SURINAME

Fifth National Report to the

United Nations Convention on Biological Diversity

Republic of Suriname

2015

AUTHOR

This report was prepared by the Office of the President of the Republic Suriname and is based on information and data obtained from consultations with relevant institutes, published and unpublished reports.

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LIST OF ACRONYMS

UNCBD	United Nations Convention on Biological Diversity
5NR	Suriname's Fifth National Report to the UNCBD
CELOS	Centre for Agricultural Research in Suriname
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DNA	Desoxyribo Nucleic Acid
FAO	Food and Agricultural Organisation
FCPF	Forest Carbon Partnership Facility
GPS	Geographical Positioning System
IUCN	International Union for Conservation of Nature
MRV	Measuring Reporting and Verification system
MUMAs	Multiple Use Management Areas
NGO	Non Governmental Organisation
NIMOS	Stichting Nationaal Instituut voor Milieu en Ontwikkeling in Suriname (Foundation National Institute for Environment and Development in Suriname)
NTFPs	Non Timber Forest Products
REDD+	Reducing Emissions from Deforestation and Forest Degradation in developing countries and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SBB	Stichting voor Bosbeheer en Bostoezicht Foundation for Forest Management and Production Control
TED	Turtle Excluding Device
WISE REDD+	Widening Informed Stakeholder Engagement for REDD+

CONTENTS

Executive Summary

Suriname, is situated in South America and part of the Amazon biome. With its forest cover of ninety four percent it is declared one of the greenest countries on earth. The forests (inland and coastal area) are important in mitigating the effects of climate change and sea level rise.

Suriname's land surface harbours different ecosystems which include natural capital and cultural heritage. In addition, the exclusive economic zone of about 300 sea miles also contains significant amounts of natural capital. The biological diversity is noticeably important as it provides goods and eco-services to the people of Suriname in the first place. When sustainably managed and/or preserved, it generates income, reduces malnutrition and eradicates poverty. Furthermore, biological diversity is a source of scientific information and is important for educational purposes.

In addition, trends in biological diversity can only be seen after decades of monitoring. So far, biological diversity studies were executed on an *ad hoc* basis making it difficult to notice trends. Data collection by the different research institutes is ongoing. Suriname intends to submit reliable trend data regarding major changes in biological diversity, gathered throughout a decade and longer of monitoring.

Biological diversity is very prone to threats. The major threats are mineral mining, habitat destruction, uncontrolled and illegal extraction of woods, unsustainable bio-prospecting practises. In addition, the presence of invasive (alien) species, import of exotic animal and plant species that may become pests, illegal hunting and fisheries as well as poaching of sea turtle eggs, overharvesting of fish brood and illegal trade in biological diversity also form serious threats to the biological diversity. It is important to note that in certain areas white sand savannah vegetation is burnt to maintain the savannah structure. In addition, the disposal of chemicals and drugs (antibiotics; medicines) in the environment and the construction of roads can be added to the list. The latter requires clearing of forested areas and habitat destruction. Natural disasters and climate change are also threatening biological diversity.

So far, an inventory of changes of the biological diversity throughout the country has not been made. But it is noteworthy to mention three cases that are conspicuous: the reduction in honey production in coastal areas and the reduction in nuts that can be harvested from the Carapa tree in the interior. These reductions have impact on the income of groups of people, indigenous peoples and individuals that exploit these commodities for their subsistence. The same counts for overexploitation of freshwater and marine resources. In the future, strategies will be implemented to manage overexploitation and loss of biological diversity.

In order to reach the goals of the Convention, Suriname has set the following biological diversity targets:

By 2020, at the latest, people are aware of the values of biological diversity and the steps they can take to conserve and use it sustainably. In addition, incentives, harmful to biological diversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and

sustainable use of biological diversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socioeconomic conditions. Furthermore, by 2020, at the latest, governments, businesses and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Furthermore, by 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced. This will be reached with the implementation of the REDD* programme (Reduced Emission from Deforestation and Forest Degradation *) and ongoing implementation of the sustainable harvesting method known as the 'CELOS Management System' in the timber industry, developed and introduced by the Centre for Agricultural Research in Suriname (CELOS).

The Fisheries Management Plan 2014-2018 will enable us to manage and regulate the economically important marine fish stocks. We will not be able to manage all fish and invertebrate stocks and aquatic plants because basic information on many species is still lacking. And the funds for research as well as the capacity are a major constraint.

