UN environment

Convention on Biological Diversity

The Clearing-House Mechanism of the Convention on Biological Diversity

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6TH National Report for the Convention on Biological Diversity

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Sixth National Report

Section I. Information on the targets being pursued at the national level

Country

Mauritius

National Targets

1. Awareness of biodiversity values

Relevance of National Targets to Aichi Targets

Aichi Targets

1. Awareness of biodiversity values

Sub-Aichi Targets

People are aware of the values of biodiversity
People are aware of the steps they can take to conserve and sustainably use biodiversity

Relevant documents and information

Government institutions, Non-Governmental Organisations (NGOs), and even private sector are more and more involved in raising awareness on the different values of biodiversity both in Mauritius and Rodrigues.

Government departments such as National Parks and Conservation Service, Forestry Service, Department of Environment, Mauritius Oceanography Institute, Fisheries Division mainly, carry out several sensitisation campaign in their respective routine activities. The International Day celebration such as International Day of Biodiversity, World Wetland Day, and World Environmental Day are annual events which raise awareness biodiversity matter.

NGOs carry out regular awareness activities in their core duties. Local NGOs such as Mauritian Wildlife Foundation (MWF), FORENA, Reef Conservation, Eco Sud, Shoals Rodrigues and Ecosystem Restoration Alliance are deeply engaged in education and awareness program for promoting biodiversity conservation. These programs touch such diverse areas as islet conservation, mangrove restoration, protection of the Mauritian fruit Bat and coral restoration among others.

Furthermore, Republic of Mauritius (ROM) benefits from the help of international organizations such as which also collaborate on these above mentioned Philadelphia Zoo and Chester Zoo, Conservatoire botanique nationale de Brest, Missouri Botanical Garden. In Rodrigues, the Philadelphia Zoo and Chester Zoo funded Rodrigues Environmental Education Programme has been reaching out to all levels of the population via guided educational tours of conservation sites such as the Grande Montagne Nature Reserve, Anse Quitor Nature Reserve and the MWF Solitude Nursery. Talks have also been regularly delivered in schools and at village community levels. An active volunteer component allows youths and various other interested parties to learn by doing at the MWF conservation sites.

Private sector such as Ebony Forest Ltd, Valley de Ferney Conservation Trust are now embarked in ecotourism and coursework being a key component. Training funded under Critical Ecosystem Partnership Funds (CEPF) was also undertaken by the Ebony Forest Ltd.

It is to be noted that the National target 1 has been derived and adapted from CBD Aichi Target 1.

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Other relevant website address or attached documents

https://www.cbd.int/doc/world/mu/mu-nbsap-v2-en.pdf
Facebook page of MWF

2. Integration of biodiversity values

Relevance of National Targets to Aichi Targets

Aichi Targets

2. Integration of biodiversity values

Sub-Aichi Targets

Biodiversity values integrated into national and local planning processes
Biodiversity values incorporated into national accounting, as appropriate
Biodiversity values incorporated into reporting systems

Relevant documents and information

It is to be noted that the National target 2 has been derived and adapted from CBD Aichi Target 2.

As part of the NBSAP revision process, participants have come up with a need to develop a comprehensive strategy and action plan to achieve this target which includes:

• Assessing and monitoring the values of biodiversity and ecosystem services throughout the marine and terrestrial ecosystems of the Republic of Mauritius.

• Identifying practical means for integrating these in both public and private policies, decision-making processes, strategies, planning processes, accounting and reporting systems.

• Identifying and quantifying the skills, human and financial and resource needs

• Review of National Development Strategy is being undertaken.

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Other relevant website address or attached documents

https://housing.govmu.org/Documents/Planning/nds.pdf
https://info.undp.org/docs/pdc/Documents/MUS/PRODOC_22%20SEP.docx

3. Incentives

Relevance of National Targets to Aichi Targets

Aichi Targets

3. Incentives

Sub-Aichi Targets

Incentives, including subsidies, harmful to biodiversity, eliminated, phased out or reformed in order to minimize of avoid negative

impacts
Positive incentives for conservation and sustainable use of biodiversity developed and applied

Relevant documents and information

It is to be noted that the National Target 3 has been derived and adapted from CBD Aichi Target 3. EN

