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**Report of the Subregional Exchange for the Caribbean on the Restoration of Forests and Other Ecosystems**

**Castries, Saint Lucia, 9-13 March 2020**

**INTRODUCTION**

1. In decision [X/2](https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-02-en.pdf), the Conference of the Parties to the Convention on Biological Diversity adopted the Strategic Plan for Biodiversity 2011-2020, in which 20 [Aichi Biodiversity Targets](https://www.cbd.int/sp/targets) to be achieved by 2015 or 2020 are organized under five strategic goals. Aichi Biodiversity Targets 5, 14 and 15, set global targets to reduce the loss of natural habitats, ensure ecosystem services and restore degraded areas. Progress on these targets complements progress towards many other targets.
2. In response to decision [XI/16](https://www.cbd.int/doc/decisions/cop-11/cop-11-dec-16-en.pdf) and the [Hyderabad Call for a Concerted Effort on Ecosystem Restoration](https://www.cbd.int/doc/restoration/Hyderabad-call-restoration-en.pdf), the Government of the Republic of Korea through the Korea Forest Service established the Forest Ecosystem Restoration Initiative (FERI) to support Parties in achieving Aichi Biodiversity Targets 5, 14 and 15 in an integrated manner. Through a memorandum of understanding with the Korea Forest Service signed in March 2015, the Secretariat of the Convention on Biological Diversity is implementing FERI, which was welcomed by the Conference of the Parties at its twelfth meeting in decision [XII/19](https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-19-en.pdf). FERI support to Parties includes direct support to country projects as well as capacity-building, including through a series of subregional workshops.
3. As a part of this series, this workshop was organized by the Secretariat as part of the implementation of FERI with the generous financial assistance of the Korea Forest Service and the European Union. The overall aim of the workshop was to support Parties in planning and carrying out national plans on ecosystem restoration, guided by the Short-Term Action Plan on Ecosystem Restoration (STAPER), which was adopted in decision [XIII/5](https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-05-en.pdf), with a focus on efforts taken to restore forest and other ecosystems towards achieving Aichi Biodiversity Targets 5, 14 and 15 and related targets.
4. Specific outcomes expected from the workshop were:

(a) Participants have a clear understanding of the distinction between the related concepts of ecological restoration, ecosystem restoration and forest landscape restoration and their potential to contribute to national environmental and socioeconomic objectives;

(b) Participants are aware of the international frameworks, goals and targets related to restoration;

(c) Participants understand the value and process for setting “SMART” targets on forest ecosystem restoration that provide a clear and quantifiable contribution to international goals and targets;

(d) Participants’ knowledge has increased with regard to activities related to the Short-Term Action Plan on Ecosystem Restoration, such as:

(i) Assessment for opportunities for ecosystem restoration (systematic spatial planning, cost and benefits of restoration);

(ii) Choice, design and implementation of a range of restoration interventions;

(iii) Ways and means to mobilize domestic and international public and private resources, engaging different stakeholders and incentivizing long-term actions in ecosystem restoration;

(iv) Monitoring of ecosystem restoration;

(e) A regional understanding emerges from the exchange among participants with regard to:

(i) Assessment of progress in the planning and implementation of national forest restoration plans;

(ii) Identification of common barriers, challenges and bottlenecks to forest ecosystem and forest landscape restoration among countries of the region;

(iii) Availability and relevance of global and regional initiatives, tools and resources on forest ecosystem restoration;

(iv) Benefits of ecosystem restoration for ecological, social and economic sustainability.

1. The workshop was attended by 29 participants, including 10 country representatives from Antigua and Barbuda, Bahamas, Barbados, Dominica, Haiti, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago as well as one representative of indigenous peoples and local communities.
2. A copy of presentations and other documents can be found at [www.feri-biodiversity.org/castries](http://www.feri-biodiversity.org/castries).
3. This report provides an overview of the workshop sessions and discussions. Key messages from the workshop can be consulted in annex I, the detailed agenda and organization of work in annex II and the full list of participants in annex III.

# I. Opening of the meeting

1. The meeting was opened on Monday 9 March with a prayer and warm welcome from Mrs. Silka Tobias, Deputy Permanent Secretary of the Ministry of Education, Innovation, Gender Relations and Sustainable Development of Saint Lucia, followed by Mr. Ki Yeon Ko, Director-General of the Korea Forest Service and Secretary-General of the 15th World Forestry Congress. On behalf of the Acting Executive Secretary of the Convention on Biological Diversity, Ms. Lisa Janishevski delivered welcoming remarks. She was followed by Ms. Teshia Jn Baptiste, Project Coordinator of the Caribbean Community (CARICOM) and Ms. Joan Norville, Coordinator of the Biodiversity and Ecosystems Management Programme of the [Organisation of Eastern Caribbean States](https://www.oecs.org/) (OECS).
2. The agenda for the meeting was adopted.

# Session 1 — Setting the scene

1. Ms. Janishevski of the Secretariat of the Secretariat of the Convention delivered a presentation entitled “Ecosystem restoration in the context of the Convention on Biological Diversity”, showing the progress under Aichi Biodiversity Targets 5 and 15 and the challenges faced in their implementation. As part of her presentation, the Short-Term Action Plan on Ecosystem Restoration (STAPER) framework was reviewed. She examined the goals, targets, and expected outcomes of the post-2020 global biodiversity framework that would serve as a steppingstone towards the 2030 mission and the 2050 Vision.
2. Mr. Blaise Bodin, a consultant for the Secretariat, presented on restoration in the Caribbean and the progress of the region towards Aichi Biodiversity Targets 5 and 15, including results of a questionnaire that participants were asked to answer before attending the workshop. Results were then discussed with attendees on the trends in forest extent and forest loss specific to each country. Overall, participants felt that better and more reliable data was needed in order to assess the progress towards Target 5 and motivate action towards Target 15. More efforts were also needed to ensure that countries’ targets to achieve Target 15 were “SMART”. Measures to achieve Target 15 were being implemented by countries in the region, but according to the results, more should be done to address the continued loss and degradation of forests and other ecosystems.

