situational Analyses of EWS was conducted in 2009, and recommendations were made for the establishment of an EWS. An EWS Framework for Guyana was prepared in 2010 and is approved. A training workshop was also conducted. In the Final Report on the establishment of an EWS, a formal structure was drafted comprising different Agencies based on their mandate and functions. A Drought EWS Study and Protocol is to be conducted under the NAP Alignment Project.
- A National Disaster Risk Management Policy was prepared. The policy is intended to emphasize proactive and preventive strategies in addressing disasters.
- A National Integrated Disaster Risk Management Implementation Strategy was prepared. The Strategy outlines a way forward for implementing Guyana's Integrated Disaster Risk Management vision and goal as well as achieving the Policy Strategic Objectives and expected outcomes over a ten-year timeframe. The Strategy is intended to guide the implementation of projects and initiatives in Guyana – at national, regional and local levels to meet the objectives of the Policy.
- A National Integrated Disaster Risk Management Plan was prepared. The Plan identifies expected results and activities addressing the disaster risk management components, considers activities at the national, the regional and the neighbourhood/local levels, and assigns responsibilities not just to the central government or to the national response organization, but to all relevant institutions and organizations in all sectors of society. The plan covers a period of ten years, from 2013 to 2023.
- A National Multi-Hazard Preparedness and Response Plan was prepared. The aim of this Plan is to detail arrangements to cope with the effects of natural and/or man-made disasters occurring in Guyana. It seeks to assign responsibilities and to provide coordination of emergency activities connected with major disasters, in general and specific ways.
- Integrated Disaster Risk Management Guidelines were prepared for the Agriculture Planning and Environmental Management.
- Standard Operation Procedures for National Emergency Operation Centres was prepared and is currently being revised.
- Measures for the strengthening of institutional arrangements for disaster preparedness and response are outlined in the National Disaster Risk Management Policy and the National Multi-Hazard Preparedness and Response Plan. The Plans are being implemented by means of specified training and the conduct of stimulation exercises. Training has commenced and was conducted

across the country in the various administrative regions in Disaster Risk Management. This is an ongoing exercise. Community Based Disaster Risk Management Training was conducted in specific regions (Regions # 4, 6 and 10).

- The Civil Defence Commission (CDC) has been assigned the responsibility to prepare and respond to all types of disasters which can occur in Guyana. The CDC has also established a Volunteer Corp comprising of various skills and expertise to help respond to emergencies.

## 4.2 Challenges to NAP Implementation

A study entitled “National Action Programmes under UNCCD – Rules and Reality” was commissioned by the German Federal Ministry of Economic Cooperation and Development (BMZ)<sup>16</sup>. This technical paper provided support to the Inter-sessional Intergovernmental Working Group (IIWG) of the UNCCD which was requested to develop a ten-year strategic plan and framework to enhance the implementation of the Convention. In this study of African, Asian and Latin American countries, several critical issues affecting the implementation of NAPS were highlighted as follows<sup>18</sup>:

1. A key problem was the legitimacy of NAPs. It was felt that this was probably not of a formal nature but rather a lack of commitment by certain key stakeholders due to the limited convening power of the (UNCCD) Focal Point Institutions. Considerable progress was achieved with political visibility and government ownership. However, the NAP processes have failed to involve representatives of the driving forces of land degradation, namely the commercial agricultural, mining and other energy-intensive sectors but also public institutions with influence either on infrastructure or on directly productive investments in the affected areas. It was concluded that the non-adherence of these actors undermines the credibility of the NAP process in general.
2. Though the NAP elaboration was organised as a trans-sectoral planning process it rarely translated into broad recognition of the NAP as a reference by other strategies after completion of the process.
3. The need to coordinate with other strategies is clearly spelt out in the NAPS. However, this did not translate into the definition of practical relationships.
4. The lack of operational details hampered the task of mainstreaming: how, in what timeframe, with what instruments and division of roles and responsibilities the mainstreaming should be pursued. Related to this, none of the NAPs specify the incentives and services to be provided by the Focal Point Agency to those actors willing to adapt their programs and policies.
5. Most of the NAPs do not give specific information about its implementation costs.
6. Donors have shown little interest in supporting the NAPs beyond their elaboration