Other relevant website address or attached documents

National Biodiversity Strategy and Action Plan 2017 – 2025

4. Use of natural resources

Relevance of National Targets to Aichi Targets

Aichi Targets

4. Use of natural resources

Sub-Aichi Targets

Governments, business and stakeholders at all levels have taken steps to achieve, or have implemented, plans for sustainable production and consumption
Have kept the impacts of use of natural resources well within safe ecological limits

Relevant documents and information

It is to be noted that the National target 4 has been derived and adapted from CBD Aichi Target 4. EN

5. Loss of habitats

Relevance of National Targets to Aichi Targets

Aichi Targets

5. Loss of habitats

Sub-Aichi Targets

The rate of loss of forests is at least halved and where feasible brought close to zero
The loss of all habitats is at least halved and where feasible brought close to zero
Degradation and fragmentation are significantly reduced

Relevant documents and information

Habitat loss, including degradation and fragmentation, is the major cause of biodiversity loss globally. Reducing direct pressures on biodiversity and promote sustainable use is essential to protect biodiversity and to maintain the ecosystem services vital to human wellbeing. This can only be achieved through biodiversity values protection, rehabilitation and / or restoration programme and law enforcement. In Mauritius and Rodrigues Island, many ecosystems have been so severely transformed and degraded EN

that thinking in terms of reducing natural habitat loss, fragmentation and degradation is no longer appropriate. Furthermore, land use changes due to development pressures (deer farming, high-end residential development, roads, and dams) have resulted in fragmentation of our wetland natural resources. Therefore, focus should be on recreating resilient natural habitats and their capacity to supply a wide variety of ecosystem services, focusing on wetlands including river corridors and proprieties of the potentially expanded Protected Area Network (NBSAP, 2017). The degradation of our fragile native forest is constantly subjected to recurrent threats such as Invasive Alien Species and climate change impacts. Furthermore, land use changes due to development pressures have resulted in fragmentation of our wetland natural resources. The Government has thus come forward with a road map in light of the Vision 2030 and commitments to International Conventions to Multilateral Environmental Agreements to further halt the degradation of natural habitats and loss by adopting and implementing pro-active conservation management practices, policies and legislative measures.

It is to be noted that the National target 5 has been derived and adapted from CBD Aichi Target 5.

1. Protected Area Network Expansion Strategy (PANES)

2. Draft Wetland Bill 2020

3. Draft Forest and Reserves Bill

Other relevant website address or attached documents

Protected Area Network Expansion Strategy
GEF, Expanding Coverage and Strengthening Management Effectiveness of the Terrestrial Protected Area Network on the Island of Mauritius
Protected Endemic Sanctuaries
https://info.undp.org/docs/pdc/Documents/MUS/PRODOC_22%20SEP.docx

6. Sustainable fisheries

Relevance of National Targets to Aichi Targets

Aichi Targets

6. Sustainable fisheries

Sub-Aichi Targets

All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches
Recovery plans and measures are in place for all depleted species
Fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems
The impacts of fisheries on stocks, species and ecosystems are within safe ecological limits, i.e. overfishing avoided

Relevant documents and information

In December 2016, the Government of Mauritius agreed for the Department for CONTINENTAL SHELF, MARITIME ZONES ADMINISTRATION & EXPLORATION (CSMZAE) to elaborate a Marine Spatial Plan for the EEZ of the Republic of Mauritius in view of the increasing demand for marine space in the Exclusive Economic Zone (EEZ) for various purposes, particularly, fisheries and aquaculture, tourism and

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leisure. The Marine Spatial Plan (MSP) process was initiated through the conduction of a survey among all relevant departments, ministries, institutions and Non-Governmental Organisations (NGOs). This allowed a collective consciousness of the need for the plan and hence established its authority amongst all stakeholders. It also allowed a participative approach in defining the principles, objectives, and expected outcomes of the MSP. Ongoing and future projects were identified as well as their geographical locations, potential impacts and associated information gaps. The MSP adopts a feedback mechanism through continuous monitoring. This allows the evaluation of its performance and its adaptation according to changing needs and objectives. The outcomes of the MSP process have been identified as being: the zoning of the maritime space, the setting up of a Geographic Information System(GIS) platform/Spatial Database, the setting up of appropriate legislation and the creation of zones for conservation. The conservation strategy of the MSP is in line with the Sustainable Development Goals (SDGs) 14 , which includes designating 10% of marine areas for conservation by 2020.

It is to be noted that the National target 6 has been derived and adapted from CBD Aichi Target 6.

