Background report for the

Sub-regional exchange on forest ecosystem restoration for the Caribbean

Castries, Saint Lucia, 9-13 March 2020

FERI

Convention on Biological Diversity

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Context

This report was produced in preparation for the "Sub-regional exchange on forest ecosystem restoration for the Caribbean" one of a series of workshops organized by the Forest Ecosystem Restoration Initiative (FERI).[1]

The FERI is made possible by the financial support of the Korea Forest Service of the Republic of Korea and implemented by the Secretariat of the Convention on Biological Diversity (CBD). FERI helps developing countries to design and implement national targets and plans for ecosystem conservation and restoration in the context of the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets – especially Targets 5, 14 and 15, guided by the Short-Term Action Plan on Ecosystem Restoration[2] (STAPER) adopted in 2016 by the Conference of the Parties (COP) to the CBD. The STAPER consists of a flexible framework with 24 steps for the implementation of ecosystem restoration actions at the national level.

FERI workshops aim to assist countries to design and put into action national plans on ecosystem restoration by fostering exchanges on best practices, challenges and opportunities for forest ecosystem conservation and restoration. They aim to increase countries' knowledge on the assessment of opportunities for ecosystem restoration; choice, design and implementation of a range of restoration interventions; means to mobilize domestic and international public and private resources; ways to engage different stakeholders and incentivize long-term actions in ecosystem restoration; and monitoring of ecosystem restoration.

Throughout the workshop sessions, participants will be able to deepen their knowledge of particular topics pertaining to ecosystem restoration, such as natural regeneration including in post-disaster contexts, agroforestry, and the importance of species and genetic diversity in forest ecosystem restoration, among others. Furthermore, the exchange seeks to develop a regional understanding of common challenges; shared initiatives, tools and resources on forest ecosystem restoration; progress of ecosystem restoration plans; as well as benefits of restoration for ecological, social and economic sustainability.

This report is divided in two sections. Section 1 provides an overview of the biogeographical and socio-economic context of the Caribbean. Section 2 reviews global frameworks for action on ecosystem restoration that are relevant for the targets under the Convention on Biological Diversity. Section 3 assesses progress under these targets in the sub-region, and reviews national and regional actions to implement forest ecosystem restoration.

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[1] Authors: Blaise Bodin and Maria Paloma Noriega Jalil. Many thanks go to Lisa Janishevski for her review and comments.

[2] See Decision CBD/COP/DEC/XIII/5 "Ecosystem restoration: short-term action plan", available at https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-05-en.pdf, also provided in the supporting materials folder for the workshop

1 Overview of the context of forest ecosystem restoration in the Caribbean

The Caribbean region can be geographically defined as the island states which meet the Caribbean Sea and which for the most part are located within the tropics. Caribbean countries have comparable environmental conditions, such as similar climate and types of terrestrial and marine ecosystems. Furthermore, the region is identified by a common past of colonialism and plantation economies. Caribbean countries face similar vulnerabilities to natural hazards and potential impacts of climate change, as well as some common social and economic trends.[3] Other countries with comparable environmental, historical and socioeconomic circumstances, such as Suriname and Guyana, can be grouped together with Caribbean countries for the purposes of setting and enforcing policies related to common challenges.

In terms of political systems, culture and languages, the Caribbean region is a mosaic of diversity. More than half a dozen languages are spoken across the Caribbean region, and the islands span from independent states to overseas departments and territories and non-independent states with ties to countries such as the United States, the United Kingdom, France and the Netherlands. The diversity of political and cultural aspects results in varying styles of managing the environment that can enrich the policy options available, as diversity is one of the keys to socio-ecological resilience.[4]

Caribbean countries are endowed with a high level of biodiversity and a wide variety of biomes, which includes different types of forests, wetlands and marine ecosystems. One estimate of forest area in the Caribbean islands is roughly 7 million hectares, which amounts to 30% of the total land area.[5] Forest ecosystems include tropical and subtropical moist broadleaf forests, tropical and subtropical dry broadleaf forests, and tropical and subtropical coniferous forests.[6] Caribbean wetlands include a variety of ecosystems such as mangroves, lagoons, estuaries, and marshes. These biomes have high relevance to the CBD agenda because of the large amount of endemic species they host, as well as the ecosystem services they provide, such as water drainage and filtration, food resources, coastal stabilisation, and resilience against natural disasters such as hurricanes.[7]

Moreover, marine biodiversity in the Caribbean is of planetary importance. The Caribbean Sea comprises 7.64% of the world's coral reefs, and most of the corals and associated species are endemic. The region also contains the second largest coral reef in the world – the Meso-American Barrier Reef off the coast of Mexico and Belize.[8] However, overfishing, land-based pollution, tourism, ocean warming, and invasive species are constant threats to the Caribbean

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[3] López-Marrero, Tania and Tamara Heartsill Scalley. 2012. "Get Up, Stand Up: Environmental Situation, Threats and Opportunities in the Insular Caribbean". Caribbean Studies 40, No. 2 (July-December): 3-14.
[4] *Ibid.*
[5] FAO. 2014. *Forests and Climate Change in the Caribbean*. Forests and Climate Change Working Paper 13. Rome: FAO.
[6] OECS. 2009. *Biodiversity of the Caribbean*. Protecting the Eastern Caribbean Region's Biodiversity Project Resource. Victoria, Canada: Ekos Communications & USAID. https://www.oecs.org/perb_docs/bc_part2e_tropical%20forests.pdf, accessed: 19/02/2020.
[7] European Commission. 2016. *Regional ecosystem profile – Caribbean Region*. Amandine Vaslet & Romain Renoux (coords). European BEST initiative.
[8] Smikle, S.G. V., Christensen et K.A. Aiken. 2010. « A Review of Caribbean Ecosytems and Fishery Resources Using ECOPATH Models ». *Études Caribéennes*, no. 15 (online).

marine ecosystems.[9] The health of marine and forest ecosystems is linked: given the mountainous terrain of most Caribbean islands, vegetation cover removal usually results in soil erosion, landslides, turbidity and the contamination of the rivers and reefs surrounding them.[10]

Economically, the region is still recuperating from the disastrous consequences of recent high category hurricanes. Damage from natural disasters surpass the annual gross domestic product (GDP) of some nations. Nevertheless, the region has important economic growth opportunities, including "blue growth" potential from marine resources.[11]

Although the size and economic relevance of forests vary across the region, in all cases they provide fundamental ecosystem services, such as watershed and soil protection, erosion control, disaster risk reduction, carbon sequestration and climate regulation. Furthermore, forest ecosystems support the livelihoods of thousands of families mainly through resource extraction and tourism. However, Caribbean forests are under constant stress from deforestation, degradation, natural disasters and climate change.[12]According to figures from the FAO's Global Forest Resource Assessment (FAO FRA), the size of the forestry sector in Caribbean countries is moderate (see Table 1). Many of the Caribbean countries did not report figures under this variable. Only Guyana and Suriname, with a much larger territory, sustain sizeable forestry sectors that employ several thousand people and provide a growing contribution to national GDP (although in the case of Suriname that contribution is masked by the faster growth of the gold mining sector). In Guyana, this workforce is divided in roughly equal proportion between people employed in logging and forest harvest operations and people employed in value added processes (such as furniture, building components, craft, etc…).[13] In Jamaica, the only island country reporting substantial employment figures in forestry, the vast majority of workers appear to be involved in nursery and planting operations, rather than logging.[14]

The forest sector therefore appears to be of moderate importance to the economy of most Caribbean islands. However, Caribbean countries are highly dependent on their marine and coastal resources. More than half of their population lives along the coast. Coral reefs, beaches, fisheries and mangroves support the livelihoods of a large part of society, and tourism, the largest economic and leading growth sector in terms of GDP, is intimately connected to the marine and coastal environment.[15] Given the linkages between terrestrial, coastal and reef ecosystems, protecting and restoring forest areas is likely to be a crucial factor in ensuring the health of marine ecosystems and fisheries (applying a "ridge-to-reef" approach). In turn, the health of these ecosystems is crucial to the sustainability of the tourism sector, which is highly dependent on the maintenance of attractive natural scenery.[16]

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[9] Jackson JBC, Donovan MK, Cramer KL, Lam VV (eds.). 2014. *Status and Trends of Caribbean Coral Reefs: 1970-2012*. Gland, Switzerland: Global Coral Reef Monitoring Network & IUCN.
[10] FAO. 2014. *Forests and Climate Change in the Caribbean*. Forests and Climate Change Working Paper 13. Rome: FAO.
[11] World Bank. 2019. *Caribbean Overview*. https://www.worldbank.org/en/country/caribbean/overview, accessed: 19/02/2020.
[12] FAO. 2014, *op. cit.*
[13] FAO. 2015. Global Forest Resources Assessments, Country Reports for Guyana and Suriname, accessed at http://www.fao.org/forest-resources-assessment/current-assessment/country-reports/en/
[14] FAO. 2015. Global Forest Resources Assessments, Country Reports for Jamaica, accessed at http://www.fao.org/forest-resources-assessment/current-assessment/country-reports/en/
[15] Caribbean Challenge Initiative. 2016. *The Caribbean's Marine & Coastal Environment*. https://www.caribbeanchallengeinitiative.org/about/caribbean-s-marine-environment, accessed: 19/02/2020.
[16] *Ibid.*

TABLE 1. NUMBER OF PEOPLE EMPLOYED IN THE FORESTRY SECTOR (SOURCE: FRA 2015)

Nr of people employed in the forestry sector (Source: FRA 2015)	**1990**	**2000**	**2005**	**2010**
Jamaica	3630	1130	1130	442
Saint Lucia	-	-	-	72
Trinidad and Tobago	1300	1400	1400	-
Guyana	-	-	23600	21700
Suriname	2400	2800	4750	5500

2 Global frameworks for action on forest ecosystem restoration

Forest ecosystem restoration contributes to many goals and targets set at the global and regional level under multilateral environmental agreements and other frameworks. The FERI supports the implementation of the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets, in particular Targets 5, 14 and 15 (see Figure 1), which are those most closely related to forest ecosystem restoration.

These targets align with a range of global goals and objectives set under other international agreements such as the 2030 Agenda for Sustainable Development and Sustainable Development Goals, the Land Degradation Neutrality objective under the UN Convention to Combat Desertification, the UN Framework Convention on Climate Change and the Paris Agreement or the Global Forest Goals of the UN Strategic Plan for Forests 2017-2030. In addition, policy platforms such as the Bonn Challenge or the UN Decade on Ecosystem Restoration 2021-2030 also promote forest ecosystem restoration.

This section reviews these international goals and frameworks and how their implementation can be linked to the implementation of Aichi Biodiversity Targets 5, 14 and 15.

FIGURE 1. SELECTED TEXT OF AICHI BIODIVERSITY TARGETS 5, 14 AND 15

Target 5: 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.

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

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.

2.1 2030 Agenda for Sustainable Development and Sustainable Development Goals

The Sustainable Development Goals (SDGs), adopted in in September 2015 by the General Assembly of the UN, emphasize the importance of biodiversity, as well as the conservation and restoration of forests, mountains and drylands, among others. The framework emphasizes the protection of biodiversity, ecosystems and wildlife within the 2030 Agenda for Sustainable Development.[17] Until 2030, the SDGs will provide the framework for countries to mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind.