# Session 2 — Forest ecosystem restoration in the context of global goals and targets

1. Mr. Bodin presented on ecosystem restoration and how it ran through different international goals and frameworks. One framework discussed was the Society for Ecological Restoration’s International Standards for Ecological Restoration, which included the concept of a restorative continuum, as well as a decision tree for the concept of reference ecosystems. Mr. Bodin described the principles associated with forest and landscape restoration: focus on landscapes, engage stakeholders and support participatory governance, restore multiple functions for multiple benefits, maintain and enhance natural ecosystems within landscapes, tailor to the local context using a variety of approaches, and manage adaptively for long-term resilience. Finally, he described alignment between targets at the national level by comparing each country’s nationally determined contribution, land degradation neutrality target, and national biodiversity strategy and action plan (NBSAP).
2. Thereafter, representatives of country and regional organizations presented on targets for restoration:

Mr. Donatien Gustave, Assistant Chief Forest Officer of the Forest and Lands Resources Division of the Department of Agriculture, Fisheries, Natural Resources and Cooperatives of Saint Lucia, presented strategies for land degradation neutrality in Saint Lucia. Mr. Gustave discussed the land degradation neutrality targets at the subnational level within the island for forest rehabilitation and the alignment of restoration targets with other national policies. He concluded his presentation with a case study of the Saint Lucia Forest Restoration and Rehabilitation Project, implemented after Hurricane Tomas, and highlighted the methods used to restore the ecosystem in Migny after the landslides;

Mrs. Melinda Tanawara-Groenefelt, Jr. Manager, Research and Development, Foundation for Forest Management and Production Control of Suriname, presented how Suriname had adapted to national targets. She introduced the National Biodiversity Action Plan for 2012-2016, highlighting three of the eight objectives for conservation of biodiversity, the measures taken to implement them, and the related obstacles in doing so;

Mr. Anthony Simon, Forestry Officer, Forestry Department of Saint Vincent and the Grenadines, outlined how targets set by his country matched Targets 1, 5, 9, 11 and 15. He listed recommended actions to integrate the national biodiversity targets and national development objectives, discussed current ecosystem restoration projects and areas that required additional resources, capacity, and attention. He highlighted specific biodiversity success stories, including the restoration of Ashton Lagoon, a key biodiversity area, and the largest remaining mangrove ecosystem in the country;

Ms. Teshia Jn Baptiste of CARICOM presented on progress towards Aichi Biodiversity Targets at the regional level, highlighting how efforts were being made towards achieving Targets 5, 7, 14, and 17. She emphasized pathways to secure long-term sustainability, including barriers and leverages for change as well as capacity-building for multilateral environmental agreements in the African, Caribbean and Pacific Group of States. Finally, she shared the regional biodiversity strategy for ecosystem restoration;

Ms. Joan Norville, Coordinator, Biodiversity and Ecosystems Management Programme, Organization of Eastern Caribbean States, presented on regional strategies for ecosystem restoration and biodiversity. She described the OECS developmental strategy and related goals and actions. She emphasized the key themes of the Biodiversity and Ecosystems Management Framework and their objectives, targets, indicators and actions.

# Session 3 – Assessing the costs and benefits of ecosystem restoration and the potential for natural regeneration

Session 3 of the meeting was held on Tuesday, 10 March 2020. The recap of Day 1 was provided by Ms. Ruth Spencer, Coordinator at Barnes Hill Community Development Organization.

Mr. Bodin presented the “The Economics of Ecosystem Restoration (TEER) initiative” and how to overcome the barriers to investment in restoration. He explained that the lack of information on the costs and benefits of restoration projects was one of the greatest barriers and that there was a need for further tools and data for economic analysis on restoration. He listed the following as objectives of the TEER initiative:

* 1. To develop a standard framework for data collection on costs and benefits of ecosystem restoration across a coalition of partners;
	2. To build a reliable database on the costs and benefits that facilitates further analysis and decision-making in all major biomes;
	3. To offer a reference point for the evaluation of a project or an intervention’s estimated costs and benefits, based on information from comparable projects in major biomes;
	4. To have a basis for the development of more complex economic analyses, such as the calculation of the net present value and internal return rate of forest and landscape restoration interventions, or supply curves for their scaling-up in different regions and ecosystems.

Mr. Bodin described the costs of ecosystem restoration by explaining each category in more detail: paid labour, project assets, consumable items used during the project, services, taxes, and other financial costs, as well as unpaid labour, and community assets. The different economic and social benefits of ecosystem restoration were discussed.

Participants were divided into four groups: two groups listing the different cost categories of assisted natural regeneration and agroforestry, and two groups listing the potential benefits from these same interventions. The groups working on costs were asked to answer the following questions: (a) Is it possible to estimate an average cost of the intervention per ha per year? (b) If not, what additional data is needed to do that? (c) How will the cost per ha/year change after the first year? After five years?

The groups working on benefits were asked to answer the following questions: (a) What provisioning services will the area provide after the intervention? (goods for which there is a market); (b) Is it possible to estimate the value of the marketable goods that will result from the intervention, if not, what additional data would be required to do that? (c) What other benefits will the restored land provide and how could their financial value be realized? (for example, carbon – could be sold through a voluntary carbon credit scheme). Key points from this group exercise can be consulted in the key messages in annex I.

Mr. Renato Crouzeilles, Researcher and Associate, International Institute for Sustainability (IIS), presented “How to deliver forest restoration at scale”. He showed a range of restoration interventions and compared them on the basis of cost, carbon benefits, biodiversity benefits, social benefits, and risk of failure. He compared active restoration to natural regeneration and included a decision tree to define the best restoration intervention in a given area, with assisted natural regeneration as the most cost‑effective strategy in most contexts. He presented a sequence for restoration strategies:

1. Protect existing forests;
2. Identify suitable areas for assisted natural regeneration, legislate and economically incentive to support it;
3. Conduct active restoration in areas that support local economic development using timber species and agroforestry strategies or are not suitable for assisted natural regeneration;
4. Plant high-biodiversity-value species in areas with lower priority for economic production and in areas targeted for assisted natural regeneration.

Mr. Crouzeilles then presented the “Fundamentals of systematic conservation planning” and on how to bring that concept to restoration. For example, countries could divide their area into units, such as watersheds. He explained the Connected, Adequate, Representative, and Efficient (CARE) solutions to spatial planning. He described best practices in using scenarios for restoration planning in a circular, adaptive management approach.