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<sup>18</sup> Federal Ministry for Economic Cooperation and Development (BMZ), Bonn 2007. Technical Paper. National Action Programmes under UNCCD – Rules and Reality. [http://www.desertifikation.de/uploads/media/07-02-01\\_Technical\\_Paper\\_NAP.pdf](http://www.desertifikation.de/uploads/media/07-02-01_Technical_Paper_NAP.pdf)

- and beyond providing selected support for initial pilot activities. Most international funding for the CCD is still channelled through GEF which received more attention as a potential financing source.
7. Project lists attached to NAPs have in general failed to attract investments.
  8. Clear road maps or operational plans with steps, stakeholders and tasks on how to achieve defined goals and targets are also lacking in NAPS.

In addition to the more “upstream” challenges outlined above, Guyana, like many countries face several other operational challenges to the implementation of the UNCCD, as well as, other MEAs. Several of these challenges are highlighted in the MNRE Costed Strategic Framework<sup>19</sup>. These include:

#### **4.2.1 Information related challenges**

- Limited skills, infrastructure, equipment and financial resources to effectively generate and manage data for biodiversity planning, land degradation, and general information on the status and trends in these areas e.g. lack of harmonized software for sharing information
- Insufficient sharing of information among the key agencies GFC, GGMC and GL&S which administer and allocate lands for different purposes.

#### **4.2.2 Coordination**

- Insufficient coordination among the three key agencies GFC, GGMC and GL&SC
- Insufficient coordination among the National Focal Points for the Rio MEA’s.

#### **4.2.3 Technical Capacity and Knowledge**

- It appears that the current level of compliance with post-operation restoration is low due to the limited knowledge level of miners on how to perform ecologically appropriate land restoration.
- Research on appropriate post extraction ecosystem restoration is insufficient.
- Monitoring systems and practices are different for the different Agencies.
- The MNRE does not have competencies related to water management. There are some fifteen agencies administering the legislation relating to water and their functions often overlap either directly or indirectly. Information and coordination are also key elements lacking.

#### **4.2.4 Funding**

- With regards to the EPA and the GL&SC, the assigned budget and the revenues obtained from their activities compromise the fulfillment of their areas of responsibility.

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<sup>19</sup> Ministry of Natural Resources and the Environment, 2012. Costed Strategic Framework.  
[http://www.nre.gov.gy/PDF/Costed%20Strategic%20Framework%20for%20the%20MNRE%20V5\\_final.pdf](http://www.nre.gov.gy/PDF/Costed%20Strategic%20Framework%20for%20the%20MNRE%20V5_final.pdf)

The Funding Needs Assessment for Sustainable Land Management Priorities Report for Guyana also highlights the challenges faced in the Implementation of the NAP in Guyana.<sup>20</sup> These were identified from a review of literature and administration of a questionnaire and validated at a one-day workshop attended by a wide range of stakeholders.

The findings from this assessment showed:

- A lack of information and ability to measure change in terms of land degradation and sustainable land management. There is a lack of knowledge about SLM concepts and sustainable agricultural practices. There is also a lack of coordination in identifying data needs and sharing what data is available between agencies. The need to share GIS data was mentioned specifically. The literature also backs up this need for more data and measurement. The literature review also confirmed that there is limited information for monitoring land quality, land degradation and desertification processes, and the results of strategies and action plans. For example, the degraded agricultural, forestry, and mining areas are of unknown extent.
- Better leadership and coordination is needed between institutions related to sustainable land management. The literature review showed as of 2012, individual legislation addressed specific land uses and there was insufficient integration of SLM in development processes, policies and budgets.
- Increased enforcement of laws and regulations needed. In particular there is insufficient tracking of small and medium sized mining operations. There are also insufficient disincentives to adopt sustainable practices as penalties and fines are too low.
- There is a need for more rigorous Environmental and Social Impact Assessment (ESIA) requirements, focusing particularly on monitoring and enforcement of mitigation measures set out in environmental management plans.
- A lack of knowledge on SLM and the lack of an authoritative policy advisory body. There is a need for greater exposure to SLM principles within government agencies and educational establishments. There was not enough use of expert advice by policy makers. There is need for a National Land Policy or SLM Policy
- There is a lack of incentives to encourage behaviour change and some views were expressed that it may not be economically feasible to adopt some SLM techniques.

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<sup>20</sup> Guyana Lands and Surveys Commission, 2012. Funding Needs Assessment for Sustainable Land Management Priorities Final Report.

### 4.3 Opportunities

There are several opportunities which now exist for the implementation of the NAP. These are outlined below:

- The Land Reclamation Committee could provide a platform for improved coordination between sector agencies.
- To develop training initiatives jointly where skills are needed across the environment and natural resources sectors including agriculture and tourism. This could result in the more effective use of limited resources. A joint approach could also help strengthen a MNRE/cross-agency culture to deliver “as one”. Some of the initiatives identified during this stocktaking exercise are<sup>21</sup>:
  - Capacity development - LADA Methodology, Land Reclamation, Land Management
  - Monitoring of lands using satellite imagery
  - Data collection/ Analysis tools/ Software
  - Awareness from young to old population/ land users/ managers
  - Guidelines / Policy on land use / management/ Code of Practice for land uses
- To explore synergies and partnerships with ongoing initiatives such as:
  - The new LCDS Project areas on Climate Resilience, Adaptation and Water Management<sup>22</sup>. The upcoming ‘Climate Resilience, Adaptation and Water Management Initiatives’ will allocate up to US \$100 million for a once-in-a-generation effort to upgrade Guyana’s ability to cope with climate change.<sup>23</sup>
  - In response to a growing awareness of the potential adverse effects of climate change and the particular vulnerability of developing countries to this process, a significant increase in adaptation action has been witnessed in recent years in Latin America and the Caribbean<sup>24</sup>. These actions are providing opportunities to:
    - increase understanding of the implications of climate change for the achievement of development objectives in the near and long terms;

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<sup>21</sup> GL&SC, 2014. Personal Communication.

<sup>22</sup> Chandarpal., Gitanjali.2014. Climate Change Impacts on Guyana and Current Initiatives. Office of Climate Change, Office of the President, Guyana. . <http://www.caribank.org/uploads/2014/05/Climate-Change-Impacts-on-Guyana-and-Current-Initiatives-by-Gitanjali-Chandarpal.pdf>

<sup>23</sup> Economic Commission for Latin America and the Caribbean, Subregional Headquarters for the Caribbean, 2013. Third International Conference on Small Island Developing States. Caribbean Regional Synthesis Report. <http://www.sids2014.org/content/documents/250Synthesis%20Report%20Final%2020%20August%202013.pdf>

<sup>24</sup> Keller, Marius *et al.* 2011. Review of Current and Planned Adaptation Action: South America. - Guyana. International Institute for Sustainable Development. [http://www.adaptationpartnership.org/sites/default/files/LAC%20South\\_America%20Country%20profiles%20%28Guyana%29.pdf](http://www.adaptationpartnership.org/sites/default/files/LAC%20South_America%20Country%20profiles%20%28Guyana%29.pdf)