[17] UN General Assembly. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*. A/RES/70/1.

Goal 15 establishes the aim to "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss".[18] The targets under SDG15 provide further detail of how this may be achieved, and constitute a renewed expression by the international community of the importance of terrestrial ecosystems and their benefits for society and sustainable development. The synergies between the 2030 Agenda for Sustainable Development, the Strategic Plan for Biodiversity, as well as the post-2020 global biodiversity framework, are essential to maintain momentum for ecosystem restoration and could be a lever for resource mobilization, in line with SDG 15.

SUSTAINABLE DEVELOPMENT GOAL 15 AND SELECTED TARGETS RELATED TO FOREST ECOSYSTEM RESTORATION[19]

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world […]

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species […]

15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species […]

15.B Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation […]

2.2 Land Degradation Neutrality (LDN) under the United Nations Convention to Combat Desertification (UNCCD)

In 2015, Parties to the UNCCD reached an agreement on the land degradation neutrality (LDN) concept. This concept aims to foster the implementation of policies meant to avoid, reduce

[18] *Ibid.*
[19] *Ibid.*

and/or reverse land degradation. LDN aims to balance anticipated losses in healthy and productive land and associated ecosystem services through approaches such as land restoration and sustainable land management.[20]

Currently, over 120 countries have committed to set Land Degradation Neutrality targets, including several Caribbean countries such as Antigua and Barbuda, Dominica, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.[21]

The LDN initiative recognizes the importance of comprehensively addressing the challenges of land degradation and biodiversity loss. Both issues are strongly related and are linked to the environmental crisis affecting all life on land. Furthermore, solving these problems requires common strategies and integrated actions at all levels. Because of the overlap between the main drivers of land degradation and biodiversity loss, there is great potential to bring into line LDN targets and policies with existing and future commitments on biodiversity and climate change. At the same time, the post-2020 global biodiversity framework could support existing commitments by countries to achieve LDN.[22]

The three elements of a monitoring framework for the implementation of the LDN objectives —trend in land use/land cover, trend in land productivity and trend in soil carbon stocks— are all relevant for assessing progress on Aichi Biodiversity Targets 5 and 15. Efforts to collect information under these indicators, at the national scale, could therefore feed into National Reports to the CBD and vice-versa.

2.3 United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement

The contribution of the conservation and restoration of functional ecosystems to climate change mitigation and adaptation is directly addressed by the UNFCCC and the Paris Agreement. Many national plans and commitments to mitigate climate change are therefore highly relevant to the implementation of Aichi Biodiversity Targets 5, 14 and 15. Healthy ecosystems can function as a dual solution: they reduce emissions from ecosystem degradation by sequestering and storing carbon, and at the same time protect communities from the negative impacts of climate change.

Nationally Determined Contributions (NDCs) presented by signatories to the Paris Agreement often list targets in the Land Use, Land Use Change and Forestry (LULUCF) or Agriculture, Forestry and Land Use (AFOLU) sectors. Article 5 of the Paris Agreement, building on a series of decisions from the UNFCCC COP sets up a mechanism whereby developing countries may receive payments for the results they have achieved to reduce emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of carbon stocks in developing countries (REDD+).

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[20] UNCCD Knowledge Hub. 2016. *Land degradation neutrality*. https://knowledge.unccd.int/topics/land-degradation-neutrality, accessed: 21/02/2020.
[21] UNCCD. 2019. *Countries setting Land Degradation NEutrality (LDN) Targets.* https://www.unccd.int/sites/default/files/inline-files/List%20of%20countries%20setting%20LDN%20targets%20%28as%20of%20Nov%202019%29.pdf, accessed: 21/02/2020.
[22] Global Mechanism of the UNCCD and CBD. 2019. *Land Degradation Neutrality for Biodiversity Conservation*. Briefing Note. Bonn, Germany.

To ensure more accurate reporting on Aichi Biodiversity Targets, Parties should consider how climate related and restoration targets in NDCs are articulated within their national targets in NBSAPs under Aichi Biodiversity Targets 5, 14 and 15 to ensure complementarity in intergovernmental processes and commitments taken at national level.

Additionally, it is important to ensure that mainstream climate change mitigation and adaptation measures do not inadvertently pose a threat to biodiversity. To achieve this, a comprehensive and integrated approach between climate change and biodiversity should be applied when designing relevant policies.

2.4 Global Forest Goals and Targets of the UN Strategic Plan for Forests 2030

The agreement on the Strategic Plan for Forests 2017-2030 was achieved at a special session of the United Nations Forum on Forests in January 2017, and subsequently adopted by the United Nations General Assembly in April 2017. The Plan includes six Global Forest Goals and 26 associated targets.[23]

Particularly relevant to Aichi Biodiversity Targets 5, 14 and 15 is Global Forest Goal 1, which encourages countries to: "Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change".[24]

GLOBAL FOREST GOAL 1 TARGETS[25]

1.1 Forest area is increased by 3 per cent worldwide.

1.2 The world's forest carbon stocks are maintained or enhanced.

1.3 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

1.4 The resilience and adaptive capacity of all types of forests to natural disasters and the impact of climate change is significantly strengthened worldwide.

2.5 Other international initiatives

Independent of national targets set under their National Biodiversity Strategies and Action Plans (NBSAPs) or NDCs, several Parties to the CBD have pledged actions on forest restoration and reforestation under a number of international initiatives that seek to support climate change mitigation, adaptation, improve water provision and meet broader development goals. These include, among others, the Bonn Challenge, the New York Declaration on Forests, the Initiative 20x20 for Latin America and the Caribbean, and the African Forest

[23] UNDESA. 2019. *Global Forest Goals and Targets of the UN Strategic Plan for Forests 2030*. New York: UN.
[24] *Ibid.*
[25] *Ibid.*

Landscape Restoration Initiative (AFR100). These initiatives represent a potential to boost the implementation of Aichi Biodiversity Targets, in particular Target 15.

The Bonn Challenge is a global effort to bring 150 million hectares of degraded and deforested land into restoration by 2020 and 350 million by 2030. It is an implementation vehicle for national priorities such as water and food security and rural development, while simultaneously helping countries contribute to the achievement of international climate change, biodiversity and land degradation neutrality commitments.[26] As of February 2020 there are 62 commitments to the Bonn Challenge from national and subnational governments, forest restoration pacts and private companies totalling more than 172 million hectares. None of the Caribbean countries have committed to the Bonn Challenge to date.

Furthermore, the UN General Assembly declared 2021-2030 the UN Decade on Ecosystem Restoration, aiming to boost efforts across the world and rally support from different stakeholders to rehabilitate degraded terrestrial, freshwater and marine ecosystems. The implementation of this initiative will be headed by the United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO).[27]

[26] Bonn Challenge. 2020. *The Challenge*. https://www.bonnchallenge.org/content/challenge, accessed: 21/02/2020.
[27] UNEP. 2019. *New UN Decade on Ecosystem Restoration offers unparalleled opportunity for job creation, food security and addressing climate change*. Press release. https://www.unenvironment.org/news-and-stories/press-release/new-un-decade-ecosystem-restoration-offers-unparalleled-opportunity, accessed: 21/02/2020.

3 Regional progress and frameworks for action on forest ecosystem restoration

There are some positive indicators that progress is being made to achieve Aichi Biodiversity Targets 5 and 15 in the Caribbean. The area of natural forest in Caribbean countries is relatively stable, with the main cause of natural forest loss being extreme weather events. However, while the extent and rate of forest loss is well established, condition changes within forests are poorly documented. Moreover, other types of ecosystems continue to be destroyed at alarming rates. For example, an estimated 75% of wetlands have been lost.[28] **Section 4.1** reviews data available to estimate progress under Aichi Biodiversity Target 5 in the Caribbean.

With regards to action on ecosystem restoration, many countries in the region have set ambitious targets at the national level through their National Biodiversity Strategies and Action Plans. However, these targets often lack in specificity, making their achievement less likely and more difficult to measure. Moreover, synergies with other global frameworks on ecosystem restoration are under-exploited, with few national targets demonstrating alignment across the various agreements to which they contribute. More details of this review of national targets under Aichi Biodiversity Target 15 and their alignment across international agreements are provided in **Section 4.2. Section 4.3** provides an overview of the types of ecosystem restoration actions undertaken to implement the targets set in NBSAPs, as well as relevant projects funded by the Global Environmental Facility (GEF) and Green Climate Fund (GCF) in the sub-region.

Finally, **Section 4.4** reviews current the regional frameworks on biodiversity and ecosystem management, set by intergovernmental organizations present in the sub-region, that offer an opportunity to emulate national action on restoration.

3.1 Progress under Aichi Biodiversity Target 5: Trends in forest extent and forest loss

A high proportion of the territory of the countries participating in the workshop (hereinafter 'Caribbean countries', including Suriname and Guyana) is covered by forests, and forest cover loss from deforestation or degradation occurs at relatively low rates in most territories. In this section, we review two different data sources on forest extent: the first one is FAO's Global Forest Resource Assessment (FRA), which gathers data from national correspondents in each participating country about the area of forest and different forest types and how it changes over time.

The FRA includes data for several categories of forests. The 'natural forests' category, which excludes monospecific plantations but includes sustainably managed forests that are naturally regenerated, is the most relevant to forest ecosystems as natural habitats that can support biodiversity. Using the data for the years 2005, 2010 and 2015 under that category, a rate of change in natural forest area can be calculated for the periods 2005-2010 (prior to the adoption of the Aichi Biodiversity Targets) and 2010-2015 (after their adoption). This rate is relatively stable in most countries of the region, with the exception of Haiti which experiences both high and accelerating rates of natural forest area loss since the adoption of the Aichi Biodiversity Targets (Table 2). Most other countries show relatively low rates of change in natural forest

[28] IPBES. 2018, *op. cit.*

area, with the exception of Trinidad and Tobago where a significant increase is observed since 2010.

TABLE 2. RATE OF CHANGE IN NATURAL FOREST AREA PRIOR AND AFTER THE ADOPTION OF THE AICHI BIODIVERSITY TARGETS (SOURCE: FAO FRA 2015)

	Change in area of natural forest **2005-2010**	Change in area of natural forest **2010-2015**
Antigua and Barbuda	NoData	NoData
Bahamas	0%	0%
Barbados	0%	0%
Dominica	-0,57%	-0,63%
Grenada	0%	0%
Guyana	-0,03%	-0,06%
Haiti	-1,98%	-2,19%
Jamaica	-0,08%	-0,08%
Saint Kitts and Nevis	NoData	NoData
Saint Lucia	-0,34%	-0,34%
St Vincent & the Gr	+0,77%	0%
Suriname	-0,03%	-0,02%
Trinidad and Tobago	-0,43%	+1,42%

TABLE 3. FOREST COVER IN 2010, DEFINED AS AREAS WITH >30% CANOPY COVER, AS A PERCENTAGE OF TOTAL AREA (SOURCE: GLOBAL FOREST CHANGE

Country	% forest cover in 2010
Antigua and Barbuda	46%
Bahamas	26%
Barbados	15%
Dominica	94%
Grenada	77%
Guyana	91%
Haiti	29%
Jamaica	69%
Saint Kitts and Nevis	51%
Saint Lucia	81%
St Vincent & the Gr.	75%
Suriname	96%
Trinidad and Tobago	74%

A limitation of the FRA data however is that it only tracks the overall net area of natural forest at various intervals. This can mask phenomena of forest loss and regain within the period which, while they do not affect forest area as defined by the FRA, can still imply a loss of the structure and composition of natural forests and their value as habitats for species. Forest restoration is indeed not "the mirror opposite of forest loss"[29] and occurs over much longer timeframes. When thinking about the value of forests as natural habitats, it is therefore better to distinguish between rates of gross forest loss and forest gain.