Mr. Crouzeilles then presented the “Systematic spatial planning for ecosystem restoration to maximize carbon and biodiversity benefits and minimize costs: a case in the Atlantic Forest of Brazil”, which introduced the underlying concepts of systematic planning for conservation and an example of application with the spatial planning undertaken by IIS for the Atlantic Forest of Brazil. In order to predict areas of potential for natural regeneration, the analysis identified areas that had the same environment and socioeconomic conditions. He indicated that the strategic approaches to restoring ecosystems could triple conservation gains and halve costs by balancing outcomes between costs, biodiversity and climate change mitigation.

Participants then broke into groups for an interactive exercise to illustrate the principles of systematic restoration planning. Using a simplified map of a fictional community, the participants selected areas for restoration that would maximize biodiversity benefits while keeping costs as low as possible.

On Wednesday 11 March 2020, participants went on a field trip, first to Sabee, where they were introduced to a restoration project with shrubs in a context of low percentage vegetation cover and landslide, then to the Fond St. Jacques agroforestry site, and finally to the Edmund Forest Reserve to see the results of a restoration project in a post-hurricane context using a mix of native and exotic species.

# Session 5 – Restoration clinics

On Thursday, 12 March 2020, participants discussed ecosystem restoration and then joined a group discussion on in-depth recommendations in the national context.

Mr. Karl M. Augustine, Research Officer, Department of Forest and Lands Resources Development, Ministry of Sustainable Development, Energy, Science and Technology of Saint Lucia, delivered a presentation on “Agroforestry for livelihoods, biodiversity and climate benefits” describing the forestry programme in Saint Lucia. He explained that, as a response to degradation from monoculture, Saint Lucia had promoted forestry extension, riparian strip restoration, strict control on power saws, and high levels of monitoring and enforcement. After Hurricane Tomas, the approach to restoration in Saint Lucia had changed, including different projects focused on establishing native plant nurseries, restoring farms and rivers, and engaging farmers.

Mr. Claus Eckelmann of FAO, presented on “The importance of species and genetic diversity in forest restoration”, discussing the natural regeneration of countries in the Caribbean, notably in the wake of hurricane-related disasters.

Breaking into groups, participants presented their expectations with regard to the application of the restoration approach in question. Experts then provided more details on available restoration techniques and how they might apply to the respective national contexts of participants. Through an open discussion, participants then listed common challenges, needs and opportunities for the application of the restoration intervention. The key points from this session are presented in annex I.

# Session 6 – Monitoring of restoration

Session 6 was held on Thursday, 12 March 2020. Mr. John Brandt, Associate, World Resources Institute (WRI), presented “The road to restoration: A guide to identifying priorities and indicators for monitoring forest and landscape restoration”. He discussed the monitoring of restoration, including strategies, reasons and other questions encompassed by the Restoration Opportunities Assessment and Monitoring (ROAM) tool. He explained that countries that had excelled in restoration had national frameworks, piloted monitoring systems, and allocated domestic budgets. The benefits of national forest monitoring systems for monitoring restoration were the following:

* 1. Ensure transparency;
	2. Provide evidence of progress, achievements and impact;
	3. Communicate positive results, and learning from negative results;
	4. Guide and support project implementation and provide feedback;
	5. Enable investors to see progress;
	6. Support reporting to national, regional, and international targets;
	7. Countries that have adopted this strategy.

Mr. Brandt explained how implementation fit within the timeframe for STAPER and went on to discuss the different entry points tying developing indicators and metrics to goals, and methods to assess the feasibility of metrics for each indicator by exemplifying different case studies. He further explained assessment criteria and scale and elaborated on related questions and constraints.

In the subsequent group exercise, participants broke into groups and selected on a “wheel of goals” the 10 to 12 most relevant goals relating to a project they knew about. They then quantified the selections of goals to see the most popular, which were centred on production, climate change and biodiversity. The room was then divided into two groups – one for indicators of resilience and the other for indicators of biodiversity. The groups arrived at a consensus on a group of indicators by rating them according to assessment criteria and weighing those different criteria. The exercise demonstrated the value of using a prioritization framework to select the right indicators for the objectives of a given restoration project.

On Friday, 13 March 2020, Mr. Claus Ecklemann of FAO introduced a video on a restoration project in Haiti, implemented by FAO and the Government of Haiti to combat desertification in the wake of Hurricane Matthew. The context of Haiti was that of a strong demand for agroforestry and agriculture to ensure food security. Mr. Ecklemann then made a presentation giving further details on the Haiti project, which involved the local population at all stages. He outlined the components of the Action Against Desertification project, implemented across Africa, the Caribbean and the Pacific, where over 7,500 farmers had benefited. In the discussion, finding markets for the agroforestry products was mentioned as a challenge.

# Session 7 – Finance for restoration

Session 7 was held on Friday, 13 March 2020. Mr. Bodin led an interactive exercise on costs and benefits of restoration interventions. He first introduced the economic concepts necessary for the exercise, such as “discount rate” and “net present value”, then showed an example of how to calculate the costs and benefits for a restoration intervention in mangroves.

Participants then broke into four groups, with two groups working on calculating the costs and benefits of an intervention to restore forest through assisted natural regeneration and two groups working on another example with agroforestry. After calculating the costs and benefits expected from each intervention, groups determined whether the net present value was positive and, where that was not the case, to calculate subsidies needed for the intervention to break even.

1. Mr. Giles Romulus, Global Environment Facility (GEF) Small Grants Programme National Coordinator for Saint Lucia, then presented on “Concepts of project development” describing the types of grants offered, and the steps in accessing the grants, and the key growth sectors in the contemporary economy. Successful project concepts should adhere to a global strategy, country programme strategy and community ideas. He presented the framework for planning for different goals in a results-based framework.