There are preliminary laws to ensure conservation of biological diversity in agriculture and aquaculture while forestry has more advanced laws. Proper implementation of the laws and law enforcement are also Suriname's intention for the future.

By sending obsolete pollutants to countries where they will be safely dismantled, Suriname is already executing the Aichi Biodiversity Target 8. In addition, Aichi Biodiversity Target 9 on invasive alien species is in execution by the National Herbarium of Suriname at the Anton de Kom University of Suriname. Funds have to be made available to conduct this inventory throughout the country. Concurrently, capacity must be built in application of species identification methodology based on Desoxyribo Nucleic Acid (DNA) of the species.

Suriname is working on Aichi Target 10 by e.g. eradicating the use of mercury from the environment; and indeed protect important underground freshwater aquifers and other freshwater sources such as rivers and swamps. In the Central Suriname Nature Reserve, the major watershed of the Reserve, consisting of the Coppename River Basin and the Left, Right and Mid Coppename river branches, are already protected. In the coastal zone freshwater and brackish water swamps are protected as well.

So far, Aichi Biodiversity Target 11 on prevention of the extinction of known threatened species and improvement of the conservation of species in decline, is being executed for years now. The same counts for conservation of the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species.

The REDD* project that now is being implemented serves in meeting the target on ecosystem resilience and the contribution of biological diversity to carbon stocks,

through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Suriname is intended to take steps toward signing the Nagoya protocol. There is a taskforce in place and preparations are being done by the NIMOS. This target will be met in the near future.

Currently, the WISE REDD+ programme is being implemented and corresponds with Aichi Biodiversity Target 18. Furthermore, Aichi Biodiversity Targets 19 and 20 are priorities for the Government of Suriname. Steps are taken regarding resource mobilization and capacity building.

While implementing the Convention it is noticeable that achievements depend on collaboration between Government, Non Governmental Organisations (NGO's), and Major Groups. Very important are awareness and knowledge aspects. Most importantly, the financial aspects must be in place to reach the goals. Above all, the political will is the most important tool in reaching the targets.

INTRODUCTION

The United Nations Convention on Biological Diversity (UNCBD) mandates that the contracting Parties shall present to the Conference of the Parties, reports on measures that they have taken to implement the provisions of the Convention and theirs effectiveness in meeting its objectives (Article 26).

The National Reports are essential; for the continuous review of the implementation of the Convention, specifically towards the preparation of the 'Global Biodiversity Outlook' and the Mid-term Review of the implementation of the 'Strategic Plan for Biodiversity 2011-2020'. The Republic of Suriname – as a UNCBD party – produced its Fifth National Report with the additional key objective of generating the data and analysis necessary for its evolving national biological diversity planning.

The 5NR covers the period 2011 through 2014, and was realized following exchanges with various national stakeholders. In addition, data from published and unpublished research reports were included.

In accordance with the guidelines provided by the UNCBD on the preparation of the 5NR, the report addresses:

- in Part I, an update on biological diversity status, trends, and threats and implications for human well-being;
- in Part II, the national biological diversity strategy and action plan, its implementation, and the mainstreaming of biological diversity, and
- in Part III, insights on the progress towards the "2020 Aichi Biodiversity Targets" and contributions to the relevant "2015 Targets of the Millennium Development Goals".

Part I

An update on biodiversity status, trends, and threats and implications for human well-being

1.1 The importance of Biological Diversity

Suriname's territory – which forms part of the Guiana Shield, a Pre-Cambrium rock formation – harbours a unique set of different ecosystems, typical to this part of the world. From North to South and from East to West the following ecosystems are encountered:

a) Marine ecosystems: the Atlantic Ocean, mud banks, sandbanks and mudflats,
b) Coastal ecosystems: mangrove forests and mangrove swamps,
c) Brackish water ecosystems: brackish water pans and lagoons,
d) Freshwater ecosystems: freshwater swamps, open freshwater systems such as the Upper Rivers and rapids in the Interior,
e) Savannah ecosystems: white and brown sand savannahs, rock savannahs,
f) Marsh ecosystems,
g) Tropical rainforest.

Suriname has a long history of protecting the biological diversity in these ecosystems. Starting from 1966, 16 protected areas were established consisting of 11 nature reserves, 4 Multiple Use Management Areas (MUMAs) and 1 nature park. Together they make up about 2.1 million hectares or 13.5% of the countries land surface.