Other relevant website address or attached documents

FAO;Fisheries andAquaculture Department
Mauritius Clearing House Mechanism
Ministry of Blue Economy, Marine Resources, Fisheries and Shipping

7. Areas under sustainable management

Relevance of National Targets to Aichi Targets

Aichi Targets

7. Areas under sustainable management

Sub-Aichi Targets

Areas under agriculture are managed sustainably, ensuring conservation of biodiversity
Areas under aquaculture are managed sustainably, ensuring conservation of biodiversity
Areas under forestry are managed sustainably, ensuring conservation of biodiversity

Relevant documents and information

During the drafting of the NBSAP and through consultations among relevant stakeholders addressing biodiversity matters *inter alia* forestry, environment, water resources, agriculture, private sector; an area of 400 ha of forest restoration was targeted. To develop Agro-Forestry approach and government to initiate organic farming and smart agriculture.

It is to be noted that the National target 7 has been derived and adapted from CBD Aichi Target 7.

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8. Pollution

Relevance of National Targets to Aichi Targets

Aichi Targets

8. Pollution

Sub-Aichi Targets

Pollutants (of all types) has been brought to levels that are not detrimental to ecosystem function and biodiversity
Pollution from excess nutrients has been brought to levels that are not detrimental to ecosystem function and biodiversity

Relevant documents and information

The National Targets 8 which contributes to Aichi Targets 8 has been developed as an iterative process of relevant stakeholder consultations spearheaded through a National Project Steering Committee and establishment of three working groups that addresses key biodiversity thematic areas inter alia Terrestrial Biodiversity, Agro -biodiversity and Marine, Coastal & Freshwater Biodiversity. The Republic of Mauritius [ROM] has called upon for all stakeholders to set up ambitious but realistic national targets, considering local challenges, especially in terms of financial and human resources constraints. In response to article 6a of CBD, the RoM has retained the five CBD strategic goals and has adapted the corresponding Aichi Targets as transcribed in the NBSAP 2017-2025 endorsed by the Government through minister's council approval. A review of the 2015 NBSAP stocktaking exercise preceded the drafting of the 5th National Report. Discussions were held on which institutions should lead specific biodiversity thematic areas and what are the capacity, technological and financial needs to implement Mauritius-specific Aichi targets. Adaptation of the Aichi Targets to the RoM context, including key performance indicators, Lead Agency and Partners, deadlines and provisional additional budget requirements were also worked out and projected over timeline 2017 to 2025.

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The adopted Working Principles for the NBSAP 2017 – 2025 were guided through:

Integration of the ecological, social and economic values of biodiversity into decision-making;

- Effective in-situ and ex-situ biodiversity conservation and / or restoration;
- Minimising the direct and indirect pressures on biodiversity and ecosystem services;
- Biodiversity mainstreaming in the public and private sectors;
- Effective information sharing, NBSAP monitoring and delivery;
- The ecosystem approach.

It is to be noted that the National target 8 has been derived and adapted from CBD Aichi Target 8.

9. Invasive Alien Species

Relevance of National Targets to Aichi Targets

Aichi Targets

9. Invasive Alien Species

Sub-Aichi Targets

Invasive alien species identified and prioritized
Pathways identified and prioritized
Priority species controlled or eradicated
Introduction and establishment of invasive alien species prevented

Relevant documents and information

The Republic of Mauritius as a Small Island Developing State [SIDS] country is listed among the 35 biodiversity hotspots in the world owing to its unique; rich and diverse biodiversity of high endemism level occurring in the Mascarene region of the Indian Ocean. As a SID country, the tropical Island is not only vulnerable to climate change, sea level rise phenomena but also highly threatened by Invasive Alien Species [IAS]. Invasive Alien Species are listed amongst the key drivers of biodiversity and habitat loss for the Republic of Mauritius.