Mr. Eckelmann suggested that participants find out who their FAO national designated authority was (likely in the ministry of finance). FAO could assist in developing systems whereby national funds could be used to promote restoration activities. In the development of projects for GEF or the Green Climate Fund (GCF), it was important to focus on the investment aspect, not just on implementing activities. Similarly to GEF, GCF worked with a support agency, and could be accessed through the national designated authority for GCF. The GCF had listed small island developing States as a priority for mitigation and adaptation funding. Funding could also be accessed through the Global Mechanism of the United Nations Convention to Combat Desertification. It was also noted that the Saint Lucia National Trust had tried to incorporate sustainability by mainstreaming the outputs of projects into annual work plans, and the importance of making use of the NBSAP planning documents to align projects with the NBSAP.

Ms. Norma Cherry-Fevrier, Programme Officer, OECS Environmental Sustainability Cluster described the membership, policies, mandate and projects of OECS. Restoration projects included the Anse-la-Raye Mangrove Restoration, Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (IWECO), and Building Resilience in the Eastern Caribbean through Reduction of Marine Litter (REMLIT) including budget, timeframe and goals.

# Sessions 8 and 9 – Path forward for a regional ambition on ecosystem restoration, and plenary discussion

Sessions 8 and 9 were held on Friday, 13 March 2020. A plenary discussion was held on the path forward, at which the key messages in annex I were adopted. Next steps that were discussed included:

* + 1. Update planning and implementation with the tools learnt during the week of the workshop, maintaining communication between countries and further support from technical partners to facilitate the use and application of the concepts and approaches presented throughout the workshop;
		2. Prepare a technical brief for the next meeting of the OECS Council of Ministers of Environment and Sustainability, scheduled for May 2020, highlighting key messages and recommendations from the workshop. A brief can be submitted by one of the focal points or an agency, or by one of the member States through the biodiversity and ecosystems committee at OECS;
		3. The outcome document could be signed by ministers and ratified to become a formal decision of the Council to be implemented;
		4. The OECS biodiversity and ecosystems framework will be finalized shortly. One of the priority themes is ecosystem restoration and conservation, which could draw on recommendations from the workshop;

Key messages could be relevant for the CARICOM environment and natural resources policy framework and action plan.

# Session 10 – Closing of the workshop

Closing remarks were delivered by representatives of the Secretariat of the Convention on Biological Diversity, CARICOM, OECS and the Government of Saint Lucia.

Annex I

# Key messages

1. These key messages are the result of five days of group discussions, presentations and exchange between participants in the Subregional Exchange for the Caribbean on the Restoration of Forest and Other Ecosystems, organized by the Secretariat of the Convention on Biological Diversity as part of the implementation of the Forest Ecosystem Restoration Initiative (FERI) and hosted by the Government of Saint Lucia, in Castries, Saint Lucia, from 9 to 13 March 2020. Representatives of the Governments of Antigua and Barbuda, the Bahamas, Barbados, Dominica, Haiti, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago were present.
2. Caribbean island countries are highly populated, with small territories and relatively high proportions of forest cover. Over recent years, reduced pressure on the land for agriculture has allowed natural regeneration to take place, and the main drivers of large-scale forest loss and degradation are recurring natural disasters.
3. The key messages are organized by activities in the Short-Term Action Plan on Ecosystem Restoration: (a) assessment of opportunities for ecosystem restoration; (b) improving the institutional enabling environment for restoration; (c) planning and implementation of ecosystem restoration activities; and (d) monitoring. These key messages provide additional context to the implementation of these activities in the Caribbean, and a potential blueprint for coordinated action at the national and regional levels.

## Assessment of opportunities for ecosystem restoration

“The last tree in the city is more important than a thousand ones in the bush.”[[1]](#footnote-2)

1. Assessing opportunities for ecosystem restoration requires understanding the drivers and patterns of forest loss. Forest loss can be defined and measured in multiple ways. Assumptions such as the percentage of canopy cover used for the definition of forest will have an impact on the assessment of forest cover and forest cover loss.
2. The gaps in data and technical expertise to conduct detailed assessments of forest loss and opportunities for ecosystem restoration need to be addressed, drawing on local knowledge where possible.
3. Through intergovernmental cooperation, environmental information systems that have been developed successfully at the national level can be replicated in other countries.
4. Options should be explored for the development of a regional environmental information system that would build on the common technical strengths of countries in the region, with the help and support of technical agencies and partners.
5. Faced with a decline in available development aid and limited national budgets, we recognize that a key aspect of restoration interventions should be their financial self-sustainability in the long term. This needs to be factored in the design of any ecosystem restoration initiative/planning process by looking at the value chains, linking the land to final products.
6. National ecosystem accounting systems need to be developed to capture the value of ecosystems services that green infrastructure provides to our economies, including the cost of natural disasters in terms of loss of natural/green infrastructure.
7. Once properly assessed, those benefits of ecosystem restoration that are public goods need to be taken into account and their value captured by restoration initiatives through, for example, payment for ecosystem services schemes at appropriate scales.
8. Cost-benefit analyses can be a useful tool for assessing the financial soundness of an intervention, but attention should be paid to the assumptions/hypotheses used, such as the discount rate which accounts for uncertainty of costs and benefits occurring in the future.
9. Decisions and framework development on where and how to undertake restoration should be made with full involvement and inputs of indigenous peoples and local communities. Local communities and indigenous peoples should also be involved in the design and implementation of restoration programmes to enhance buy-in, sustainability and chances of success. To support channels of communication with and engagement of local communities, national and regional environmental non-governmental organizations/­civil society organizations can be used as intermediary organizations.
10. Sensitivity analysis is needed of the impact of the following variables on the net present value of restoration interventions: discount rate, carbon credits, cost of labour, cost of materials, potential government subsidies.
11. The Restoration Opportunities Assessment Methodology (ROAM),[[2]](#footnote-3) applied in many other countries, can be a useful guide for the implementation of this group of activities.
12. The principles of systematic planning and the CARE framework (comprehensiveness, adequacy, representativeness and efficiency)[[3]](#footnote-4) can be useful to ensure that the relative importance of areas for biodiversity, cost-efficiency of restoring an area and connectivity are all taken into account.
13. An effective strategic approach to restoring forest ecosystems would involve maximizing cost savings, the restoration of high biodiversity areas and climate change mitigation benefits. This type of strategic approach has been shown to triple conservation gains and halve costs, as determined by a study in the Atlantic forest of Brazil.[[4]](#footnote-5) In the Caribbean context, restoration interventions should also target areas under risk from extreme weather events e.g., near critical infrastructure/areas, forested watershed areas that affect freshwater resources, or populated areas prone to landslides.
14. Estimating the potential of an area to regenerate naturally contributes to cost-efficiency, as scarce resources for active restoration interventions can focus on those areas that actually need it. This potential is dependent on proximity to remnant forests and the existence of native fauna for dispersal, among other factors.
15. Aiming to realize all the potential benefits of restoration that have been assessed may not be realistic and trade-offs may be required. The marginal cost of realizing a further percentage of the benefits should be assessed carefully (e.g., the last 20% can have a much higher cost per hectare than the previous 80%). Strategic approaches can help determining the share of benefits that can be realized for a reasonable cost (e.g., 80% of benefits at 40% of the cost for 100% of the benefits).