1.2 Goods and Services of Ecosystems

The goods and services provided by the different ecosystems are multitude. The marine environment and the coastal and brackish water ecosystems provide fish protein. The mangrove forests serve to protect the shoreline against erosion, storms and strong winds but also provide proteins in the form of fish and crabs as well as honey for consumption. Non Timber Forest Products generate income and thereby help reduce poverty. Examples of NFTPs are: oil production from seeds, production of açai from the açai berry *Euterpe oleracea* (Arecaceae); the use of medicinal plants in curing different diseases; oil from different seeds for the production of soap and cosmetic products as well as for consumption. The forests moreover, provide opportunities for eco-tourism. This leads to sustainable exploitation of the ecosystems and poverty reduction.

An important ecosystem service is provided by the freshwater that is contained in the freshwater swamps in the coastal area, as well as in the underground aquifers. The freshwater is very important in rice cultivation in the coastal zone and provides the proper balance for the mangrove ecosystem to thrive.

Furthermore, the flora and fauna of the sea, the mangrove forest, the freshwater and brackish water swamps in the north as well as the savannahs, marsh forest, high dry

land forest and the tropical rainforest harbour a diversity of characteristics which are exploited for their cultural values that they provide to people. These ecosystems are a good source of information for educational and recreational purposes.

1.3 Major changes in status and trends of Biological Diversity (2011 up to 2014)

Commonly at least 30 years of observations and data collection are needed for observing trends. To date, Suriname has not submitted any data due to difficulties in gathering data that is not in one place. Data collection by the different research institutes is ongoing. Suriname intends to submit reliable trend data, gathered throughout a decade and longer of monitoring, regarding major changes in biological diversity.

1.4 Exceptional Biological Diversity

Suriname has a number of exceptional species. Examples are:

- Various sea turtles that nest each year on sand beaches at the North-Eastern coast of Suriname: *Chelonia mydas* (Green seaturtle), *Dermochelys coriacea* (Leatherback), *Eretmochelys imbricata* (Hawksbill), *Caretta caretta* (Loggerhead) and *Lepidochelys olivacea* (Olive ridley);
- Different plant and fungi species that are used for alternative medicinal practices, by the Indigenous, Maroon and other populations;
- The *Drosera capillaries*, a small insect loving plant;
- A variety of *Dendrobates* species (Poison dart frogs) in the tropical rainforest;
- The *Rupicola rupicola* (Guianan cock-of-the-rock);
- The *Harpia harpyia* (Harpy eagle);
- Dolphins and manatees which have their habitat in off-shore waters;
- The recently discovered armoured freshwater fish *Pseudancistrus kwinti* found in the Central Suriname Nature Reserve[1], and the armoured *catfish Hartiella crassicauda* which has its habitat on the Nassau mountain ridges in the *East of* Suriname where gold is being mined
- The *Pteronura brasiliensis* (giant river otter) and the smaller *Lontra longicaudis*.

The Palumeu River watershed expedition in 2013 yielded 6 new frogs, 1 snake, 11 *fishes* and dozens of insects among 60 species "potentially new to science" that were discovered during a three-week expedition in this area.[3]

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[1] Berrenstein H. J. 2005. Field Guide to the Fishes of the Central Suriname Nature Reserve (CSNR) Coppename

[2] Alonso L.E. & J.H. Mol, (ed). 2007. A Rapid Biological Assessment of the Lely and Nassau Plateaus Suriname (with additional information on the Brownsberg Plateau. Rap Bulletin of Biological Assessment 43. Conservation International, Arlington, VA, USA.

[3] O' Shea B.J., L.E. Alonso, & T.H. Larsen, (ed). 2011. A Rapid Biological Assessment of the Kwamalasemutu region, Southwest Suriname. RAP Bulletin of Biological Assessment 63. Conservation International, Arlington, VA.

1.5 The Main Threats to Biological Diversity

There are a mulitude of threats to the biological diversity of Suriname. A summary of the most conspicuous types of threats is presented below.

1.5.1 Mineral mining

Mined ore has traditionally been a major commodity in the economy of Suriname. Small scale miners play a significant role in the gold sector. Concurrent with this role, however, is the destruction of the biological diversity and ecosystems in the Interior. Due to this development, contamination of ecosystems occurs: air, water and soil become contaminated with mercury and mercury vapour and is becoming a serious problem. The presence of the highly toxic methyl-mercury in the environment poses major health issues to anyone making use of these ecosystems and to people using the goods and services derived from them.