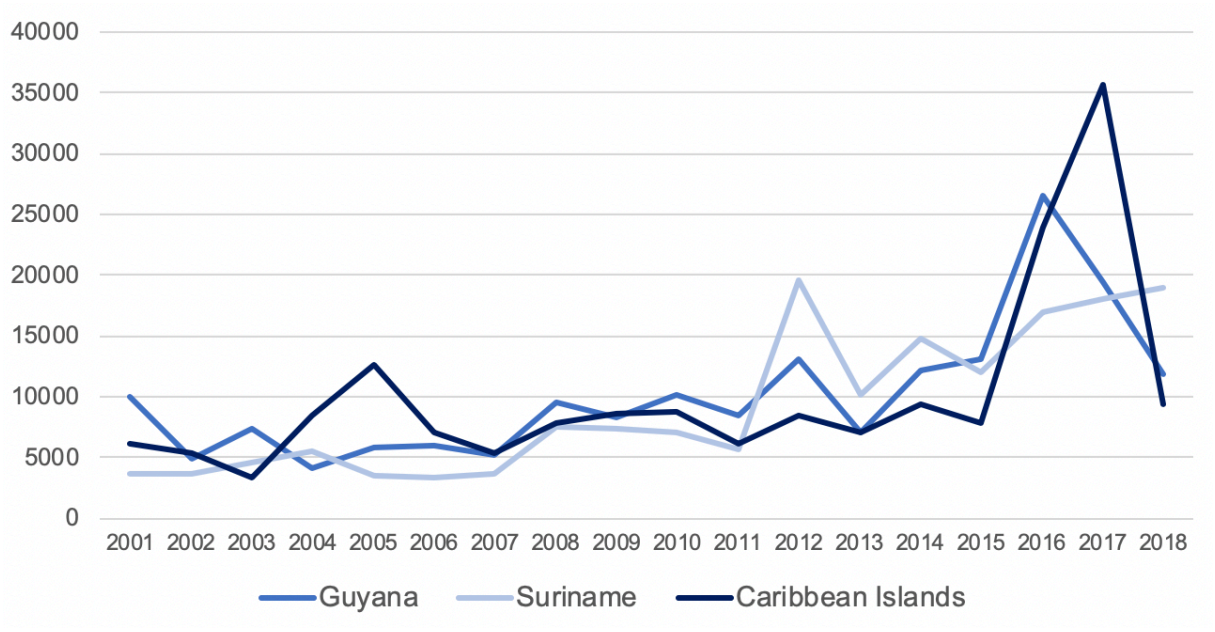
Another source of data on forest area is the Global Forest Change dataset, popularized through the Global Forest Watch platform. This dataset includes 30 meters resolution data on forest cover (Table 3), as well as forest loss data for each year between 2001 and 2018 (Figure 2). Data on forest cover reveals the high proportion of forest cover of most Caribbean countries. Guyana, Suriname and Dominica stand out as having almost the totality of their territory covered in forest. The Bahamas and Barbados count with significantly lower natural

[29] Chazdon, R. L., P. H. Brancalion, L. Laestadius, A. Bennett-Curry, K. Buckingham, C. Kumar, J. Moll-Rocek, I. C. G. Vieira, and S. J. Wilson. 2016. When is a forest a forest? Forest concepts and definitions in the era of forest and landscape restoration. *Ambio* doi:10.1007/s13280-016-0772-y:1-13.

proportions of forest cover, owing to their flatter topography and, especially in the case of Barbados, high population density.

Data on forest cover loss for the period 2001-2018 reveals a moderate increase for Guyana and Suriname since 2013. For the rest of participating countries, grouped in this figure as 'Caribbean islands', rates of loss observed are generally low over the period, in keeping with the FAO FRA data, but show peaks for 2016 and 2017 owed to the devastating impacts of hurricanes over Haiti and Dominica during these years.

FIGURE 2 – FOREST COVER LOSS IN GUYANA, SURINAME AND THE CARIBBEAN ISLANDS FOR THE YEARS 2001-2018 (SOURCE: GLOBAL FOREST CHANGE)



A closer look at the yearly data on forest cover loss disaggregated by these Caribbean island countries (Table 4) shows that every event of the rate of forest cover loss going over 1% in a country for a given year can be traced back to the impact of a hurricane: Ivan over Grenada and Jamaica in 2004, Emily over Jamaica and Katrina over the Bahamas in 2005, Tomas over the Barbados in 2012, Matthew over Haiti and the Bahamas in 2016, Irma over the Bahamas and Maria over Dominica in 2017. Hurricane Maria caused a staggering destruction of almost one third of the forest cover in Dominica, accounting alone for a large fraction of the overall forest loss observed in the region in recent years.

TABLE 4. ANNUAL RATES OF FOREST COVER LOSS (CANOPY COVER >30%) FROM 2001 TO 2018 IN THE CARIBBEAN ISLANDS

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Antigua and Barbuda	0,1%	0,1%	0,1%	0,1%	0,3%	0,3%	0,2%	0,2%	0,3%	0,1%	0,1%	0,2%	0,1%	0,1%	0%	0,1%	0,4%	0,8%
Bahamas	0,1%	0,2%	0,1%	0,2%	0,4%	0,3%	0,2%	0,6%	0,2%	0,1%	0,2%	0,1%	0,5%	0,3%	0,3%	1,0%	1,2%	0,3%
Barbados	0,2%	0,2%	0,1%	0,1%	0,2%	0,1%	0,6%	0,2%	0,2%	0,3%	0,3%	2,1%	0,1%	0%	0%	0,3%	0,3%	0,4%
Dominica	0%	0%	0%	0,1%	0,1%	0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,2%	0%	0%	0%	0%	32,5%	1,1%
Grenada	0,1%	0,2%	0,2%	2,2%	0,2%	0,1%	0,2%	0,2%	0,3%	0,5%	0,1%	0,1%	0,1%	0,3%	0%	0,2%	0,1%	0,4%
Haiti	0,3%	0,2%	0,1%	0,2%	0,2%	0,1%	0,2%	0,2%	0,2%	0,2%	0,3%	0,4%	0,3%	0,4%	0,3%	1,7%	0,6%	0,4%
Jamaica	0,2%	0,2%	0,1%	0,5%	1,0%	0,4%	0,2%	0,3%	0,4%	0,3%	0,3%	0,3%	0,2%	0,4%	0,4%	0,3%	0,3%	0,3%
Saint Kitts and Nevis	0,3%	0,1%	0,2%	0,2%	0,1%	0,2%	0,1%	0,2%	0,2%	0,1%	0,1%	0,1%	0%	0%	0%	0,1%	0%	0%
Saint Lucia	0,1%	0%	0%	0,1%	0,1%	0,2%	0,1%	0,1%	0,1%	0,2%	0,1%	0,1%	0,1%	0,1%	0%	0,2%	0,2%	0,1%
St Vincent & the Gr.	0%	0%	0%	0,1%	0,1%	0%	0,1%	0,1%	0,1%	0,2%	0,1%	0,1%	0%	0%	0%	0,1%	0,1%	0,1%
Trinidad and Tobago	0,5%	0,2%	0,2%	0,2%	0,3%	0,4%	0,3%	0,3%	0,3%	0,9%	0,1%	0,2%	0,2%	0,4%	0,2%	0,3%	0,2%	0,2%

This data highlights the particular context that extreme weather events create in the region when it comes to forest ecosystem loss and restoration. In this context, forest ecosystem restoration appears not only as way to regenerate forests that may be degraded or reduced by human use, but as an essential strategy to cope with the aftermath of abrupt forest loss at very large scales.

3.2 Progress under Aichi Target 15: an analysis of national targets and their alignment with other international frameworks

Where the conversion of natural ecosystems has already taken place and pressure on the land is decreasing, the reversal of habitat loss, fragmentation and degradation through ecosystem restoration represents an immense opportunity for both biodiversity conservation and carbon sequestration. Restored landscapes and seascapes can also improve the resilience and adaptive capacity of ecosystems and societies and can contribute to climate change adaptation and generate additional benefits for people, in particular indigenous peoples and local communities and the rural poor.

Under the CBD, Parties are required to submit NBSAPs, as well as national reports that describe measures taken to implement the provisions of the Convention and their effectiveness in meeting the objectives of the Convention. Since the adoption of the Strategic Plan for Biodiversity 2011-2020 at CBD COP 10, revised NBSAPs are expected to describe how Parties intend to implement the Strategic Plan for Biodiversity and achieve the Aichi Biodiversity Targets at the national level.

Whilst all Caribbean countries have successfully complied with their reporting obligation, a few have yet to adopt a revised version of their NBSAP, the key instrument for the implementation of the Convention and its Strategic Plan. Among those countries that have a revised NBSAPs, some require further elaboration of the actions planned to support the achievement of the Aichi Biodiversity Targets.

As per the guidance set by the Convention, targets at the national level should aim to be Specific, Measurable, Agreed, Realistic and Time-Bound (SMART). Whether a target is attainable or realistic calls in part for a subjective judgement on the capacity of the country to foster the political will and enforcement capacity necessary to achieve it. Whether a target is Specific, Measurable and Time-bound can, on the other hand, be broken down to a handful of elements listed below for Aichi Biodiversity Target 15 (Table 5). The inclusion of quantitative measures of the target contribute to making it more specific. Countries that have included these elements in their targets make it much clearer what is their intended contribution to the progress of the Strategic Plan and the achievement of the Aichi Biodiversity Target.

TABLE 5. SUGGESTED ELEMENTS OF A "SMART" NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

Specific	Type of ecosystems to be restored are specified
	Location of ecosystems to be restored (map)
	Objectives of restoration specified (e.g. functionality of ecosystems, ecological restoration)
Measurable	Metrics or indicators of degradation and target for their improvement
	Percentage of degraded area of ecosystems to be restored **OR** Area of ecosystems to be restored
	Quantitative target for the increase in carbon stocks in ecosystems restored
	Metrics or indicators of ecosystem resilience
Agreed	Wide stakeholder support for the target / Agreement of landowners or users of the land in areas to be restored
Realistic	Total area of degraded ecosystems has been assessed
Time-bound	Target year

In **Table 6** below, we review ecosystem restoration-related targets at the national level under the three Rio Conventions: the UNCCD, the CBD and the UNFCCC. These targets have been extracted from the national instruments submitted by countries under these conventions, that is their Land Degradation Neutrality strategies (LDN), National Biodiversity Strategies and Action Plans (NBSAP) and Nationally-Determined Contributions to the Paris Agreement (NDC), respectively. They have then been reviewed against the SMART criteria presented above (green cells indicate where the SMART elements were found in a country's target).