- identify strategies and measures that can be taken to reduce climate vulnerability; communicate and build awareness of climate risks, opportunities and potential solutions; and
  - to begin implementing actions on the ground that build capacity to adapt to a changing climate.
- Media systems and national weather TV forecasts. These are important elements of public weather services in developing countries. Benefits include warning people of severe weather and disasters, raising public awareness and education. Through the World Meteorological Organization's Voluntary Cooperation Programme (VCP) weather forecasters in Guyana were introduced to WeatherEye design software and how to present new TV weather forecasts<sup>25</sup>. By introducing professional quality and locally-based visuals the forecasts connect better with viewers so more persons tune in. This ultimately protects lives and property, safeguarding livelihoods and well-being.
- To create data partnerships with both national and international institutions. One such example is with the Ministry of Agriculture. The National Meteorological and Hydrological Service (NMHS) of the Ministry<sup>26</sup>
    - Provides hydrological, meteorological, oceanographic and related data and information
    - Prepares and communicates forecasts and warnings
    - Investigates and provide advisory services on both national and international scales

In 2011, the Ministry in collaboration WWF and Japan International Cooperation Agency (JICA), launched the National Water Information System (NWIS)<sup>27</sup>. This system is an internet based, user-friendly programme that aims to coordinate data dissemination and data sharing between data collectors and decision-makers, centralise and standardise data collection across the multiple agencies and sectors involved in water management. It provides easier access to timely information to assess a country's water resources for decision-making.

Another example of data and information which have been generated is from the assessment of the climate of Guyana with a focus on Iwokrama. The study attempted to collate and analyse climate/hydrology data related to the Iwokrama International Centre for Rainforest Conservation and Development and the surrounding regions<sup>28</sup>. The project

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<sup>25</sup> Met Office, FitzRoy Road, Exeter, Devon, EX1 3PB United Kingdom, 2012. Case study:

Guyana Hydrometeorological Office. [http://www.metoffice.gov.uk/media/pdf/q/7/Guyana\\_Case\\_study.pdf](http://www.metoffice.gov.uk/media/pdf/q/7/Guyana_Case_study.pdf)

<sup>26</sup> Cummings, Garvin, Hydrometeorological Service, Ministry of Agriculture. EWS in Guyana .Hydromet Presentation, RECO Bogota.

[https://www.wmo.int/pages/prog/drr/events/TECORAI/Session4/Mr.%20Cummings%20\(Guyana\).pdf](https://www.wmo.int/pages/prog/drr/events/TECORAI/Session4/Mr.%20Cummings%20(Guyana).pdf)

<sup>27</sup> Guyana Chronicle,2011. National Water Resources System Launched. <http://guyanachronicle.com/national-water-resources-system-launched/>

<sup>28</sup> C. Isabella Bovolo, Geoff Parkin and Thomas Wagner,2009. Initial Assessment of the Climate of Guyana and the

provided a valuable opportunity to establish relationships with a network of all the major data providers not only in Guyana and the Caribbean region but globally as well. One key recommendation coming out of the study was generating specific climatic and hydrological data analyses, based on modeling approaches such as downscaling climate model outputs and hydrological modelling to address issues including:

- the role of global climate patterns in regional drought and flood frequencies,
  - analysis of the role of water in driving changes in ecosystem services such as soil quality and biodiversity,
  - assessments of vulnerability of managed forests to climate extremes, and
  - assessments of the significance of Guyana forests to the water cycle and climate resilience of the Amazon basin.
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- To build upon the GeoNode Project which has commenced and enables Agencies to upload their data to a central system. The data is available to any internet user to download or view and map.
  - To include information from other related institutions such as Ministries of Agriculture and Tourism into the existing central GIS Unit. This Unit currently collects, stores and analyses data from Agencies under the Ministry of Natural Resources and the Environment. Additionally, GL&SC's data is shared with the GIS Unit and could be accessed by the other Agencies.
  - With regards to international institutions, the AQUASAT Programme of the Food and Agriculture Organisation (FAO) on behalf of UN-Water produced in 2013 a UN-Water Country Brief on Guyana which provided information such as water related disasters, water quality index, value generated by industry per m<sup>3</sup> of water, rainfall variability and agricultural GDP and water withdrawals by sector.<sup>29</sup>
  - The report "Recommendations of the Sustainable Land Management (SLM) in Guyana's Draft Land Use Policy" recommended that an integrated land policy would describe how the management of land, water, forest and mineral resources will be rationalised and coordinated to sustain ecosystem services and livelihoods and avoid land degradation. The land policy would also provide for the responsible governance of Guyana's natural resources, in a manner consistent with international and regional instruments, including the Millennium Development Goals that address human rights and tenure rights. Integral to the proposed land policy would be a description of the role of the State in the allocation (and revocation) of rights to land and other natural resources, including its role in monitoring the occupation and use of land and other resources; in maintaining up-to-date land-related records; in collecting land-related revenues to pay for the services provided; and in the resolution of disputes arising from the occupation and use of land. The specific roles, responsibilities and