•Since early human colonisation, at least 21 introduced species of mammal, reptile and mollusc are naturalized in Mauritius with detrimental effects on native biodiversity. Some of the most destructive invasive species includes Rats (*Rattus rattus* and *R. norvegicus*), the Javanese macaque (*Macaca fascicularis*) and wild cat (*Felis cattus*) predating on eggs and chicks of native birds and reptiles, the feral pig (*Sus scrofa*) and Javan deer (*Cervus javanicus*) damaging native plant seedlings. Others are the Asian house shrew (*Suncus murinus*), the tenrec (*Tenrec ecaudatus*), Indian wolf snake (*Lycodon capucinus*), the red-whiskered bulbul (*Pycnonotus jocosus*), African landsnails (*Achatina spp.*) and the lesser Indian mongoose (*Herpestes javanicus*). Similarly, during the last decades, 1,675 plant species have been introduced to the Island. More recent introductions include the Madagascar giant day gecko (*Phelsuma grandis*), the gold-dust day gecko (*Phelsuma laticauda*) and the red-eared slider (*Trachemys scripta elegans*). The highly invasive Chinese Guava (*Psidium cattleianum*) plant is identified as the most critical invasive species that has severely invaded our native forest; outcompeting the growth and regeneration of our native plants. There is an ongoing forest restoration programme for the Black River Gorges and Bras Deau National Parks for the removal and long-term eradication of the Chinese Guava plant. *Acacia nilotica* is another critical invasive plant seriously invading the ecological landscape of Rodrigues Island at an unprecedented pace. Non-native marine species increased from 15 to 25 between 2009 and 2013.There are also many alien species in Mauritian freshwater ecosystems with potential negative impacts. Rivers are observed to be invaded with introduced fish species such as Poeciliidae (Genera *Gambusia*, *Poecilia* and *Xiphophorus*) and one Cichlidae (*Oreochromis niloticus*). The Entomology Division records on average one new pest per year damaging agricultural crops. Fruit flies cause large losses to fruits (mango, guava, Lychee etc.) and vegetables (cucumber, tomato, pumpkin, calabash, squash, etc.) in Mauritius. It is estimated that Rs 160 M is lost annually as a result of damage caused by fruit flies.

•Invasive alien species and land degradation reduce the ecosystems services provided by our native forests affecting their contribution to economic development [affecting the sugar and tourism industry, food security etc] and the Sustainable Development Goals (SDGs).

•Unfortunately, the NIASSP [2010-2019] has not been systematically implemented due to lack of adequate resource mobilisation and responsive administrative, policy and legislative measures and capacity building of human resources. As to date, the actions undertaken to manage IAS impacts in the country has been carried out in a piecemeal manner driven by perceived needs of concerned ministries and/or institutions because of barriers such as fragmented legislative, policy and institutional frameworks; insufficient

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capacity to prevent, control, eradicate or manage IAS effectively in the advent of a thriving tourism industry and growing trade at the port area; and lack of knowledge and awareness of the risks posed by IAS and the need for biosecurity measures among the public, key industrial sectors, importers and shipping agents . There has been no holistic biosecurity approach and concerted national effort to address IAS prevention, control and management.

•This calls for the urgent need to revise and fully implement the existing National Invasive Alien Species Strategy and Action Plan [NIASSAP 2010-2019] for the Republic of Mauritius through adequate financial and human resources and is listed as a high priority on the government agenda to ensure sustainable biodiversity conservation for the present and future generation and proper biosecurity control for both ecosystem and human health. The revised NIASSAP endeavours to project a roadmap that identifies the three-tier system inter alia;

Component 1: Policy, regulatory and institutional framework and capacity for effective IAS management;

Component 2: Incorporation of risk-based management of IAS into pathways and ecosystem management and Component 3: Knowledge management and learning.

Other relevant website address or attached documents

Government of Mauritius web site
UNDP website

10. Vulnerable ecosystems

Relevance of National Targets to Aichi Targets

Aichi Targets

10. Vulnerable ecosystems

Sub-Aichi Targets

Multiple anthropogenic pressures on coral reefs are minimized, so as to maintain their integrity and functioning
Multiple anthropogenic pressures on other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning

Relevant documents and information

The Republic of Mauritius [ROM] expands over an EEZ of 2.3 million km2 harbouring a diverse, unique and rich marine biota but yet highly vulnerable and subjected to biotic and abiotic threats such as ocean acidification mainly attributed to climate change impact, over exploitation and anthropogenic pressures likewise microplastic pollution problems. Apart from mainland Island of Mauritius and Rodrigues, Chagos archipelago, Agalega, St Brandon, the EEZ also encompasses 49 offshore islets including Biodiversity rich offshore Islets; of particular significance includes Round Island sustaining native wildlife no longer present on mainland Mauritius (Keel scaled Boas, Telfair's skinks amongst others), fishing bank reserves (Nazareth Bank, Saya de Malha Bank) of industrial economic value specially for the tuna industry and two marine protected areas. EN

Marine biodiversity consists of common Indo-Pacific species that constitutes common biota for biotopes

such as sea grass beds, coral reef, and mangroves, sandy, muddy and rocky shores. The four types of reef around Mauritius includes fringing reefs, patch reefs, atolls and barrier reefs. Marine species diversity is very high with about 1,656 species in 290 families having been recorded, with 159 species of scleractinian corals (hard corals) most probably with high endemism level.