The results show that few ecosystem restoration targets in the region are 'SMART'. The element "objectives of restoration" is the one most often specified in national targets set under ABT 15, followed by the percentage of degraded area to be restored and the target year. However, for the percentage and year, these are often modelled on the 15% of the original target, without appearing to be the result of a specific analysis of the national context.

The element "Quantitative target for the increase in carbon stocks in ecosystems restored" is most often found in NDCs, and almost never in LDN targets or in NBSAPs. This makes sense as CO2 emissions is the key metric for measuring contributions under the Paris Agreement.

However, the absorption of carbon through ecosystem restoration is also an explicit objective of Aichi Target 15 and many of the national targets adopted under it. Moreover, setting a qualitative objective in terms of CO2 absorption from restoration has potential implications for other elements of a 'SMART' restoration target.

For example, meeting a target set in terms of tons of CO2 could be achieved by either restoring a certain area of wetlands, or through the plantation of different area of monospecific eucalyptus plantations. Each option will have different costs and timeframes, as well as different impacts on biodiversity. In that sense, it may be useful for countries to consider the implications that including a SMART element under a given national target may have for ecosystem restoration targets set under a different framework and ensure that there are no inconsistencies. To take a theoretical example, an ambitious target for CO2 absorption over a short time frame under a country's NDCs may be at odds with a target for the ecological restoration of ecosystems of importance for biodiversity under that same country's NBSAP, because it could only be achieved through fast-growing species plantations with little value for biodiversity. Countries may therefore consider how the restoration techniques used, types of ecosystems targeted, and location of restoration actions will allow for the achievement of carbon or volume-based quantitative targets under their NDCs, whilst preserving a balance of ecosystem services and restoration of natural habitats.

For this reason, **Table 6** also highlights where SMART elements have been specified under a given national instrument but not under the others (yellow cells in the table). These "shadow elements" may require the attention of countries to ensure that ecosystem restoration targets are coherent across national instruments.

*Table 6. Analysis of "SMART-ness" of national ecosystem restoration targets and actions under the CBD, UNCCD and Paris Agreement**

Green indicate where a SMART element has been met in the country's target, yellow ones indicate opportunities to replicate a SMART element from one target across other targets

		Type of ecosystems to be restored	Location of ecosystems to be restored	Objectives of restoration specified	Metrics or indicators of degradation and target for their improvement	Percentage of degraded ecosystems or area of ecosystems to be restored	Quantitative target for the increase in carbon stocks from restoration	Metrics or indicators of ecosystem resilience	Total area of degraded ecosystems has been assessed	Target year
Antigua and Barbuda	LDN									
	NBSAP									
	NDC									
Bahamas	LDN									
	NBSAP									
	NDC									
Barbados	LDN									
	NBSAP									
	NDC									
Dominica	LDN									
	NBSAP									
	NDC									
Grenada	LDN									
	NBSAP									
	NDC									
Guyana	LDN									
	NBSAP									
	NDC									
Haiti	LDN									
	NBSAP									
	NDC									
Jamaica	LDN									
	NBSAP									
	NDC									
Saint Kitts and Nevis	LDN									
	NBSAP									
	NDC									
Saint Lucia	LDN									
	NBSAP									
	NDC									
St Vincent & the Gr.	LDN									
	NBSAP									
	NDC									
Suriname	LDN									
	NBSAP									
	NDC									
Trinidad and Tobago	LDN									
	NBSAP									
	NDC									

* the SMART element *"Wide stakeholder support for the target / Agreement of landowners or users of the land in areas to be restored"* was not reviewed, for lack of information from the national instruments in that regard

3.3 Main restoration actions undertaken in the region

Through their National Reports to the CBD, Caribbean countries have described the different actions on forest and other ecosystems restoration carried out at national level. The different policies and activities for reforestation and ecosystem rehabilitation have generally focused on key ecosystem services such as freshwater provisioning, disaster risk reduction and support for livelihoods. Consequently, many restoration actions across the region have centred on restoring watersheds, riverbeds, and coastal areas. Moreover, several restoration activities have been implemented in areas of particular significance to each country and protected areas, covering different types of forests.

Caribbean countries have also adopted ecosystem-based solutions to climate change mitigation and adaptation. Reducing forest loss and sustainable management of areas under forestry is increasingly carried out as a measure for carbon sequestration, including REDD+ activities. Rehabilitation of wetlands and mangroves has been undertaken to strengthen flood protection and coastal defence to reinforce resilience to climate-change related weather events.

Effective laws, policies, and methodologies for restoration, strengthened land management plans, and better indexes and tools for monitoring and evaluation are also being developed across the region, supporting restoration initiatives. Concrete projects led by national governments, multilateral agencies, civil society organizations and communities continue to be implemented in all countries. A summary list of national actions and national-scale projects to achieve Aichi Biodiversity 15, as indicated in the countries' national reports to the CBD can be found in Annex I.

In addition, a questionnaire circulated to participants prior to the workshop inquired about the degree of implementation of various measures that countries may wish to take to support the achievement of Aichi Biodiversity Target 15.[30] The responses, summarized in Table 7 below show that measures to clarify legal frameworks and policies for land use and tenure have been implemented in the majority of respondent countries, but with significant challenges. The measures most commonly reported as implemented with success pertain to "engagement with and support to indigenous and local communities, landowners, other stakeholders and the general public in activities to reduce illegal and unplanned land use change", "Incentives for the private sector and other economic actors to implement land use and spatial planning policies and policies to reduce natural habitat loss, degradation and fragmentation" and "measures to enhance the effectiveness of protected areas at preventing natural habitat loss, degradation and fragmentation". Similar to what has been observed in other regions where this questionnaire has been applied, market-based instruments such as ecosystem banking and payments for ecosystem services schemes are not yet used to complement legal measures in the implementation of ecosystem restoration.

[30] The questionnaire was answered by 10 respondents from Haiti, Antigua and Barbuda, Suriname, St. Vincent and the Grenadines, Trinidad and Tobago, Jamaica, The Bahamas, Barbados and Saint Lucia.

TABLE 7. DEGREE OF IMPLEMENTATION OF MEASURES RECOMMENDED FOR THE IMPLEMENTATION OF AICHI BIODIVERSITY TARGET 15

	Implemented with succes	Exists but not being implemented	Implemented but with challenges	Does not exist	Not relevant
Clear legal frameworks and policies for land use and tenure	0%	33%	67%	0%	0%
Legal enforcement activities	22%	0%	44%	33%	0%
Incentives for the private sector and other economic actors	44%	0%	11%	44%	0%
Sustainable increase in agricultural productivity and reduction of demand for agricultural products	22%	22%	0%	44%	11%
Engagement with and support to indigenous and local communities, landowners	44%	0%	11%	44%	0%
Reduction of access to raw materials extracted illegally	22%	11%	22%	44%	0%
Enhancement of the effectiveness of protected areas	44%	11%	22%	22%	0%
Market instruments such as ecosystem banking, PES	0%	0%	0%	100%	0%

Moreover, the Global Environmental Facility (GEF) and the Green Climate Fund (GCF) support several projects in the region relevant to the restoration of forests and other ecosystems. At the regional level, the GCF finances the project "Integrated physical adaptation and community resilience through an enhanced direct access pilot in the public, private, and civil society sectors of three Eastern Caribbean small island developing states" with activities in Antigua and Barbuda, Dominica and Grenada. This project, approved in 2018, focuses on enhancing resilience to natural disasters, and its planned actions include adaptation measures using ecosystem-based approaches, as well as "restoring, protecting or strengthening the coverage and scale of ecosystems in response to climate variability and change".[31]

The GEF finances a range of national projects pertaining to the restoration of forests and other ecosystems. These programmes include activities such as development of restoration methodologies and techniques, reforestation using native species, rehabilitation of different

[31] GCF. 2019. FP061: Integrated physical adaptation and community resilience through an enhanced direct access pilot in the public, private, and civil society sectors of three Eastern Caribbean small island developing states.

types of ecosystems (such as forests, mangroves and coral reefs), restoration of watersheds and degraded mine sites, land reclamation, improvement of ecosystem health indexes, reversing of land degradation trends, and strengthening of ecosystem resilience. Some of the most relevant projects are listed in Annex II.

3.4 Regional organizations and frameworks relevant to ecosystem restoration

The Caribbean countries belong to different multilateral and regional organizations such as The Caribbean Community (CARICOM) and the Organization of Eastern Caribbean States (OECS) that have international instruments or initiatives related to environmental issues, including biodiversity and ecosystem restoration. The Caribbean Disaster Emergency Agency (CDEMA) and the Caribbean Institute of Meteorology and Hydrology (CIMH) also count with relevant programmes for ecosystem management, given the prominent role of extreme weather events in forest dynamics in the region, as highlighted earlier in this report.

CARICOM promotes regional integration through four main pillars: economic integration, foreign policy coordination, human and social development and security. The Strategic Plan for the Caribbean Community 2015-2019 recognizes that every member state within CARICOM is vulnerable to the effects of climate change and poor environmental management and lists the following strategic priorities: advancing climate adaptation and mitigation, advancing disaster mitigation and management and enhancing management of the environment and natural resources.

The Organisation of Eastern Caribbean States (OECS) is an economic union comprising ten islands located in the Eastern Caribbean that promote the unification of economic and trade policies between its member-states. The OECS Biodiversity and Ecosystems Management Unit is focused on the conservation of the Eastern Caribbean region's rich biodiversity endowment through environmentally sound management of ecologically sensitive areas while creating sustainable livelihoods for communities in and around these managed areas. One area of collaboration proposed by the Unit is Ecosystem-based adaptation and disaster risk-reduction (EbA and Eco-DRR) interventions in communities to build resilience to climate change and natural hazards.

CDEMA promotes Comprehensive Disaster Management (CDM) in the region. CDM is an integrated and proactive approach to disaster management and seeks to reduce the risk and loss associated with natural and technological hazards and the effects of climate change to enhance regional sustainable development. Among other functions, it promotes the adoption of disaster loss reduction and mitigation policies and practices at the national and regional level.

The role and mission of the CIMH is to improve the meteorological and hydrological services and to assist in promoting the awareness of the benefits of these services for the economic well-being of the CMO countries. This is achieved through training, research and investigations, and the provision of specialised services and advice. As an example, under the Caribbean Drought and Precipitation Monitoring Network, short term and seasonal precipitation forecasts will be used to provide a projection of future drought and excessive precipitation in the short and medium terms.

Membership of the countries participating to the workshop to these regional organizations is summarized in Table 8.