## Improving the institutional environment for restoration

“The lack of political will for ecosystem restoration can be overcome through improved communication on its economic, social and environmental benefits.”

1. A collaborative approach is needed between all concerned governmental agencies and ministries at all steps of the restoration planning process, including in the definition of targets, the spatial planning process and the prioritization of indicators. Multisectoral committees have been successful in some countries.
2. National targets on ecosystem restoration need to be aligned and coherent, with each new target considering those that may already have been adopted under other frameworks (e.g. UNFCCC, UNCCD, UNFF), aligning with them or interpreting them in the context of the international goals that they are aiming to achieve.
3. If a project has community benefits, it is more likely to be sustainable and have more buy-in. All stakeholders and rights holders must therefore work together on the development and implementation of ecosystem restoration projects/programmes, letting project ideas also come from the communities themselves.
4. Different actors may have different objectives to be reconciled. A restoration intervention may benefit actors different than those that bore the cost of it. Land tenure must be clarified before the start of interventions in order to prevent potential conflict over the sharing of benefits.
5. According to a study done by the Caribbean Natural Resources Institute (CANARI) for FAO, the forestry sector has been chronically underfunded or neglected by Governments in the region. Capacity-building for communities is needed in order to increase their autonomy in the implementation of restoration actions, as well as education and outreach for communities on the benefits of forests and forest restoration, but there may not be enough staff in forestry departments to meet that need. Staff continuity in these departments is also often an issue.
6. Forestry institutions in the region will need to be strengthened in order to undertake the necessary responsibilities in the ecosystem restoration planning and implementation process. OECS can assist in that regard with funding, networking, technical expertise and by promoting better collaboration among intergovernmental agencies.
7. In the face of low resources at the local level and the need for financial support, public-private partnerships should be encouraged, ensuring that everyone derives just benefits from their implementation.
8. Aggressive resource mobilization is needed, including by identifying focal points for different financial mechanisms and by strategically/continuously approaching financing agencies.

## Planning and implementation of ecosystem restoration activities

“In this part of the world everything was brought in, including the people”

1. The main challenge in the planning of restoration interventions is to decide which method is best used where and the appropriate species for each location.
2. The choice of restoration intervention depends on the outcomes desired. For that, the objectives of restoration need to be defined, as does the standard/framework used for restoration, differentiating between rehabilitation of ecosystem functions/services, ecosystem restoration, ecological restoration, and forest and landscape restoration.
3. Ecosystem recovery may sometimes require the use of species brought from elsewhere.[[5]](#footnote-6) So, while some areas can and should be restored to their original state, in many others, a compromise will have to be found between ecological integrity and practicality. As stated by a participant, “In this part of the world, everything was brought in, including the people”, which provides a useful context for the concept of “native species” in the region. It is important to bear in mind that the Caribbean is also a biodiversity hotspot with many unique and endemic species, thus the need to balance historical and cultural aspects of forests in the Caribbean associated by humans with the forest components that are endemic.
4. It is preferable to use locally sourced seeds and germplasm for plantation and enrichment rather than from other areas even at small-scale distances. Yet, available germplasm for native species are vulnerable and scarce. A germplasm centre would be useful and, to be cost-effective, it could be at the regional scale.
5. Some forms of tourism could drive the demand for healthy, natural ecosystems. Governments should drive the narrative in terms of the type of tourism they want and how that relates to the type of natural environment desired. They should also provide capacity-building opportunities to have indigenous peoples and local communities participate in these economic opportunities.
6. Restoration interventions must be linked to marketing and business opportunities for greater success, identifying and promoting demand for products that will be derived from the restored area through marketing and business-case analysis, ensuring a variety of products and higher levels of transformation to capture a larger fraction of the value chain.
7. *Agroforestry*can provide a wide range of marketable products while also contributing to food security and providing a range of ecosystem services.
8. Challenges to be overcome for agroforestry:
	1. Market demand is there but can be variable on the basis of seasonality and can lack the scale required;
	2. Tree crops will take five years to provide return on investment and the upfront investment is high;
	3. Lack of skilled labour.
9. Recommendations for the implementation of agroforestry:
10. Agroforestry can be a good way to engage landowners and managers in the restoration process.
11. Demonstration plots are useful to show real-life examples and best practices to farmers.
12. The indigenous foods of the region are most herbaceous understory vegetation that survive after a hurricane and should be integrated into agroforestry initiatives.
13. *Natural regeneration* and assisted natural regeneration will typically provide fewer marketable benefits but can provide ecosystem services at larger scales in a cost-efficient way.
14. Challenges to overcome for natural regeneration:
	1. Careful assessment of sites is needed to account for risk (for example, of fires/landslides and tipping points);
	2. There can be political pressure for active restoration measures.
15. Recommendations for the implementation of natural regeneration:
16. In areas far from forest remnants when the potential for natural regeneration is low, islands of forests can be established to assist, as was done after Hurricane Dorian;
17. Bear in mind that the cost of natural regeneration will decrease rapidly over time, especially if the conditions are favourable;
18. Natural regeneration can be integrated into sustainable livelihoods;
19. Regeneration is specific to the area, conditions, that caused the degradation or destruction.
20. A strategy for research is needed:
	1. For the identification of the most appropriate species for each intervention, in consultation with stakeholders and ensuring that the long-term impacts of the choice of species are known;
	2. To assess the resilience of species and ecosystems to future climate change, including on the spread of invasive species;
	3. To document traditional and local knowledge on restoration.