1.5.2 Forestry

Uncontrolled extraction of timber in mangrove areas and other areas in the coastal zone as well as uncontrolled and unsustainable extraction in the Interior, add to the number of threats to the biological diversity.

Unsustainable collection of seeds and unsustainable harvesting of medicinal plants by uprooting, pose threats regarding plant survival which, in severe cases of prolonged practice may lead to extinction.

1.5.3 Bio-prospecting

Bio-prospecting is practised on both small and commercial scale. In both cases the objective of this practice is self-sustenance. Currently, there are no limitations as to what can be extracted from the environment. Plants are uprooted and locally sold as whole plants and/or plant parts. Harvested plants are also exported to different parts of the world, specifically Europe[4]. Regulations are in place for researchers and registered export companies in Suriname. However, on the local markets and shops selling cultural products, a great amount of air/sun-dried and alcoholically preserved medicinal plants are sold. Generally, the traders in this category do not obtain permits.

1.5.4 Invasive species

Because of our relatively open and unprotected long borders of about 500 km, many invasive species are suspected of being smuggled into the country. These include different species of exotic plants for personal and/or commercial use. However,

[4] Andel van T., Behari-Ramdas J., Havinga R., & Groenendijk S. 2008. The medicinal plant trade in Suriname. Ethnobotany Research & Applications (5) 351-372.

agriculture species, not from Suriname, are also imported and cultured for economic reasons.

Invasive fauna species include but are not limited to *Maconellicoccus hirsutus*, (pink mealy bug) and at least 2 oriental fruit fly species, the *Bacterocerus carambolae* (Carambola fruit fly) and the *Anastrepha suspensa* (Caribbean fruit fly). These fruit-fly species are now considered pests for their destructive behaviour in the fruit culture and export of fruits[2].

In addition, *Oreochromis mossambicus* (black tilapia), imported in the years 1958/1959, became a threat to other fish species in the coastal zone because of its high reproduction rate and relatively predatory behaviour toward other fish species.

Furthermore, several aquatic plant species were introduced in coastal protected areas. Their presence has to be monitored. The National Herbarium of Suriname is currently conducting research in the coastal zone to list the number and invasive alien species in this part of Suriname.

Other groups of invasive species include Herpetofauna such as the gecko.

1.5.5 Hunting and Fisheries

Hunting and marine fishery are also regulated by the Government. However, freshwater fishery is only regulated for certain species such as, *Hoplosternum littorale*, *H. thoracatum* and *Mechalechis personata* (old name: *Callichthys callichthys*), armoured catfishes. Poaching and illegal fisheries form serious threats to the fish biological diversity as fish stocks get depleted. This is of major concern to the Government.

1.5.6 Deforestation for (coastal) development

Forests and refugias, where sloths and primates find shelter and food and a place to reproduce, are often cleared for the construction of residential areas. These areas are often foraging and eventually breeding places for several bird species as well from the families Cotingidae, Emberizidae, Psittacidae (parrots and related species).

1.5.7 Burning of savannah ecosystems

Savannah's are bunt by Indigenous and Maroon people to maintain the savannah ecosystem.

1.5.8 Chemicals in the environment

An effort is made to remove obsolete chemicals from the environment. However, because of the lack of a plant where used and contaminated water can be treated, personal health and biological diversity are at risk. This threat is mainly formed by chemicals used in the agriculture and gold mining sector.

1.5.9 Infrastructure

The creation of settling ponds in rivers in the Interior to facilitate small scale gold mining, the diversion of rivers for the same purpose, construction of roads in forested areas, are all threats to the biological diversity. These practices cause clearing of the forests in these areas as well as destroying ecosystems and water reservoirs

1.5.10 Climate change

Due to climate change the wet and dry seasons are prone to become shorter or longer than before. This creates periods of desiccation or prolonged raining periods resulting in flooding. This phenomenon, climate change, creates serious problems in the biological system of many species and in the overall ecological balance within ecosystems.

1.6 Impact of changes on Biological Diversity for ecosystem services and the socio-economic and cultural implications of these impacts

Changes in biological diversity may lead to imbalance and disruption of the affected ecosystem. Consequently ecosystem services become hampered and the benefits for the human population decrease or may come to a halt.