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Region with a Focus on Iwokrama. School of Civil Engineering & Geosciences, Newcastle University, Newcastle upon Tyne., UK.

<sup>29</sup> FAO, 2013. Guyana UN-Water Country Brief.,

[http://www.zaragoza.es/contenidos/medioambiente/onu/1026\\_eng\\_res5\\_unwater\\_briefs\\_guyana.pdf](http://www.zaragoza.es/contenidos/medioambiente/onu/1026_eng_res5_unwater_briefs_guyana.pdf)

relationships of government agencies involved in land and natural resource management and administration would be clearly set out, together with the financial implications.

- In the Report of the first session of the Partnership Initiative on Sustainable Land Management (PISLM) in 2011 it was taken into consideration that several CARICOM country Parties are pursuing initiatives to address the concept of a green economy.<sup>30</sup> The recommendation was there is need for more information by country Parties of the Caribbean Sub-Region on the linkages between the Green Economy and SLM.
- Implementation of the three key MEAs is divided among various agencies. Given the current shortage of human capacity within these agencies the opportunity to develop the national knowledge management capacity for synergies between the three conventions should not only be explored but be given priority. Information can be collected, saved, processed and exchanged between institutions, professionals and policymakers through a knowledge management network. This knowledge management network could act as a tool for unified monitoring and reporting to the three conventions.
- Opportunities exist as well for
  - i. Outreach and awareness on synergies between conventions and other initiatives being implemented in Guyana. One example is the Conservancy Adaptation project<sup>31</sup>. Among the outputs from the project was a hydrologic baseline, including a comprehensive hydrological and topographical dataset for the improved understanding of how to increase the discharge capacity of the flood control system. A video for policy makers to show flood impacts, models and investments and two short animations, aimed at general audiences and policymakers, to depict the risks facing the Conservancy, interventions undertaken by the government, future rainfall scenarios, and disaster risk reduction needs for Region 4<sup>32</sup>.
  - ii. Capacity development for resource mobilisation

Most institutions lack the technical and practical knowledge for financial and technical resources mobilisation to implement projects and programmes dealing with synergies between the three conventions. Since financial constraints are often cited as a major challenge to implementation, this is a critical area for capacity

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<sup>30</sup> Report of the first session of the Partnership Initiative on Sustainable Land Management High Level Meeting, held in Port of Spain, Trinidad and Tobago 6 May 2011. <http://cnirdregional.org/wp-content/uploads/2012/05/PISLM-High-Level-Comprehensive-Report.pdf>

<sup>31</sup> World Bank, 2014. Decision-Making and Investment Strategies for Managing Flood Risk in Guyana. Insights into DRM. Issue #6- July 2014.

<http://www.worldbank.org/en/topic/disasterriskmanagement/publication/insights-in-drm-latin-america-caribbean>

<sup>32</sup> Refer to link for additional details: <https://www.youtube.com/watch?v=4bF4hQPtTqU>

development. Integrated resource mobilization can go a long way in minimising overlaps and maximising the benefits from international and other aid sources.