## Monitoring

“At the end of the day, restoration has to be practical”

1. Consensus and validation must be sought among stakeholders, rights holders and institutions on the selection of indicators for monitoring ecosystem restoration, thereby encouraging inter-agency collaboration in the process.
2. Using a protocol/methodology for selecting indicators and metrics for restoration facilitates the participation of stakeholders in the process. The steps highlighted in the “Road to Restoration” guide[[6]](#footnote-7) can be useful to follow in order to develop a monitoring system:
	1. Monitoring restoration should be driven by the goals of the project, which should be established with stakeholders. In the workshop, the “goals wheel” was used as a visual guide to parse the important goals for the project;
	2. After goals have been selected, a list of possible indicators (yardsticks) and metrics (measurable variables) can be established that will provide information on the progress;
	3. Assess the different indicators and metrics on the basis of their cost, time, availability, accessibility, ethics and relevance. The worksheet presented can facilitate this among stakeholders;
	4. Assess how important each assessment criterion is for each stakeholder, and weigh the metrics and indicators accordingly;
	5. This weighting process can help identify which metrics and indicators are the most suitable, given the applicable constraints and priorities;
	6. Combining all selected metrics and indicators for each goal in an index, with measurable baselines and targets, can be a handy way to measure and communicate progress towards restoration.
3. It is crucial to disseminate information and report on the impacts of rehabilitation and restoration activities undertaken in the past. Challenges are opportunities for improvement. The accrual of data from past restoration projects should be actively shared as input in the planning and design of further restoration interventions.
4. Further work is needed to develop indicators for the resilience of forest ecosystems applicable to the many forest and ecosystem types found in the Caribbean context.

*Annex II*

# Agenda and organization of work

**Monday, 9 March 2020 — “Taking stock of national restoration plans and targets”**

8.30 – 9 a.m. Registration

9 – 10.15 a.m. Opening session

 Prayer

Welcoming remarks (5-7 min each):

* + - * Mrs Silka Tobias, Deputy Permanent Secretary, Ministry of Education, Innovation, Gender Relations and Sustainable Development of Saint Lucia
			* Mr. Ko-Kiyeon, Director-General, Korea Forest Service
			* Ms. Lisa Janishevski, on behalf of the Acting Executive Secretary of the Convention on Biological Diversity
			* Ms. Teshia Jn Baptiste, Project Coordinator, Caribbean Community (CARICOM)
			* Ms. Joan John Norvile Coordinator, Biodiversity and Ecosystems Management Programme, Organisation of Eastern Caribbean States (OECS)

**Session 1 – Setting the scene**

Presentation: Ecosystem restoration in the context of the Convention on Biological Diversity: reflection on progress under Aichi Biodiversity Target 15, outlook for restoration under the post-2020 global biodiversity framework and the Short-Term Action Plan on Ecosystem Restoration (20 min)
*Lisa Janishevski, CBD Secretariat*

Presentation: Restoration in the Caribbean - results from the pre-workshop questionnaire and review of restoration commitments in the sub-region (20 min)
*Mr. Blaise Bodin, Consultant, CBD Secretariat*

10.15 – 10.45 a.m. **Coffee break**

10.45 – 11.45 a.m. Review and adoption of the agenda, questions on the presentations from the Setting the Scene session (40 min)

Tour-de-table of participants and expectations (20 min)

11.45 a.m. – 12.30 p.m. Interactive exercise – participants map progress in their country under the various steps of the STAPER (30 min)

Plenary discussion: report back and discussion from the interactive exercise (15 min)

12.30 – 1.30 p.m. **Lunch break**

1.30 – 3 p.m. **Session 2 – Forest ecosystem restoration in the context of global goals and targets**

Presentation: Restoration, a concept that cuts across international goals and frameworks (20 min) **–** *Mr. Blaise Bodin, Consultant, CBD Secretariat*

Plenary discussion: Q&A (10 min)

Presentation:Two countries, showcasing a good example of alignment between national targets on restoration(30 min)

* Saint Lucia – *Mr. Donatien Gustave, Assistant Chief Forest Officer, Forest and Lands Resources Division, Department of Agriculture, Fisheries, Natural Resources and Cooperatives*
* Suriname – *Mrs. Melinda Tanawara-Groenefelt, Jr. Manager Research and Development, Foundation for Forest Management and Production Control*
* Saint Vincent and the Grenadines – *Mr. Anthony Simon, Forestry Officer, Forestry Department*

Plenary discussion: Q&A discussion on the results of the exercise (15 min)

3 – 3.30 p.m. **Coffee break**

3.30 – 4.30 p.m. Presentations by CARICOM (Teshia Jn Baptiste) and OECS (Joan John Norville) on regional strategies for ecosystem re storation and biodiversity (20 min)

Group discussion: Lessons learned from the Caribbean on the implementation of Aichi Biodiversity Target 15 and ways to improve alignment between restoration-related commitments and contributions at the national level (20 min)

Plenary discussion:Review of key messages from Day 1 (20 min)

**Tuesday, 10 March 2020 — Planning for ecosystem restoration**

9 – 9.15 a.m. Recap of Day 1 (by one of the participants)
 Nomination of a participant to write the report on Day 2

9.15 – 10 a.m. **Session 3 – Assessing the costs and benefits of ecosystem restoration and the potential for natural regeneration**

Assessing the potential for natural regeneration, a cost-efficient way of planning for ecosystem restoration (10 min)
*Mr. Renato Crouzeilles, Researcher and Associate, International Institute for Sustainability*

Costs and benefits of ecosystem restoration: Why assess them and how? – The Economics of Ecosystem Restoration (TEER) (20 min)
*Mr. Blaise Bodin, Consultant, CBD Secretariat*

 Q&A (15 min)

10 – 10.30 a.m. Introduction to the interactive exercise on costs and benefits of restoration (10 min)

 Group exercise: using the TEER methodology for data collection on restoration costs and benefits, participants break out into groups and identify the cost of a specific restoration interventions in their national context and list potential benefits and ways in which they can be measured (20 min)

10.30 – 11 a.m. **Coffee break**

11 – 11.45 a.m. Report back from the groups (5 min each)

 Discussion of results (25 min)