Communities depending on the revenues gained from the ecosystem services may become impoverished. This leads to malnutrition and loss of food security.

Part II

The national biological diversity strategy and action plan, its implementation, and the mainstreaming of biological diversity

2.1 Main biological diversity targets

Targets have, thus far, been set on an *ad hoc* basis as a result on non-coordination in the acceptance of donations. Policies are now being developed to set targets in a holistic manner. Targets are: conservation and sustainable use of biological diversity, access to genetic material and fair and equitable sharing of the revenues, research and monitoring, capacity building, awareness raising, collaboration on national and international level and sustainable financing.

2.2 Biological diversity Strategy and Action Plan

Suriname is in the course of putting the relevant structures in place, among others, facilitating experts to meet the national objectives and commitments related to the UNCBD. A new *Biological diversity Strategy and Action Plan* is in the process of review.

2.3 A summary of the Biological diversity Strategy and Action Plan

The Government of Suriname will work toward adjusting national laws for biological diversity conservation inside and outside the protected areas. In addition, protection of wetlands for preservation of freshwater for all is a future plan. Measures are already taken to conduct better land-use planning to prevent damage or eradication of ecosystems including vulnerable ones.

The Government has a structure in place for regulating gold mining activities and apply restoration and rehabilitation techniques. Concurrent steps are taken to phase out the use of mercury in gold mining. An inventory of invasive alien species in the protected areas is ongoing. In addition, conducting responsible biotechnology and valuing the ecosystems for their services will help protect the countries' biological diversity.

Furthermore, a Governmental taskforce works on regulation of access to genetic material and associated traditional knowledge, with fair and equitable sharing of benefits in the territories of the Indigenous and Maroon as well as in other areas of the country.

Acquisition of knowledge through research and monitoring, includes, but is not limited to traditional knowledge and knowledge of basic biology. The desired actions pertained to this objective are: conducting rapid assessments of the biological diversity in terrestrial and marine ecosystems, including the extended Exclusive Economic Zone of Suriname and areas under pressure from economic development. Furthermore, research have to be conducted to identify indicator species for habitat change; levels for sustainable harvest of flora and fauna as well as marine resources, NTFPs, and wood. In addition, thorough assessment of the Interior is recommended.

National data bases about the biological diversity, ecosystems and related fields must be established and must be accessible to all. This requires, retrieving available existing data and transfer them to a national data base accessible to all. Collaborate with international institutions on data transfer and common use of data is also recommended for reaching the objectives of the UNCBD.

In addition, civil society, the Government, and the private sector must be strengthened. This can be reached by providing training, support in cash/in kind to biological diversity institutes and ministries involved in biological diversity conservation; establish an institute for assessing biotechnology risks and integrate biotechnology in the education curricula.

Socially responsible entrepreneurship and 'green sustainable principles' must be strengthened by building capacity and awareness on integrating green sustainability principles; develop laws and regulations; assign responsibility to an institute for 'green labelling'.

Local communities will be strengthened and co-management encouraged; national awareness must be increased through communication campaigns; social marketing to environmental educators; adapting/modifying the curricula of the Anton de Kom University of Suriname by integrating social marketing of biological diversity.

Among local communities awareness will be raised through education, development of multi-media centres whereby use of local languages is encouraged for dissemination of the conservation message.

In addition, awareness will be raised within the agriculture and fisheries sector by developing and providing agricultural information regarding: conservation of agro-biodiversity; semi-permanent agricultural methods in the interior; on the impact of land-based activities on the marine resources. Fishermen must be trained in sustainable exploitation of marine biological resources, and awareness raised on the laws and regulations regarding conservation of biological diversity in general.

Cooperation at local and international level on planning, management, administration, enforcement of laws and regulations for conservation, and the creation of employment opportunities is encouraged. In addition, measures must be developed to enhance and strengthen public private cooperation on biological diversity, including the Government of Suriname, NGO's, Community Based Organizations and companies. Strong local cooperation is needed to regulate and manage the fisheries at sea. With the establishment of a network of local cooperation in the specific disciplines, the conservation objective can also be reached.

International cooperation is needed for finding answers to questions or to elaborate in disciplines that are difficult to work on at local level, may be due to limited capacity. A plan must be created for regional cooperation on research and monitoring of biological diversity as well as intensify regional planning and action for the protection of globally threatened species. Joint effort/response with countries in the region against disasters that could threaten biological diversity as well as against cross-bordering pollution and dangerous transports at sea is encouraged.