TABLE 8: MEMBERSHIP OF CARIBBEAN ISLANDS IN SELECTED REGIONAL INITIATIVES AND ORGANIZATIONS

Country	CARICOM[i]	OECS[ii]	CDEMA[iii]	CIMH[iv]
Antigua and Barbuda	X	X	X	X
Bahamas	X		X	
Barbados	X		X	X
Dominica	X	X	X	X
Grenada	X	X	X	X
Guyana	X		X	X
Haiti	X		X	
Jamaica	X		X	X
Saint Kitts and Nevis	X	X	X	X
Saint Lucia	X	X	X	X
Saint Vincent and the Grenadines	X	X	X	X
Suriname	X		X	
Trinidad and Tobago	X		X	X

[i]Caribbean Community. *Member States and Associated Members.* https://caricom.org/member-states-and-associate-members/, accessed 21/02/2020.
[ii]Organization of Eastern Caribbean States. *Member States.* https://www.oecs.org/en/homepage/member-states, accessed 21/02/2020.
[iii]Caribbean Disaster Emergency Management Agency. *Participating States.* https://www.cdema.org/participating-states, accessed 21/02/2020.
[iv]Caribbean Institute of Meteorology and Hydrology. *About.* http://www.cimh.edu.bb/?p=about, accessed 21/02/2020.

In addition, the region has a number of programmes and initiatives at the nexus of forest conservation, biodiversity and climate change, such as the FAO Sub-Regional Strategy for Climate Resilience in the Caribbean Forestry Sector, the CARICOM Biodiversity Strategy and the OECS Biodiversity and Ecosystems Framework, presented in the following sub-sections.

3.4.1 FAO Sub-Regional Strategy for Climate Resilience in the Caribbean Forestry Sector

This programme was implemented in 2017 and 2018 by FAO in partnership with the Caribbean Natural Resources Institute (CANARI). Its objective was to build climate resilience for the Caribbean forest resources and related livelihoods through a regional strategy that identified priority actions on forest management to increase readiness vis-à-vis expected climate change impacts. The initiative also aimed to mobilise resources and scale up existing projects relevant to these objectives. Actions in the Strategy include: mapping and assessment activities, programmes and policies for future scaling up, mapping and assessment of funding sources

for priority actions, development of a regional work plan for climate resilience and capacity-building initiatives to enable implementation.[32]

3.4.2 CARICOM Biodiversity Strategy for the implementation of the Biodiversity Cluster of Multilateral Environmental Agreements (MEAs)

The CARICOM Biodiversity Strategy for the implementation of the Biodiversity Cluster of Multilateral Environmental Agreements (MEAs) (CBS) is a framework for regional support to implementation of the CBD´s Strategic Plan for Biodiversity and other biodiversity MEAs such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Ramsar Convention on Wetlands, and the Protocol Concerning Specially Protected Areas and Wildlife (SPAW Protocol) to the Cartagena Convention.[33]

The short-term goals of the Strategy are set for the period of 2018-2022, and the Strategy also includes a longer-term vision for biodiversity conservation. It allows for coordination and cooperation among CARICOM countries, and helps them to set regional priorities, policies and actions.[34]

The CBS was developed using a participatory approach, through a number of national and regional workshops and online consultations. It consists of four goals and twelve objectives, along with related targets and actions. The CBS's vision is as follows: "the Caribbean's rich biodiversity and natural heritage is conserved and used sustainably to support economic development and sustainable livelihoods for the well-being and benefit of Caribbean people".[35]

The CBS includes several goals and targets related to the restoration of forest and other ecosystems, with a view to secure ecosystem goods and services, build resilience to climate change and natural disasters, and support sustainable livelihoods. The strategy seeks to "build an enabling regional environment to manage biodiversity" through accessible information, regional partnerships, capacity-building, participatory processes, regional resource-mobilisation, harmonised regulatory frameworks, as well as coordinated monitoring, evaluation and reporting systems.[36]

3.4.3 OECS Biodiversity and Ecosystems Management Framework and Strategic Action Plans (OECS-BEF)

The OECS was deeply involved in the development of the draft Caribbean Biodiversity Strategy (CBS), and during 2019 sought to further improve the regional management biodiversity resources through the development of the Biodiversity and Ecosystems Management Framework and Strategic Action Plans (OECS-BEF).[37]

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[32] CANARI. 2020. *Food and Agriculture Organization (FAO) Sub-Regional Strategy for Climate Resilience in the Forestry Sector and Associated Livelihoods in the Caribbean*. https://canari.org/fao-strategic-alliance/, accessed: 21/02/2020.
[33] CANARI. *Development of the five-year CARICOM Biodiversity Strategy for the implementation of the Biodiversity Cluster of Multilateral Environmental Agreements (MEAs)*. https://canari.org/wp-content/uploads/2017/11/canari-project-brief_final.pdf, accessed: 21/02/2020.
[34] CANARI. 2018. *Caribbean Community (CARICOM) strategy for the implementation of the biodiversity cluster of Multilateral Environmental Agreements (MEAS)*. Draft. Barataria, Trinidad and Tobago: CANARI.
[35] *Ibid.*
[36] *Ibid.*
[37] CANARI. 2019. *OECS Biodiversity and Ecosystems Management Framework and Strategic Action Plans (OECS-BEF)*. https://canari.org/wp-content/uploads/2019/08/OECS-BEF_Brief_9.8.19.pdf, accessed: 21/02/2020.

The OECS-BEF will centre on the priority areas related to biodiversity of the OECS countries and aims to provide an action plan for implementation. The OECS-BEF also seeks to contribute to the goals of regional OECS environmental policies and international commitments under the CBD and its Strategic Plan for Biodiversity (2011-2020); Sustainable Development Goals 14 and 15, and Small Island Developing States (SIDS) Accelerated Modalities of Action Pathway (SAMOA Pathway). It will also focus on biodiversity issues related to climate change adaptation and resilience to natural hazards.[38]

[38] *Ibid.*

4 Conclusion

Caribbean countries have set ambitious targets and undertaken many actions to restore forest ecosystems. Yet, additional efforts will be required to address the continued loss and degradation of forests and other ecosystems that are vital to ensure the conservation of biodiversity, as well as essential ecosystem services, including carbon sequestration.

Preventing further fragmentation of habitats is essential to avoid species populations becoming isolated and to enable essential movements across landscapes and aquatic environments, especially in the face of climate change. Furthermore, restored ecosystems improve the resilience and adaptive capacity of nature and societies, benefitting in particular indigenous peoples, and local communities and the rural poor.

Due to their high vulnerability to natural disasters, ecosystem restoration is especially important for Caribbean countries in terms of disaster risk reduction and climate change adaptation. The role of forests in this regard is clear, for example through slope stabilisation and soil protection in hill areas, as well as coastal protection through mangrove planting, while providing economic benefits for the local populations.

The workshop sessions will work towards the emergence of a regional understanding among participants with regards to the benefits of ecosystem restoration to ecological, social and economic sustainability, among other outcomes.

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Annexes

Annex I. National targets and actions to implement Aichi Biodiversity Target 15

Antigua and Barbuda

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2015)
Target 15:
By 2020 Restoration of biodiversity hotspots in Antigua and Barbuda thereby contributing to climate change mitigation and adaptation and to combating desertification.

Indicators:

- *[…]Number of areas replanted with native species and mangroves. […]*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2015)
Activities to be implemented:

- *Establish plant nurseries, in particular a forest and agricultural nursery, for the propagation of, and research on required planting stock – improving existing facilities where appropriate.*
- *Rejuvenate and continue to expand the herbarium that was initiated by the Environmental Awareness Group (EAG) in collaboration with the Forestry Division. Begin a collection programme for microorganisms.*
- *Rehabilitate and restore degraded areas based on the areas identified under strategic goal C number 11.* [Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity. Target 11: A national system, including protected areas, for the management and conservation of biodiversity is developed and established by 2020. This will include terrestrial areas, wetlands, areas important to migratory species and marine environments.].
- *Identify the current and future risks associated with biotechnology and make recommendations for policy development.*

(6th National report, 2019)
In 2005, a school farm was introduced at the island's only secondary school as part of a mandatory agricultural science program in the curriculum. Technical assistance and support were sought from the Inter-American Institute for Cooperation on Agriculture (IICA) and the Caribbean Agricultural Research and Development Institute (CARDI). Several climate-smart practices and technologies were adopted, including water and soil management, alternative farming methods, agroforestry and diversification.

(6th National report, 2019)
The Offshore Islands Conservation Programme (OICP) of which Environmental Awareness Group (EAG - Environmental NGO) is the coordinating agency, officially began in 1995 as an emergency rescue effort to save the Critically Endangered Endemic Snake, the Antiguan Racer, Alsophis antiguae*. […] Following the successful removal of rats (*Rattus rattus*), the snake population doubled from 50 to 100 in two years. Other benefits achieved included, the improved vegetation cover on the island, including the resurgence of the Golden Talinum, once thought to be extinct. […] With the successful restoration of Great Bird Island came the extension of the work to restore an additional 15 other islands.*

(6th National report, 2019)

Born out of the work of the OICP, the Redonda Restoration Project (RRP) has been responsible for the largest island restoration to date. […] Following the difficult removal of rats and goats from the island, in a few months, tree seedlings and grass have popped up all across the island, where there was once nothing but dust and rocks. The trees and grass are now stabilising the ground, lessening run-off into the sea, which had previously smothered coral.

(6th National report, 2019)
Under the United Nations Convention to Combat Desertification (UNCCD), the DoE [Department of Environment] *is presently establishing the Land Degradation Neutrality (LDN) baseline, setting LDN targets and developing project concepts. The ultimate goal is to ascertain at where the country is regarding the level of land degradation and develop initiatives to address and/or reverse the degradation. This should be available by the end of 2019.*

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS
(UNCCD Knowledge Hub, 2020)
Set. Information available in due course.

Bahamas

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 1999)
Action:
Protection or Rehabilitation of Threatened or Degraded Ecosystems and of Threatened Species

Objectives:
- *To identify specific ecosystems and species that are threatened or already degraded.*
- *To determine the possibility of rehabilitating or restoring such ecosystems location by location.*
- *To prepare develop methodologies and action plans for the rehabilitation and restoration of specific high priority sites and species*
- *To protect designated species of plant or animal, presently considered threatened, from further declines in number*
- *To increase numbers by enhancing populations in existing habitats, or by stocking new habitats.*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(4th National report, 2011)
Activities:
- *Literature searches on restorative methodologies for threatened or degraded ecosystems, and evaluation of appropriate methodologies.*
- *Literature searches for experiences with the protection and rehabilitation of the same species or related species, to those threatened in The Bahamas.*

Further information:
- *Specific ecosystems and species that are threatened are undertaken by various agencies such as local NGO's and international researchers. This has not been done in a coordinated way in the country. There is a need for a comprehensive national plan*
- *Majority of the work has been targeted on wetland restoration, by individual interest groups such as Wetland Care and Craig Layman.*
- *Green Sweep Manual has been completed for IAS* [Invasive Alien Species] *removal to restore native vegetation areas, like coppice and pine forests.*

(4th National report, 2011)
Recommendation from the NBSAP:

- *Conservation and restoration of coastal habitats and wetlands important to fisheries recruitment and to the health of fringing reefs.*

Further information*:*

- *The Department of Marine Resources has published and started implementation of a Five Year Strategic Plan*
- *The Plans objectives include promote scientific research with respect to fisheries resources; protect and restore endangered marine and freshwater species. The plan states that land is available for aquaculture but, there is a need to be careful about negative impacts to mangroves, estuaries, freshwater supply, etc.*

(4th National report, 2011)
The Forestry Act, 2010 mandates that a five year management plan be developed for the forestry sector. In order to enhance biodiversity conservation and sustainable use, the plan should include the following:

- *[…]Programmes to protect, recover and restore forest biological diversity;[…]*

Barbados

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2002)
The Cultivation of Trees Act (cap.390) promotes the cultivation of certain species of trees […]. This piece of legislation only stresses however non-native species and efforts should be made to promote incentives for the cultivation of species, which are indigenous to Barbados.