## **5.0 Conclusion**

It is important to reiterate that Guyana's approach to the preparation of the NAP was one of prevention rather than response. Therefore, Guyana adopted an approach that was proactive and preventative rather than reactive. Eight years after its preparation and subsequent implementation, it is evident from this rapid stocktaking exercise that Guyana has demonstrated its commitment to meet the requirements of the UNCCD and made considerable efforts to implement its NAP.

The GL&SC has had the opportunity to implement two (2) key projects which significantly advanced efforts in the areas of sustainable land management and planning. In general, and despite challenges, progress was made within the Action Programme framework as well as the broader natural resource management framework., Some of the key outcomes are listed below for ease of reference:

- Preparation and approval at Cabinet level of a National Land Use Plan. Implementation of the Plan has commenced;
- Commencement of a National Project Board to oversee the NAP project;
- Preparation and implementation of a National Disaster Risk Management Policy, National Integrated Disaster Risk Management Implementation Strategy, National Disaster Risk Management Plan and a National Multi-Hazard Preparedness and Response Plan;
- Preparation of a draft Legal Framework on Land Use Planning and regulation to strengthen the process of regional land use planning, as well as support to the system of planning at the national and local levels;
- Assessment of the integration of SLM into the Draft National Land Use Policy; and
- Completion of a national land degradation assessment, inclusive of drivers of land degradation.

The continuity of these efforts must be recognised as Guyana proceed to prepare and implement an aligned NAP, improve monitoring system to report on progress and considers specific data collection system. In this regard, the following recommendations are made to support NAP alignment and implementation in keeping with UNCCD requirements:

### **Policy**

Consideration should be given to include SLM into the National Land Policy. It is proposed that this be done in the next draft of the Policy. Alternatively, Government can also consider the framework for an SLM Policy.

### **Planning and Coordination**

Within the GL&SC's Strategic Plan, while there is mention of meeting UNCCD reporting obligations, the NAP does not feature. It is critical that within the planning

framework of the UNCCD Focal Point, focus is given to the UNCCD and NAP implementation. It is proposed that in implementation of the Strategic Plan, and in setting annual targets under Strategic Objective 1.5, NAP implementation is brought into focus with clearly defined and measureable targets identified.

Objective 1.5 - reporting on the implementation is in fulfillment of the NAP, rather than have 2 objectives repetitive- it was better to have it captured as reporting requirements which report on the areas of the NAP. The National Reports have the implementation status of Guyana, ie what has been covered under the NAP to the UNCCD eg. EWS, LD, Watershed.

All projects implemented are captured as reporting the implementation to the Convention including the Alignment of the NAP Project since the Aligned NAP would provide the areas of reporting to the UNCCD (using the indicators in PRAIS).

While many NAP actions have been completed by other institutions as part of their work programmes, it is evident that the UNCCD National Steering Committee, the body which had oversight for NAP preparation, was not convened thereafter. This Committee has a critical role in overseeing and coordinating NAP implementation and in recognition of resources constraints, can play a key role in promoting and coordinating NAP and NAP related actions among several Agencies. It is proposed that the UNCCD National Steering Committee be reconvened and to include in its focus, oversight of NAP implementation.

**Human and Scientific Capacity; Capacities exist in different agencies, review questionnaire responses and provide analysis**

The GL&SC's Strategic Plan, Section 2.2 SWOT Analysis identified the most critical weaknesses are *".....inadequate, outdated and insufficient technology in some areas and have yet to make best use of available technology (such as e mail, the website and intranet), high staff turnover and vacancy levels, deterioration of physical resources, inability to finance some activities, low rent levels and weak enforcement procedures. Our performance is also hampered by poor communication between agencies and the fact that some of our data and maps are outdated"*.

Similarly, limited human resources and technical and scientific capacity are key constraints to meeting UNCCD and NAP implementation requirements. There are no dedicated GL&SC personnel focused on these two areas on a full time basis.