11.45 a.m.– 12.30 p.m. Introduction of the objectives of the IIS project in collaboration with CBD and FERI on developing a decision support tool for systematic spatial planning of forest restoration (10 min)
*Mr. Renato Crouzeilles, Researcher and Associate, International Institute for Sustainability (IIS)*

 Fundamentals of systematic spatial planning – (15 min)

Q&A (20 min)

12.30 – 1.30 p.m. **Lunch break**

1.30 – 2.30 p.m. Introduction to the group exercise – (10 min)

Group exercise: Systematic planning for restoration using spatially explicit data (50 min)

2.30 – 3 p.m. Systematic spatial planning for ecosystem restoration to maximize carbon and biodiversity benefits and minimize costs: a case in the Atlantic Forest of Brazil (15 min)
*Mr. Renato Crouzeilles, Researcher and Associate, International Institute for Sustainability (IIS)*

Q&A (15 min)

3 – 3.30 p.m. **Coffee break**

3.30 – 4.30 p.m. Introduction to the group exercise (10 min)

Group exercise: Compare restoration scenarios and levels of ambitions using simulated data about biodiversity benefits, carbon benefits and total restoration costs (30 min)

Plenary discussion: Report back from the groups (20 min)

4.30 – 5 p.m. Listing of key messages from Day 2 (10 min)

 Presentation on the field trip of 11 March (20 min) – Jannel Gabriel

**Wednesday, 11 March 2020 — Implementation of ecosystem restoration**

 **Field trip to Soufriere: four stops and talks from experts *in situ* on good practice in the design and implementation of a range of restoration interventions**

8 a.m. Departure from hotel

10 a.m. Sabee – Restoration context: *Low percentage vegetation cover and landslides, restoration with shrubs*

10.45 a.m. Fond St. Jacques – Restoration context: *Agroforestry*

11.30 a.m. Edmund Forest Reserve – Restoration context: *Regeneration of indigenous species in post hurricane context*

12 noon Migny – Restoration context: *Planting on farm site*

**Thursday 12 March 2020 — Selection of restoration interventions and their monitoring**

9 – 9.15 a.m. Recap of Day 2 and Day 3 (by one of the participants)

9.15 – 10 a.m. **Session 5** – **Restoration clinics (1/3) - Presentation by each of the experts on their area of expertise in restoration approaches**
(10 min presentation + 5 min clarifying questions each)

* Partnering with nature to harness the potential of natural regeneration, including in post-disaster contexts – *Tamara Heartsill Scalley, Research Ecologist and Director of the Sabana Field Research Station, International Institute for Tropical Forestry, United States Forest Service*
* Agroforestry for livelihoods, biodiversity and climate benefits – *Karl M. Augustine* *Research Officer*, *Department of Forest and Lands Resources Development, Ministry of Sustainable Development, Energy, Science and Technology, Saint Lucia*
* The importance of species and genetic diversity in forest restoration – *Claus Eckelmann, Regional Forestry Officer for the Caribbean, FAO*

10 – 10.45 a.m. **Session 5 - Restoration clinics (2/3)**

Participants break out into groups for round-table discussions on the three topics presented at the previous session (each participant to choose up to two topics)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Natural reg.** | **Agroforestry** | **Spec. diversity** |
| **Facilitation:** | *C. Eckelmann* | *K. M. Augustin* | *T. Heartsill* |
| **Note-taking:** | *R. Crouzeilles* | *L. Janishevski* | *B. Bodin* |

Group discussions:

* Each participant to present their expectations with regards to the application of the restoration approach in question
	+ - * Experts to provide more details on available restoration techniques and how they may apply to the respective national contexts of participants
			* Open discussion and listing of common, challenges, needs and opportunities for the application of the restoration intervention by each group (potentially in SWOT framework)

10.45 – 11 a.m. **Coffee break**

11 – 11.45 a.m. **Session 5 - Restoration clinics (3/3)**

Participants rotate to cover a second topic in the group discussion

11.45 a.m. – 12.30 p.m. Plenary discussion: Report back from the groups (10 min + 5 min discussion for each group)

12.30 – 1.30 p.m. **Lunch break**

1.30 – 3 p.m. **Session 6 - Monitoring of restoration**

 Presentation: The road to restoration: A guide to identifying priorities and indicators for monitoring forest and landscape restoration (30 min)
*John Brandt,* *Associate, World Resources Institute (WRI)*

 Group Activity: Selecting goals and themes for restoration monitoring (30 min)

Presentation: Indicators and metrics for monitoring restoration (30 min)

3 – 3.30 p.m. **Coffee break**

3.30 – 5.30 p.m. Group activity: Selecting indicators and metrics for monitoring restoration (40 min)
Presentation: Creating an index for monitoring restoration (10 min) - *Ibid*

Group activity: Creating an index for monitoring restoration (40 min)

Plenary discussion: Report back from the groups and listing of key messages for Day 4 (30 min)

 Listing of key messages

**Friday, 13 March 2020 — Finance for restoration**

Facilitator for the morning/whole day – Joan Norville

9 – 9.30 a.m. Results of the Action Against Desertification project in Haiti - *Claus Eckelmann, Regional Forestry Officer for the Caribbean, FAO (10 min)*

*+ video (10 min)*

 *Q&A (10 min)*

9.30 – 10 a.m. **Coffee break**

10 – 11.15a.m. **Session 7 - Finance for restoration part 1**

Presentation of the interactive exercise on costs and benefits of restoration – Blaise Bodin (10 min)

Group exercise: Participants determine the investment profile and Net Present Value of a variety of interventions based on mock data on costs and benefits (45 min)

Report back and discussion (20 min)

11.15 a.m.– 12.30 p.m. **Session 7 - Finance for restoration part 2**

Presentation: concepts of project development (10 min) - *Mr. Giles Romulus, Global Environment Facility (GEF) Small Grants Programme* *National Coordinator for Saint. Lucia*

Presentation: OECS financing (5 min) - *Norma Cherry-Fevrier, Programme Officer, OECS Environmental Sustainability Cluster,*

Panel discussion on accessing finance for restoration in the Caribbean (30 min).