(NBSAP, 2002)
The National Conservation Commission (NCC) is mandated to conserve the natural beauty of Barbados, control and develop public parks, public gardens, beaches, caves and marine underwater parks […].There are also some small-scale re-vegetation programs undertaken by the NCC periodically.

(NBSAP, 2002)
Forests are important in the preservation and enhancement of terrestrial ecosystems, soil stabilization, water recharge into aquifers and flood control. In this regard, the NPDP [National Physical Development Plan] *stressed the importance of preserving the remaining forest cover and allowing natural regeneration to continue. Requirements for encouraging tree planting in residential subdivisions and replacement planting plans are being incorporated in the development of the Integrated Coastal Zone Management Areas.*

(NBSAP, 2002)
Among the national strategies, the following are mentioned:

Strategy 1: Establish an effective and sustainable system of protected areas

Actions:
[…]3. Identify degraded ecosystems for rehabilitation and restoration.
4. Develop and implement ecosystem rehabilitation activities and recovery plans such as the removal of alien species and replacement with indigenous species. […]

Strategy 2: Establish effective and sustainable ex situ facilities for biodiversity conservation

Actions:
[…]2. Establish or support captive breeding facilities/plant nurseries/arboreta or support existing facilities (Governmental or non-governmental) for appropriate threatened species. […]

(5th National report, 2017)
Case Study 1: Walker's Reserve
Walker's Quarry has been in operation in Barbados for over 50 years. […]. As the lifespan of the quarry is coming to an end the owners have focused their attention on transforming the area into Walker's Reserve with the aim of restoring Biodiverse health and climatological resilience" to the land in the area. The key objectives of the reserve include:

- *Returning extracted areas of the quarry to ecological health […]*
- *Striving to help stabilize the climate through reforestation and regenerative land use. […]*

*Walker's Reserve uses a Permaculture design to restore the natural ecological functions of the quarry by introducing different "perennial food systems". The project started implementation in 2015 and is expected to run over a 5-year period and will result in the planting of 100 different species in 12 different planting patterns with approximately 52 different planting plots. Revegetation will be mainly of native species, especially those known to grow in the area. To date, through the project, several plant species have been established including: fat pork (*Chrysobalanus icaco*); Cashew (*Anacardium occidentale*); Khus-Khus grass (*Vetiveria zizanoides*); Agave (*Agave Rigida *Var.* Sisalana/ Agave barbadensis*); various legumes; coconut (*Cocus Nucifera*); almond (*Terminalia catappa*) and Loofah (*Luffa aegyptiaca *or* Luffa acutangula*).*

Dominica

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2014)
Among the national targets and priorities, the following is mentioned:
[…]5. By 2020, ecosystem resilience and the contribution of biodiversity to carbon stock has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation, and to combating desertification.

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(5th National report, 2014)
As a first step in reaching [the national biodiversity targets, including ABT15]*, Dominica has developed a biodiversity/land degradation project entitled Supporting Sustainable Ecosystems by Strengthening the Effectiveness of Protected Areas System. The emphasis of this project is the development of a protected area system management plan that strengthens national institutional and systemic structures, protected areas network, protected areas enabling environment and civil society role on biodiversity management.*

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS

(UNCCD Knowledge Hub, 2020)
Set. Information available in due course.

Grenada

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2016)
The espoused national policy is to initially restore and maintain the forest cover to the 17 percent level and then gradually to increase the coverage over time.

(NBSAP, 2016)
Mission of the NBSAP:
By 2020 targeted nationwide actions, restore and manage key national ecosystems in order to conserve biodiversity and to enhance the provision of ecosystem good and services for human wellbeing.

(NBSAP, 2016)
Among the strategic plans, the following is mentioned:

- *[…]Key national terrestrial and marine ecosystems are restored and sustainably managed. The priority ecosystems are forest, agriculture, fresh water and coastal and marine (Aichi Targets 6, 7, 8, 9, 10, 11, 14).*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2016)
In the aftermath of Hurricane Ivan, 95 percent of Grenada's forest were destroyed and the wildlife population was decimated. Major forest restoration initiatives were embarked on over the years and the forest ecosystems are now classified as recovering ecosystems. The major forest ecosystem in located within a national protected area.

(NBSAP, 2016)
The mission for Grenada's biodiversity strategy with time horizon of 2020 is underpinned by [among others]*:*

- *[…]The need for restoration of key natural ecosystems to efficiently functioning units for the provision of ecosystem goods and services in the wake of the devastation caused by extreme weather events. […]*

(NBSAP, 2016)
Among the priority actions on forest biodiversity, the following is mentioned:

- *Extend and consolidate forest replanting, rehabilitation and restoration programme and mangrove forest replanting programme.*

(5th National Report, 2014)
Most terrestrial forest ecosystems are currently in a recovery phase dominated by secondary forest with pockets of climax forest. With respect to mangrove forest, replanting efforts have achieved over 50% restoration of mangrove communities.

(5th National Report, 2014)
During the period of study [2009-2014] *there were several initiatives in the areas of mangrove restoration and forest replanting and rehabilitation. Given the devastation of these ecosystems especially as a result of damage sustained during Hurricane Ivan in 2004 were implemented in the area of ecosystem restoration.*

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS

(UNCCD Knowledge Hub, 2020)
LDN targets at the national scale:

- *Increase the fertility and productivity of 580 ha of cropland by 2030.*
- *Transform 800 ha of abandoned cropland into agroforestry by 2030.*
- *Implement soil conservation measures on 120 ha of land by 2030.*
- *Rehabilitation of 383 ha of degraded land at Bellevue South in Carriacou by 2030.*
- *Rehabilitation of100 ha of degraded forests in Grenada and Carriacou by 2030.*
- *Increase forest carbon stocks by 10% by 2030.*

Guyana

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2012)
Among the strategic objectives, the following is mentioned:
Improve the status of biodiversity by conserving ecosystems, species and genetic diversity and by restoring biodiversity and ecosystem services in degraded areas.

Among the priority actions regarding the aforementioned objective, the following are mentioned:

- *[…]Conduct a mangrove species mapping and inventory.*
- *Rehabilitate, restore and protect mangrove belts.*
- *Explore new models to combine ecological restoration and the creation of small businesses in mangrove areas.*
- *Assess level of degradation in mined out areas.*
- *Rehabilitate and restore degraded areas with particular focus on mined out areas. […]*

Among the targets regarding the aforementioned objective, the following are mentioned:

- *[…]Reducing biodiversity loss and showing recovery by 2020. […]*
- *By 2015, at least three (3) mined-out sites have been duly restored and managed. […]*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2012)
The Government has developed a Sea and River Defence Policy, which calls for alternative solutions to traditional sea defence structures and includes the re-establishment of mangroves for flood protection and safeguarding environmental resources. With this policy framework and with support from the EU, a national mangrove management project is being implemented that is seeking to manage and restore mangrove ecosystems as well as provide alternative livelihoods for local communities.

(NBSAP, 2012)
Several priority areas for action during the period 2012 to 2020 are identified in the [NBSAP] *Plan.*
These include:

- *[…]Rehabilitation and restoration of mangrove belts and degraded mined out areas. […]*

(5th National report, 2015)
Mainstreaming of Biodiversity
Guyana Sea and River Defence Policy: Guyana's coast is vulnerable to increased coastal erosion as a result of the impacts of extreme weather and climate change. [The] *Government has developed a Sea and River Defence Policy which calls for alternative solutions to traditional sea defence structures and includes the re-establishment of mangroves for flood protection and safeguarding environmental resources. With this policy framework and with support from the EU,*

a national mangrove management project is being implemented that is seeking to manage and restore mangrove ecosystems as well as provide alternative livelihoods for local communities.

(5th National report, 2015)
Sea and River Defence Policy
An initiative to restore and plant new mangrove forests has contributed to carbon sequestration, adaptation to climate change through the strengthening of natural sea defences, protection of coastal zone biodiversity and job creation. Resulting from this initiative were:

- *a mangrove inventory of the entire coastline;*
- *a newly established mangrove ranger unit comprising 8 rangers, monitoring some 36.5 km of mangroves;*
- *a mangrove monitoring plan and mangrove monitoring protocols;*
- *restoration of five (5) km of mangroves along the coast;*
- *a code of practice for mangrove harvesting;*
- *a Mangrove Visitor Centre hosting 3 000 students per year and 200 visitors per month;*
- *on the policy and regulatory side, mangrove protection is now considered in the National Forest Act; and*
- *a Mangrove Action Plan was approved by Cabinet in 2010.*

(5th National report, 2015)
Mining Land Reclamation and Rehabilitation
There are abandoned mining areas across Guyana which requires some form of reclamation 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 [Low Carbon Development Strategy].

(5th National report, 2015)
Forest Management
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.

(5th National report, 2015)
Progress in implementing Strategic Plan for Biodiversity 2011-2020 and Progress towards Aichi Targets (Aichi Biodiversity Targets 5 and 10)

- *A mangrove inventory of the entire coastline was completed. Monitoring of the mangrove forests was enhanced with the establishment of a ranger unit comprising 8 rangers monitoring some 36.5 km of mangroves. A mangrove monitoring plan, a code of practice for mangrove harvesting and mangrove monitoring protocols completed. On the policy and regulatory side, mangrove protection is now considered in the National Forest Act. 5 km of mangroves along the coast was restored.*
- *An Action Plan was prepared and to date, studies and surveys were conducted in the most recent mined-out areas while replanting trees and other protective vegetation is being done in the old mined-out areas in the administrative Regions 7 and 8. Old mining pits were utilised as fish ponds for sports fishing and a recreational facility for youths was built. Funding of $500 million Guyana dollars for this initial phase of the project was provided by the Government of Guyana.*

- *A Land Reclamation Committee was established and is currently examining areas to implement pilot projects.*

(5th National report, 2015)
Seven coastal mangrove areas were planted in 2011 with an estimated 123,508 black mangrove seedlings under the GMRP [Guyana Mangrove Restoration Project]*, effectively restoring 2.036 km of mangrove coastal defenses.*[…]

The GMRP has established Village Mangrove Action Committees (VMACs) in communities where restoration sites were established and areas where mangroves are particularly vulnerable.