Developing a bio-safety framework in collaboration with countries in the region will add to the conservation as well as to sustainable tourism. All this needs strengthening of capacity and providing training.

Adequate financing is important to reach the goals. Therefore it is advised to include biological diversity related budgets in annual budgets of the Government of Suriname; realised activities must be linked to the annual budget and submitted to the *'Council of Ministers and to the National Assemble*; financial mechanisms must be established to eradicate pollution and degradation of biological diversity; tasks must be indentified to be assigned to foundations and private sectors.

Finally, bilateral and multilateral agreements and donors are needed for continuous financing of projects. This requires an overview of financing possibilities and conditions, and focus of priorities. Lobby on international level and development of proposals are core objectives. Testing financial mechanisms in a pilot project, adjusting these according to local standards and evaluating existing Governmental structures to generate funding is also recommended.

2.4 Actions since the Fourth National Report and integration with relevant sector and cross-sector plans, strategies and programmes

Suriname is in the process of restructuring and rebuilding the State's environmental bodies in order to ensure the development and implementation of sound and integrated environmental policies. Under these circumstances, relatively little action has been taken since the Fourth National Report was submitted and only on an *ad hoc* basis.

However, both in both sectoral as well as cross-sectoral fields, projects have been initiated and are ongoing: These include: promoting the conservation of agriculture biodiversity, implementing the the Fisheries Management Plan, making an inventory of invasive (alien) flora and fauna species in MUMAs in the coastal zone of Suriname, implementing the REDD+ programme[5], making an inventory of the small scale gold miners and promoting rehabilitation of mined areas in East Suriname by planting grass as well as phasing out mercury from the environment. In addition, monitoring the progress of deforestation via satellite image analyses is also being conducted. Furthermore, the Anton de Kom University of Suriname created Master of Science programmes in Biology and Biodiversity Conservation and in Sustainable Development of Natural Resources to strengthen capacity

So far, the NIMOS in collaboration with the 'Mercury Free Partnership' are preparing the population on phasing out mercury from the environment. With regard to that the NIMOS published a policy document which is distributed within the government structure. The NIMOS is raising awareness by giving oral presentations to eg. policy makers.

Meanwhile, at the Office of the President, a task force on medicinal plants is establish with regard to the Nagoya Protocol on Access and Benefit Sharing.

Part III

Progress towards the "2020 Aichi Biodiversity Targets" and contributions to the relevant "2015 Targets of the Millennium Development Goals"

3. Achievement of "2020 Aichi Biodiversity Targets"

Goal A
Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Target 1
By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
People are becoming increasingly aware of the financial values of biological diversity. This is illustrated by the recent occurence of one of the Shamans in the South of Suriname being targeted for unregulated transfer of knowledge by international pharmaceutical industries.

[5] Readiness Preparation Proposal for the Country Suriname Forest Carbon Partnership, final draft June, 2013

To control bio-prospecting activities related to alternative medicines and the traditional medicines, a task force is to be installed to protect the people and the knowledge. Further structuring is on the way. The establishment of a seed bank at the Ministry of Agriculture, Animal Husbandry and Fisheries is an different example.

In line with the CITES, which Suriname is party to, the Ministry of Spatial Planning, Land and Forest Management monitors breeding of specifically animal species, the latter which is practised for supplying local markets of, among others, bushmeat. The revenues from breeding practices are estimated at about US$ 800.000 annually.

Target 2
By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

As the new National Biological Diversity Strategy and Action Plan is being developed only now, incorporation of biological diversity values in strategies and planning processes is as yet inadequate and - as a result - are not reflected in the national budget.

Target 3
By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

The impact of subsidies on our rice culture is harmful to biological diversity and analysis is being done to minimize the effect. The subsidies for developing education and awareness activities and education plans, on the other hand, are positive incentives. Work is being continued towards achieving this target.

Target 4
By 2020, at the latest, governments, businesses and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.
While having commenced with building awareness for sustainable production and consumption, much remains to be done to achieve this target.

Goal B
Reduce the direct pressures on biodiversity and promote sustainable use

Target5
By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

As the territory of Suriname is covered by forest for ninety four percent, and with ratio of 3.5 individuals per square kilometre, the country is well positioned to meet this target.