Land Use Policy and Planning Section provide technical staff which support the implementation of the NAP through projects and preparation of National Reports.

Support to NAP implementation is on-going, and the Senior Land Use Planner prepares reports and is formally recognized as Reporting Officer to the UNCCD, this role also includes the Land Use Planner, in a database in UNCCD.

Since the reporting requirements are every 2 years, it is difficult to dedicate an officer to prepare a report 2 years into the future since the template has been changing. The work is also not required to be data collection on a daily basis but on cumulative yearly basis or every 2 years. Using the range of reporting years, 2012 to 2014, yearly figures are required and there is no on the ground manual methods so it would be better to re-write the statement.

There is dedicated technical staff in the related Section in GL&SC which operationally prepares land use plans but the implementation of the NAP is sectoral, therefore, there is need for staff from other key Agencies to be trained to support the reporting process of the UNCCD.

Scientific capacity for UNCCD is located at NAREI, in the area of soil testing, EPA has capacity on testing water, GFC has scientific capacity to utilize GIS and Remote Sensing to monitor and prepare data on forest degradation, and MNRE has screening criteria for identification of sites requiring land reclamation. The criteria maybe further improved with biodiversity indicators supported by EPA and UG to monitor eco-systems in reclaimed sites. This section requires in depth analysis with a presentation of existing situation of capacities available.

There is a need for funding to support the implementation of the Aligned NAP. Some data are no readily available in Guyana, and the international datasets which are default data for the PRAIS 2016 report may not provide realistic national circumstances to prevent LD and promote SLM, thereby not measurable on the ground results which are required for the implementation of an Aligned NAP. The Aligned NAP would require data to be collected, prepared and subsequently reported to present national circumstances and not a global representation used at the moment.

The GL&SC's Strategic Plan Section 4 – Performance Improvement Initiatives indicated the GL&SC's intent to upgrade our information technology systems to enable improved communications and productivity; modernise human resource management practices and procedures; and introduce a new organization structure which will provide a stronger management framework.

The Plan's Strategic Objective 6 - *to ensure that GL&SC is making the best use of available technology and appropriate systems and processes to maximise efficiency and effectiveness* and Objective 7 - *to ensure that GL&SC is fully staffed with the necessary skills, expertise and experience on a sustainable basis* are intended to improve human and scientific capacity. A number of actions are identified under these Strategic Objectives which include installation of IT Systems; ICT platform and infrastructure; and implementing modern and improved HR Policy and Strategy.

It is proposed that as part of setting annual targets under these Strategic Objectives, training and capacity development are included and to focus on area such as data collection and analysis, LADA methodology and land reclamation. In addition, as part of Objective 6, to improve the capabilities for monitoring of lands using satellite imagery

and to maximize opportunities for collaboration and information sharing with the GFC through their MRV System.

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## Appendix I - List of Contacts

Organisation
Guyana Lands & Surveys Commission (GL&SC)
Environmental Protection Agency (EPA)
Guyana Forestry Commission (GFC)
Guyana Geology and Mines Commission (GGMC)
Civil Defence Commission (CDC)
Office of Climate Change (OCC)
Protected Areas Commission (PAC)
Guyana Sugar Corporation Inc. (GuySuCo)
National Agriculture Research and Extension Institute (NAREI) - Guyana Mangrove Restoration Project
Ministry of Public Works & Communications (MPWC) – Guyana Sea Defence
Ministry of Natural Resources and the Environment (MNRE)
Ministry of Agriculture, NDIA, Pesticides & Toxic Chemicals Board
Central Housing and Planning Authority (CHPA)
Guyana Office for Investment (GO-INVEST)
Ministry of Finance-Project Management Cycle Division
Bureau of Statistics
Hydrometeorological Department
Office of the President (OP)
Ministry of Amerindian Affairs
Ministry of Local Government and Regional Development
Food and Agriculture Organisation (FAO)
SEES, Forestry, Agri-University of Guyana