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS
(UNCCD Knowledge Hub, 2020)
LDN targets at the national scale:

- *LDN is achieved at the national level: aim is no net loss for the whole land area of the country and all its land cover classes, compared to the 2000-2010 baseline. (by 2030)*
- *The LDN TSP is aligned to the global SDG15 to achieve by 2030.*

Haiti

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(6th National report, 2019)
Objectifs nationaux:

Objectif 6:
Restauration et sauvegarde des écosystèmes qui fournissent les services essentiels au regard des besoins des femmes, des communautés locales et des populations pauvres et vulnérables.

Activités:

- *6.1. Inventorier et caractériser les différents écosystèmes fournissant des services essentiels*
- *6.2. Élaborer et mettre en place des plans d"aménagement et de gestion des écosystèmes essentiels*
- *6.3. Mettre en place des mesures de restauration (reboisement, conservation sol, protection dessources…)*

Objectif 7:
Amélioration de la résilience des écosystèmes et de la contribution de biodiversité au stock de carbones grâce aux mesures de conservation et de restauration des écosystèmes dégradés.

Activités:

- *7.1. Evaluer la vulnérabilité des écosystèmes et des espècesface aux effets du changement climatique*
- *7.2. Renforcer les mesures de lutte contre la desertification*
- *7.3. Mettre en place un système d"alerte précoce pour la prévention et la lutte contre les catastrophes naturelles (maladies, incendies, inondation…) qui peuvent atteindre les écosystèmes sensibles.*
- *7.4. Cartographier les puits de carbone et évaluer les stocks de carbon*
- *7.5. Améliorer les pratiques agricoles*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2008)

Priority number one: Conservation of biological diversity

In-situ conservation measures, among others:

- *[…]Special recovery measures targeting rare, threatened or vulnerable faunal and floral species; […]*
- *Initiate measures to rehabilitate and restore degraded dry lands ecosystems.[…]*

Conservation and sustainable use of natural areas providing water resources and buffering natural risks and hazards, among others:

- *[…] Support and develop best practices or methods in forest management and create reforestation areas in strategic watersheds of the country; […]*

(NBSAP, 2008)

Binational Actions for Border Cooperation in Biodiversity with Dominican Republic

Strategic Area I:

Restoration of critical coastal ecosystems and watersheds associated

Among the activities mentioned for this area, the following are mentioned:

- *[…] Catchment afforestation and revitalizing farming systems aiming to increase forest cover and arrest soil degradation through production of seedlings, tree planting, agroforestry techniques, soils conservation practices with the full involvement of communities; This component will also contribute to create forests to feed important aquifers and protect different sources of water. […]*
- *Protection of mangroves and coral reefs from encroachment and destruction by giving more responsibility to fishermen organizations, replanting mangroves and formulating appropriate community management plans and promoting the recovery of damaged reefs thru restoration techniques (transplanting corals, construction of artificial reefs, farming corals etc); […]*

(6th National report, 2019)

Projet de renforcement de la Résilience Alimentaire et Écologique d"Haïti

Ce projet est divisé en 5 volets:

1. *Géoréférencement de zones à reboiser*
2. *Sensibilisation et mobilisation pour un changement de paradigme*
3. *Construction de 14 centres de germoplasme*
4. *Mise en terre*
5. *Suivi et évaluation*

Les résultats de ce projet sont définis comme suit:

- *1400 plateformes de protection de l"environnement constituées et sensibilisées*
- *4 000 000 de personnes à l"échelle nationale prévues de sensibilisation*
- *56 705 hectares de terres reboisées par année*
- *630 millions de plantules produites en 10 ans*
- *567 055 hectares de terre reboisée en 10 ans dans les 10 grands bassins versants*
- *86 000 emplois verts créés en 5 ans*
- *80 zones de recharge de sources d"eau protégées*
- *Effet du changement climatique atténué*

(6th National report, 2019)
Other projects and activities included in the 6th National report also contribute to ecosystem restoration in Haiti.

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS
(UNCCD Knowledge Hub, 2020)
Set. Information available in due course.

Jamaica

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2016)
For ABT14:

- Expected Output/Result*:*
  - *Conservation measures implemented and reflected in vulnerable/sensitive ecosystem areas restored*
- *National Indicators:*
  - *Coverage (hectares) of vulnerable ecosystems restored and safeguarded/protected based on previous baseline data.*
- *Target:*
  - *Increase in hectares restored by 5%.*
- *Activities:*
  - *Implement conservation measures in vulnerable/ sensitive ecosystem areas to restore 5% of those vulnerable.*
- *Timeline:*
  - *2020 Q4*

For ABT15:

- Expected Output/Result 1:
  - *Development and implementation of a National Plan for Ecosystem Restoration.*
- *National Indicators:*
  - *Extent to which the national plan for ecosystem restoration has been developed (Categories: Not done, to some extent, great extent, Completed).*
- *Target:*
  - *National Plan for Ecosystem Restoration completed*
  - *At least 1 workshop/seminar of the National Plan for Ecosystem Restoration held*
- *Timeline:*
  - *2018 Q1; 2019 Q4.*

- Expected Output/Result 2:
  - *Ecosystem-based adaptation (EBA) methods and tools for biodiversity restoration developed.*
  - *Integration of ecosystem restoration into national adaptation strategies (including REDD-plus)*
- *National Indicators:*
  - *Extent to which tools and methods for supporting ecosystem-based adaptation have been developed (Categories: Not done, to some extent, great extent, Completed).*
  - *Number of national adaptation strategy integrating ecosystem restoration.*
- *Target:*
  - *-EBA methods and tools completed*
  - *At least 1 srategy*

- *Timeline:*
    - *2018 Q3/2020 Q3*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2016)

The Strategic Forest Management Plan 2010 – 2015 (SFMP) sets targets by which the Forestry Department's performance in relation to its management of Jamaica's state-owned forests is measured. The SFMP seeks to ensure implementation of Vision 2030 and includes a number of objectives and indicators, *including: maintaining and restoring forest cover.*

(5th National report, 2016)

*The Forestry Department has embarked on several reforestation activities since 2010 and has reported that on average; approximately one hundred and twenty (120) hectares of land have been planted (*per annum*), during the period under review.* […] *Results of reforestation activities by the FD versus deforestation between 2010 and 2013 indicate that deforestation rates exceeded reforestation activities during the period.*

(5th National report, 2016)

A multi-sectoral action plan for corals and reefs (APCAR) was developed in 2011 as a guide to enhance the effective management of corals and reefs.

(5th National report, 2016)

Under the Strategic Forest Management Plan (2010-2013), a number of the activities […] *were achieved.* [Including the] *distribution of more than 70,000 tree seedlings to the public for use in several tree planting projects.*

(5th National report, 2016)

Implementation actions for ABT5:

- *Reforestation of over 200 hectares of land in 2012 islandwide.*
- *Reforestation activities under the EU-CCA&DRR* [European Union Climate Change Adaptation and Disaster Risk Reduction] *project 2010-2013 to include 405 ha reforested; led by the Forestry Department.*
- *Reforestation of 40 hectares in the Blue and John Crow Mountains National Park between 2010 and 2013 led by the Jamaica Conservation Development Trust.*
- *Mangrove replanting in over 800 m2 area in Hellshire between 2010 and 2013.*
- *Additional artificial reef structures were installed in Bluefields Bay SFCA* [Special Fishery Conservation Area] *(Westmoreland) and Montego Point SFCA in 2011.*
- *Under the GOJ/EU CCA &DRR* [Government of Jamaica and European Union Climate Change Adaptation and Disaster Risk Reduction] *project in 2013, there was the reforestation of 7.0 ha of mangrove forest and 1 000 m3 of sea grass beds in Negril; and installation of an artificial reef in Negril Marine Protected Areas (NMPAs).*

(5th National report, 2016)

Among the implementation actions for ABT15, the following is mentioned:

- *[…]Reforestation activities led by the Forestry Department focused on re- establishing degraded sites with the emphasis on carbon stock conservation and enhancement […].*

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS

(UNCCD Knowledge Hub, 2020)

Set. Information available in due course.

Saint Kitts and Nevis

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2016)
National actions, policies and measures to implement the national priority on biodiversity resources:

- *[…]Generate and maintain buffer stocks or gene banks of biogenetic resources for reintroduction into their natural habitat, especially in the case of post-disaster restoration and rehabilitation.*
    - *Several private plant nurseries have been established in SKN. The emphasis for the most part has been ornamentals and not fruit trees. There is a need to develop buffer stocks and gene banks.*

(NBSAP, 2016)
National actions, policies and measures to implement the national priority on land resources:

- *[…] Support appropriate afforestation and reforestation programmes, with appropriate emphasis on natural regeneration and the participation of land owners, in order to ensure watershed and coastal protection and reduce land degradation.*
    - *There is a need to implement a national reforestation programme. SKN is participating in the IWEco* [Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States] *project which should address localized deforestation.*

(6th National report, 2019)
Regarding the ABT15, it is reported that:
SKN does not contribute significantly to this ABT as we have not devoted resources over the past four years to the restoration of degraded ecosystems. Nevertheless, now that our protected areas system is staffed with rangers and equipped with at least the basics (which we did not have at the time of submission of our last NR), we can begin to identify priority areas in need of rehabilitation or restoration within our PA system and undertake the necessary work to bring these back to health.

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS

(UNCCD Knowledge Hub, 2020)
LDN targets at the national scale:

- *LDN will be achieved by 2030 and an additional 5% of degraded lands of the national territory are improved.*

LDN sub-targets:

- *LDN is achieved in the Saint John Capisterre, Christ Church Nichola Town and Saint Mary Cayon areas in the island of Saint Kitts by 2030, compared to the 2015 baseline (no net loss). It corresponds to the areas with most degradation in St Kitts.*
- *LDN is achieved in the Saint James Windward area in the island of Nevis by 2030, compared to the 2015 baseline (no net loss). It corresponds to the areas with most degradation in Nevis.*
- *LDN is achieved in Saint George Basseterre parcel of the island of Saint Kitts by 2030, compared to the 2015 baseline plus an additional 5% has improved (net gain) [Challenging approach: where the capital of the country is]. It corresponds to the areas where there is not much degradation and the stable and improving conditions are one of the best on the island.*
- *LDN is achieved in Saint George Gingerland parcel of the island of Nevis by 2030, compared to the 2015 baseline plus an additional 5% has improved (net gain) [Challenging approach: where the capital of the country is]. It corresponds to the areas where there is*

not much degradation and the stable and improving conditions are one of the best on the island.