The deforestation rate of about two percent is due to small scale gold mining. An important means to reserve that rate is the REDD+ project in collaboration with the Forest Carbon Partnership Facility (FCPF). This target is not very applicable at this moment for Suriname 'the greenest country on earth'. We will formulate a project to reduce the concentration of mercury and other hazardous chemicals in the environment as a result of small scale gold mining. The REDD+ Readiness Preparation Proposal was approved in 2013 with the following objectives:

"Build on available terrestrial inventory and remote sensing data, while aiming to incorporate new emerging technologies to continuously improve the quality and cost-efficiency of the national Measuring Reporting and Verification system (MRV). The monitoring system will help to ensure that forests are utilized efficiently, and will observe impacts on forest biological diversity and ecosystem services, socio-economic impacts, productive impacts and governance".

"Several organizations and stakeholders are expected to be part of the institutional structure to enable an efficient monitoring system: the NIMOS, the Suriname Bosbeheer en Bostoezicht (SBB) of Suriname Forest Management Foundation, forest dependent communities, research institutes, the Ministry of Natural Resources, the Ministry of Agriculture, Animal Husbandry and Fisheries and Ministry of Public Works[3]. Environmental and Social Impact Assessment Guidelines, set by the NIMOS, are in place with regard to sustainably managing of biological diversity in agriculture, aquaculture and forestry sectors".

Target 6

By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

Suriname's Fisheries Management Plan 2014-2018 is designed to manage marine fish stocks. The systems described is based on the use of a GPS-monitoring system for monitoring fisheries and fishing activities at sea. Regulations are in place for the inclusion of Turtle Excluding Devices (TEDs) in the fishnets of shrimp trawlers for preventing drowning of sea turtles caught during fishing. The process of updating management and monitoring plans for the MUMAs- also known as *'Managed Resource Protected Areas'* as categorized by IUCN (1994) is provided for.

Suriname's sea-bob industry is the worlds' first tropical shrimp fishery certified by the *Marine Stewardship Council.*

Target 7

By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity

Environmental and Social Impact Assessment Guidelines, set by the NIMOS, are in place with regard to sustainably managing biological diversity in agriculture, aquaculture and forestry.

The Ministry of Agriculture, Animal Husbandry and Fisheries is taking the necessary steps to safeguard the plant genetic and fisheries resources. The actions to be taken by Suriname are incorporated in the 'Country Report on the State of Plant Genetic Resources for Food and Agriculture' (2009), the 'Fisheries Sub-Sector White Papers FAO Project TCP/SUR/3301 (1)' and the 'Fisheries Management Plan for Suriname 2014-2018'.

Target 8
By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

The NIMOS, with assistance from the Anton de Kom University of Suriname will set standards to combat pollution. Currently research is being conducted on the validity of existing standards that are used in the country, e.g. World Bank standards. In particular, a project by the Department of Environmental Sciences, Faculty of Technology, is to be initiated shortly.

Target 9
By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

As the country's borders are relatively open, pathways that are enabling the introduction of invasive species are not well researched. This situation poses a serious problem for the biological diversity. There is furthermore, a lack of available funds to conduct research regarding the presence of invasive alien species and their pathways.

So far, The Suriname Coastal Zone Protected Area Management project, residing under the Ministry of Spatial Planning, Land and Forest Management, is conducting research on invasive alien species in the coastal zone of Suriname in close collaboration with the National Herbarium of Suriname. This project is focussed specifically on the protected areas inhabiting the mangrove ecosystems.

Target 10
By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Coral reefs are not present in Suriname because of enormous amount of sediments originating from the Amazon River and deposited by the action of the Trade Winds and waves[6]. (Delft Hydraulics Laboratory, 1962; Nedeco, 1968).

With respect to other ecosystems, Suriname has focused its research on the inland aquatic and terrestrial ecosystems due to limited financial resources and capacity. However, the growing interest for exploring offshore oil brings the country in a favourable position for obtaining data from marine assessments done by the contractors from the state oil company, Staatsolie NV.

Data is also to be gathered from the industrial fishing floats with the assistance and cooperation between Coastguards, the Ministry of Agriculture, Animal Husbandry and Fisheries, the NIMOS and the Anton de Kom University of Suriname. Suriname is thus in the process of developing a plan and gathering existing marine or off-shore data.