Participants:

* *Ms*. *Natalie Boodram, Senior Technical Officer, Caribbean Natural Resources Institute (CANARI)*
* *Mr. Alfred Prospere, Chief Forest Officer, Ministry of Agriculture, Food Production, Fisheries Rural Development and Cooperatives, Saint Lucia*
* *Ms. Teshia Jn Baptiste, Project Coordinator for the Programme for Capacity Building Related to Multilateral Environmental Agreements in African, Caribbean and Pacific Countries, CARICOM*
* *Norma Cherry-Fevrier, Programme Officer, OECS Environmental Sustainability Cluster (OECS)*
* *Mr. Claus Eckelmann, Regional Forestry Officer for the Caribbean, FAO*
* *Mr. Giles Romulus, Global Environment Facility (GEF) Small Grants Programme* *National Coordinator for Saint Lucia*

Plenary discussion (30 min)

12.30 – 1.30 p.m. **Lunch break**

1.30 – 2.30 p.m. **Session 8 - The path ahead for a regional ambition on ecosystem restoration**

 Discussion on potential next steps for the definition and effective implementation of subregional ecosystem restoration strategies in the Caribbean (15 min)
*moderated by representatives of CARICOM, OECS and Saint Lucia*

**Session 9 - Plenary discussion**

Review of key messages from Day 5 on access to finance for ecosystem restoration in the Caribbean (15 min)

Review and discussion of key messages from the workshop (30 min)

2.30 - 3 p.m. **Session 10- Closing session**

Evaluation of the workshop (online) – (10 min)

Closing remarks (20 min)

*Annex III*

# List of participants

| **No.** | **Name** | **Country/ Organization** | **Title** | **Department** | **Email** |
| --- | --- | --- | --- | --- | --- |
| **Country representatives** |
| 1 | Soraya Looby | Antigua and Barbuda | GIS Technician | Ministry of Health, Wellness and the Environment | loobysls@hotmail.com |
| 2 | Ingeria Miller | Bahamas | Senior Forestry Officer | Ministry of the Environment and Housing | ingeriamiller@bahamas.gov.bs |
| 3 | Bernard Thompson | Barbados | Officer-in-Charge | Soil Conservation Unit, Ministry of Agriculture and Food Security | BThompson@agriculture.gov.bb |
| 4 | Francisco Maffei | Dominica | Assistant Forest Officer-Protection and Conservation | Forestry, Wildlife and Parks Division | fmaffei@hotmail.com |
| 5 | Eder Audate | Haiti | Directeur | Direction des Forêts et de l’Energie Renouvelable | ederaudate@gmail.com |
| 6 | Eric Browne | Saint Kitts and Nevis | Senior Forestry Officer | Department of Environment | eric.browne@gov.kn; chizme\_21@yahoo.com |
| 7 | Donatian Gustave | Saint Lucia | Research Officer | Ministry of Agriculture, Food Production, Fisheries Rural Development and Cooperatives | donatian025@gmail.com |
| 8 | Anthony Simon | Saint Vincent and the Grenadines | Forestry Officer | Forestry Department | anthony\_simon73@hotmail.com |
| 9 | Melinda Tanawara-Groenefelt | Suriname | Jr. Manager Research and Development | Foundation for Forest Management and Production Control (SBB) | melg\_0702@hotmail.com; Tanawara-GroenefeltM@sbb.sr |
| 10 | Ameer Roopnarinesingh | Trinidad and Tobago | Deputy Conservator of Forests | Forestry Division | ameerroopnarinesingh@gmail.com |
| **Indigenous peoples and local communities** |
| 11 | Ruth Spencer | Indigenous peoples and local communities | Coordinator | Barnes Hill Community Development Organization | ruthspencer5@gmail.com; rvspencer@hotmail.com |
| **Host government representatives** |
| 12 | Caroline Eugene | Saint Lucia | Permanent Secretary | Department of Sustainable Development | caroline.eugene@gmail.com |
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| 16 | Sarita Peters | Saint Lucia | Department of Fisheries | Ministry of Agriculture, Food Production, Fisheries Rural Development and Cooperatives | sarita.peter@govt.lc; thomas.nelson@govt.lc |
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| 18 | Karl Augustin | Saint Lucia |  |  | karl.augustine@govt.lc |
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| 19 | Renato Crouzeilles | IIS | Researcher and Executive Director of IIS Australia |  | renato.crouzeilles@iis-rio.org |
| 20 | Giles Romulus  | UNDP, UNOPS | National Coordinator | GEF Small Grants Programme | gilesr@unops.org |
| 21 | Claus Eckelmann | FAO | Regional Forestry Officer | Caribbean regional office | Claus.Eckelmann@fao.org |
| 22 | John Brandt | WRI | Associate |  | John.Brandt@wri.org |
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| 29 | Natalie Boodram | CANARI | Senior Technical Officer/Team Leader | Biodiversity and Ecosystems Team | natalie@canari.org |

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1. The quotes used at the beginning of every section of these key messages are from discussions or presentations of participants at the workshop. [↑](#footnote-ref-2)
2. Laestadius et al. (2014), A guide to the Restoration Opportunities Assessment Methodology (ROAM): Assessing forest landscape restoration opportunities at the national or subnational level, IUCN.

See also <https://www.iucn.org/theme/forests/our-work/forest-landscape-restoration/restoration-opportunities-assessment-methodology-roam> [↑](#footnote-ref-3)
3. How to choose marine reserves - A short animation on systematic conservation planning for marine reserve design from Hugh Possingham and Jennifer McGowan at The University of Queensland. <https://www.youtube.com/watch?v=1IDeKJJO7s8> [↑](#footnote-ref-4)
4. Strassburg et al. (2018), Strategic approaches to restoring ecosystems can triple conservation gains and halve costs, *Nature Ecology & Evolution*, vol. 3, pp. 62-70. [↑](#footnote-ref-5)
5. Also see decision XIII/5 “…if the use of alien species is being considered,… this should, in particular, be guided by sound science and the precautionary approach in line with the preamble of the Convention in order to avoid loss of habitat and species due to invasive alien species.” [↑](#footnote-ref-6)
6. K. Buckingham et al. (2019), *The Road to Restoration – A Guide to Identifying Priorities and Indicators for Monitoring Forest and Landscape Restoration*, WRI and FAO. [↑](#footnote-ref-7)