- *Improve productivity and Soil Organic Carbon (SOC) stocks in cropland and grasslands for the entire country by 2030, compared to the 2015 baseline.*

Saint Lucia

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2000)

Activities related to the conservation of species and genetic diversity in situ *will include:*

- *[…]design and implementation of restoration programmes for critical habitats, notably mangroves;*
- *creation and management of artificial habitats, such as artificial reefs, whenever appropriate.*

(NBSAP, 2000)

Domains and fields in which training will be given priority include the following:

- *[…] ecosystem management and restoration; […]*
- *research and monitoring techniques.*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(5th National report, 2015)

Saint Lucia's national and sectoral (water, fisheries, agriculture) strategies for climate change adaptation include strategies for enhancing ecosystems resilience, thus contributing to climate change adaptation and mitigation, in keeping with ABT 15. The development of the Ecosystems Resilience SASAP [Sectoral Adaptation Strategy and Action Plan] *further contributes to progress towards this target.*

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS

(UNCCD Knowledge Hub, 2020)

LDN target at the national level:

- *LDN is achieved by 2030 as compared to 2015 and an additional 15% of degraded lands of the national territory are improved (net gain).*

LDN targets at the sub-national level:

- *LDN is achieved in the Barre d'Isle- Castries area by 2030, compared to the 2015 baseline (no net loss).*
- *LDN is achieved in the Migny-Soufriere watershed area by 2025 as compared to the 2015 baseline (no net loss).*
- *LDN is achieved in Millet/Roseau watersheds by 2030, compared to the 2015 baseline plus an additional 5% has improved (net gain).*
- *LDN is achieved in Vieux Fort and Canelles watersheds by 2030, compared to the 2015 baseline plus an additional 5% has improved (net gain).*
- *Improve productivity and Soil Organic Carbon (SOC) stocks in cropland and grasslands by 2030, compared to the 2015 baseline.*
- *Improve local data and develop a mechanism for the collection and management of land productivity and soil organic carbon data for future monitoring needs.*

Saint Vincent and the Grenadines

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15

(NBSAP, 2018)
National Target 5
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 percent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2018)
National Actions to support ABT15:
Saint Vincent and the Grenadines' Nationally Determined Contributions (NDC) under the Paris Agreement commits the country to achieve "...an unconditional, economy-wide reduction in greenhouse gas emissions of 22% compared to its business as usual scenario by 2025. One of the stated strategies for achieving this is through the forest sector, by developing the country's GHG sinks through reforestation, afforestation, reduced deforestation and reduced forest degradation.

Actions needed to achieve this target by 2020, among others:

- *[…] Conduct baseline studies on carbon sequestration by various ecosystems (forests, coastal and marine).*
- *Monitor ecosystem change and corresponding carbon sequestration changes to compile data to facilitate reporting on contributions to mitigation.*
- *Preparation and execution of an implementation plan for the NDC, including plans for the forestry sector.*

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS
(UNCCD Knowledge Hub, 2020)
Set. Information available in due course.

Suriname

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2012)
National objective 1.4:
Responsible mining with minimisation of damage to the environment and biodiversity and environmental restoration.

- *Within the mining industry (both large scale and small scale) there is a need for mitigation of the negative impact on the environment, the effective rehabilitation of areas where mining operations have been conducted, and the implementation of closure plans upon the termination of mining operations.*

(NBSAP, 2012)
National objective 2.2:
Sustainable forestry – both logging and harvest of plant non-timber forest products (NTFP) – and forest restoration.

- *The effective application of measures for sustainable timber- and plant NTFP harvest requires some adjustment of the policy and the necessary self-regulation by the sector, particularly by working in the direction of certification of sustainable forestry operations. There is also a need for restoration of forest areas that were damaged by clear cutting or overexploitation.*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(6th National report, 2020)
For the Artisanal Small-Scale Gold Mining (ASGM) sector, the Ministry of NH [Natural Resources] *is currently in the phase of operationalizing a seven-year project named: "Improving Environmental Management in the Mining Sector, with Emphasis on the ASGM sector in Suriname", which is funded by the GEF. This project will focus on the introduction of sustainable mining techniques, including mercury free mining in the ASGM sector through the introduction of education centers in different mining regions in the country. Also, as part of its policy plans, the Ministry is actively implementing measures to register and formalize illegal miners within the country and guide them to better and adequate mining activities that are in line with the national and international commitments of the country.*

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS
(UNCCD Knowledge Hub, 2020)
Set. Information available in due course.

Trinidad and Tobago

NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(NBSAP, 2018)
ABT5 as a priority national target:
By 2020, the rate of loss of all natural habitats, including marine habitats, is at least halved and degradation and fragmentation is significantly reduced.

The expected outcomes include the fommowing:

- *[…]At least 30% of degraded natural habitats are recovering and their functionality is being restored. […]*

MEASURES TO IMPLEMENT NATIONAL TARGET UNDER AICHI BIODIVERSITY TARGET 15
(6th National report, 2019)
As of 2019, under the National Restoration Carbon Sequestration Wildlife and Livelihood Project, 214 hectares of degraded land, out of a 500 hectare target for the Nariva Swamp was reforested (43%).

The Ministry of Energy and Energy Industries has also reported (2019 pers. comm.) that by 2016, the GORTT [Government of the Republic of Trinidad and Tobago] *had successfully rehabilitated 80 hectares of closed or abandoned State Quarry lands (representing 24% of total abandoned, mined areas in Trinidad)*.

(6th National report, 2019)
*The National Gas Company of Trinidad and Tobago (NGC) has also embarked on a programme to reforest areas affected by industrial activities. A high level of success has been recorded with this programme, which involves local communities***.**

NATIONAL VOLUNTARY LAND DEGRADATION NEUTRALITY (LDN) TARGETS
(UNCCD Knowledge Hub, 2020)
Set. Information available in due course.

Annex II. Selected GEF projects in Caribbean countries related to ecosystem restoration

Country	Project	Time frame	Objective	Main ecosystem restoration actions
Antigua and Barbuda	Sustainable Pathways - Protected Areas and Renewable Energy	2015-ongoing	Manage and restore forests critical to watersheds.	Restoration of 160 hectares of forest above watershed conservation areas through reforestation to stop erosion of soil into the reservoirs.
Bahamas	Implementing Land, Water and Ecosystem Management	2018 - ongoing	Develop a model of integrated land, water and ecosystem management for The Bahamas and other SIDS.	Restoration of the East Grand Bahama Ecosystem, Design of a restoration methodology.
	Pine Islands - Forest/Mangrove Innovation and Integration (Grand Bahama, New Providence, Abaco and Andros)	2015-ongoing	Integrate biodiversity considerations & ecosystem services into forest management and land use planning.	Identification of forest and mangrove areas prioritized for rehabilitation and protection, re-establishment and rehabilitation of Little Abaco Mangrove Ecosystem.
Dominica	Strengthening Resilience of Agricultural Lands and Forests in Dominica in the Aftermath of Hurricane Maria	2019-ongoing	Strengthen the resilience of agricultural lands and forests in Dominica.	Participatory forest rehabilitation and restoration of the landscape surrounding Morne Trois Pitons National Park.
	Sustainable Land Management in the Commonwealth of Dominica	2018-ongoing	Establish landscape level planning, information and coordination frameworks to support sustainable agriculture and sustainable watershed management in Dominica.	Rehabilitate degraded watersheds in at least 8 villages using native vegetation based on plans developed in collaboration with local communities.
Grenada	Implementing a "Ridge to Reef" Approach to Protecting Biodiversity and Ecosystem Functions within and Around Protected Areas	2014-ongoing	Protect biodiversity and ecosystem functions within and around marine and terrestrial Protected Areas (Pas) in Grenada through the adoption of an integrated “ridge to reef” approach.	Coral reef restoration, rehabilitation of PAs and private lands with native forest species, rehabilitation of forested areas impacted by annual forest fires, slash and burn agriculture, or degraded due to exposure of steep landscapes.
	Dry Forest Biodiversity Conservation	2000-2007	Promote the conservation of the dry forest ecosystem and component species of special significance in Grenada.	Restore the identified network of key dry forest conservation sites, develop and test ecosystem restoration techniques.
Guyana	Strengthening the Enabling Framework for	2019-ongoing	Promote greater adoption of environmentally-	Reclaim, restore and rehabilitate areas degraded

	Biodiversity Mainstreaming and Mercury Reduction in Small and Medium-scale Gold Mining Operations		friendly mining techniques in Guyana.	by mining, and promote progressive rehabilitation during the life of the mine, taking into consideration local biodiversity.
Haiti	Ecosystem Approach to Haiti Cote Sud	2015-ongoing	Increase resilience to climate change risks and decreasing disaster risk using an ecosystem management approach targeting protected areas and fragile ecosystems.	Restore 460 hectares of woodlands and of 400 hectares of mangroves, rehabilitate 150 km of coastlines.
	Increasing Resilience of Ecosystems and Vulnerable Communities to CC and Anthropic Threats through a Ridge to Reef Approach to BD Conservation and Watershed Management	2015-ongoing	Enhance the resilience of vulnerable ecosystems to the impacts of climate change in PAs and surrounding landscapes.	Increase coverage and quality of mangroves in target areas, restore and protect ecosystems in ecologically sensitive parts of target watersheds, reforestation and restoration of vegetation in watersheds and mangroves to promote water infiltration.
Jamaica	Conserving Biodiversity and Reducing Land Degradation Using an Integrated Landscape Approach	2017-ongoing	Enhance conservation of biodiversity and ecosystem services through mainstreaming of biodiversity into planning policies and practices.	Forest and ecological restoration initiatives in Cockpit Country Corridor, including restoration of degraded broad leaf forest in identified priority buffer zones of covering 400 ha, restoration of 200 ha of mined out lands, restoration with native species on different land types, and upgrading of existing nurseries.
Saint Kitts and Nevis	Improving Environmental Management through Sustainable Land Management in St. Kitts and Nevis	2017-ongoing	Transform degraded forest landscapes into biodiversity and climate-friendly areas of sustainable agricultural and agroforestry production.	Restore critical forest sites through reforestation and Assisted Natural Regeneration pf 350 ha, rehabilitate 20ha of mangrove ecosystems for increased ecosystem integrity.
Saint Lucia	Integrated Ecosystem Management and Restoration of Forests on the South East Coast of St. Lucia	2018-ongoing	Expand and strengthen the terrestrial and marine protected area system, and reduce habitat destruction.	Reforest 2,500 00 ha of degraded areas, rehabilitate 500 ha of sea grass beds, reefs, mangroves and productive coastal systems.
	Iyanola - Natural Resource Management of the NE Coast	2014-ongoing	Increase management effectiveness and sustainable use of the North East Coast's natural resource base.	Rehabilitate and restore 907 hectares within priority degraded natural forest areas with a view towards increasing habitat quality, ensuring wildlife corridors, safeguarding rare and endemic species and consistent with biophysical assessment, develop a zoning

				plan for restoration of degraded forest areas in the NE Coast, restore forest cover along riparian buffer zones (100 meters) on public and private lands (approximately 250 hectares).
Saint Vincent and the Grenadines	Conserving Biodiversity and Reducing Land Degradation Using a Ridge-to-Reef Approach	2019-ongoing	Enhance biodiversity conservation and ecosystem services conservation through an expanded and strengthened PA system.	Restore native forests on steep slopes in 3 upper watershed landscapes.
Trinidad and Tobago	BIOREACH: Biodiversity Conservation and Agro ecological Land Restoration in Productive Landscapes of Trinidad and Tobago .	2019-ongoing	Promote biodiversity conservation, restore degraded lands and improve livelihoods of rural communities in targeted productive landscapes.	Restore 100 ha of critical habitats in ecological corridors between Protected Areas, restore forest and agricultural landscape through agroecology.
	Improving Forest and Protected Area Management	2014-ongoing	Conserve biodiversity by consolidating the PA system and enhance capacity and finance for conservation management.	Rehabilitation of 500 ha of priority degraded areas for habitat enrichment.