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Target 11

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

The Ministry of Spatial Planning, Land and Forest management is tasked to reach this target. Data is not available as yet.

Target 12

By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Species that are being monitored for over 40 years are the different sea turtle species: *Chelonia midas, Dermochelys oleracea, Eretmochelys imbricata, Olive ridley, Caretta caretta.* However, to report fully on their conservation status, additional data needs to be generated as these species migrate to other continents and only return to nest. Poaching of sea turtle eggs remains a constraint. Steps are in place to increase awareness on national level.

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1. [6] Delft Hydraulics Laboratory. 1962. Demerara coastal investigation-report on siltation of Demerara Bar Channel and Coastal Erosion British Guiana. Delft, The Netherlands; Nedeco. 1968. Coastal Morphodynamics of Suriname. KU Leuven. Belgium.

Target 13
By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

The Ministry of Agriculture, Animal Husbandry and Fisheries, is undertaking steps to safeguard the genetic resources of both animal and plant species, including vegetables. Actions include: encouraging agriculturists to use original vegetable plants and secure their purity by prohibiting cross breeding and inbreeding with other species. Furthermore, a seed bank is being put in place to safeguard originality.

Goal D
Enhance the benefits to all from biodiversity and ecosystem services

Target 14
By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

Suriname has one site set in the marine coastal area, the Coppename RAMSAR site, which is being managed by the the Ministry of Spatial Planning, Land and Forest Management. An ongoing project 'Suriname Coastal Zone Protected Area Management' aims at better management of the coastal protected areas.

Actions are taken by the Government to protect the Coronie freshwaterswamp in the district of Coronie. The freshwaterswamp provides drinking water via underground aquifers to the popilation of Coronie. It also provides wood, fish, medicinal plants and other services.

The various ecosystems that provide essential services are affected majorly by the current lack of capacity in the country. The development of proper sustainable policies is an important objective of the Ministry.

Target 15
By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Suriname's REDD+ Project Document, in collaboration with FCPF, was approved in May 2014 and necessary conditions are now in place to initiate FCPF project activities.

The multinational large-scale gold mining companies are under obligation to rehabilitate their old mines by planting vegetation.

Target 16

By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Awareness building has been started recently, and an assessment towards the implications of ratifying the Nagoya Protocol continues. Preparation is estimated to take one to two years after which ratification and incorporation into national legislation should follow.

Goal E
Enhance implementation through participatory planning, knowledge management and capacity building

Target 17
By 2015, each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

The preparatory process towards formulating the National Biological diversity Strategy and Action Plan has commenced.

Target 18
By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

The REDD* mechanisms will be employed to enable indigenous and local communities to effectively participate in achieving the objectives of the Convention.

Target 19
By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

A long-term plan as targeted for realizing by 2025 is being prepared and includes raising awareness, building capacity and transfer of technology. A key element of the plan is to install the Faculty of Biodiversity within the Central Suriname Nature Reserve, a 1.6 million hectare area of pristine tropical rainforest.

Target 20
By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy

for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Suriname is at the start of charting out the mobilization of necessary financial resources in adherence with the various aspects of the policies being developed.

ANNEX I REPORTING PARTY

INFORMATION ON THE REPORTING PARTY

Contracting Party	The Republic of Suriname
NATIONAL FOCAL POINT	
Full name of the institution	Ministry of Foreign Affairs of the Republic of Suriname
Name and title of contact officers	Mrs. drs. Ellen Naarendorp Permanent Secretary
Mailing address	Ministry of Foreign Affairs of the Republic of Suriname Henck Arronstraat 8, Paramaribo, Suriname
Telephone	+597 477809
Fax	+597 410851
E-mail	ellen.naarendorp@foreignaffairs.gov.sr
CONTACT OFFICER FOR NATIONAL REPORT (IF DIFFERENT FROM ABOVE)	
Full name of the institution	Nationaal Instituut voor Milieu en Ontwikkeling in Suriname (NIMOS)
Name and title of contact officer	Mr. Cedric Nelom, Msc.
Mailing address	Mr. Jagernath Lachmonstraat 100, Paramaribo, Suriname
Telephone	+597 490044
Fax	+597 490042
E-mail	cnelom@nimos.org
SUBMISSION	
Signature of officer responsible for submitting national report	Mr. Melvin F. Linscheer Director National Security, Office of the President of the Republic of Suriname
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