The economic and social importance of coastal and marine ecosystems is now widely recognized at both the regional and international level. Out of 340 species of fish identified in the waters of Mauritius, 42 are of economic importance within the inshore area, with a different composition and relative abundance in the near shore waters of each Island within the Republic. Several species of crabs, shrimps, lobsters, molluscs, octopus and sea cucumbers are also of commercial value. A recent DNA-based assessment of commercial fish diversity of Mauritius by the Mauritius Oceanography Institute (MOI) found 186 species of commercial fish; out of which 41 are new records to Mauritius and 3 may be potentially new species. Tourism, one of the leading Economic pillar and income-generating sector of the country depends heavily on the quality and level of preservation of the coastal zone including its marine biodiversity and its coral reefs for a thriving marine biota and in-lagoon and off-lagoon fisheries stock. Yet, several studies confirm various anthological impacts on habitats and species, including beach erosion, water pollution and the overexploitation of marine resources.

During the Reporting period 2015 to 2020, Mauritius has embarked on a series of conservation projects to foster the conservation management of our marine biodiversity. These includes *ex-situ* coral farming-culture projects in nurseries followed by *in-situ* transplantation and monitoring in our marine habitat. It is to be recalled that several of the marine conservation projects have been conducted as a joint public-private collaboration. Other marine-coastal rehabilitation projects to further rehabilitate and strengthen the coast line of the Island have been undertaken during the course.

The National Targets 10 which contributes to Aichi Targets 10 has been developed as an iterative process of relevant stakeholder consultations spearheaded through a National Project Steering Committee and establishment of three working groups that addresses key biodiversity thematic areas inter alia Terrestrial Biodiversity, Agro -biodiversity and Marine, Coastal & Freshwater Biodiversity. The Republic of Mauritius [ROM] has called upon for all stakeholders to set up ambitious but realistic national targets, considering local challenges, especially in terms of financial and human resources constraints. In response to article 6a of CBD, the Republic of Mauritius has retained the five CBD strategic goals and has adapted the corresponding Aichi Targets as transcribed in the NBSAP 2017-2025 endorsed by the Government through minister’s council approval. A review of the 2015 NBSAP stocktaking exercise preceded the drafting of the 5th National Report. Discussions were held on which institutions should lead specific biodiversity thematic areas and what are the capacity, technological and financial needs to implement Mauritius-specific Aichi targets. Adaptation of the Aichi Targets to the RoM context, including key performance indicators, Lead Agency and Partners, deadlines and provisional additional budget requirements were also worked out and projected over timeline 2017 to 2025.

It is to be noted that the National target 10 has been derived and adapted from CBD Aichi Target 10.

Other relevant website address or attached documents

Mauritius Clearing House Mechanism
Ministry of Blue Economy, Marine Resources, Fisheries and Shipping

11. Protected areas

Relevance of National Targets to Aichi Targets

Aichi Targets

11. Protected areas

Sub-Aichi Targets

At least 17 per cent of terrestrial and inland water areas are protected.
At least 10 per cent of coastal and marine areas are protected
Areas of particular importance for biodiversity and ecosystem services protected
Protected areas are ecologically representative

Relevant documents and information

The main aim is to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.

Even though the pressure of anthropogenic activities, natural calamities inclusive of climate change have increased exponentially, the Republic of Mauritius remains as one of the jewels in the world with respects to biodiversity and natural resources. The state harbours several flora and fauna species (terrestrial and marine) which are unique to the country or the region. Nevertheless with just 5% of native forest left (MAB dossier), in water bodies areas (wetlands)- ESA report, decrease/loss of terrestrial and marine species , there is a need to protect and conserve the remaining remnants habitats areas as well as ensuring their connectivity. Currently 4.725 % terrestrial area and 0.003% of marine area are legally protected (as per information given by CSMZAE – Due to its vast EEZ, Areas were divided into two categories: coastal and ocean areas. The goal (10%) for coastal zone has been reached whereas a strategy to reach the 10 % conservation for marine areas is still to be adopted). There are other areas which have been dedicated to conservation or has scope for biodiversity conservation such as new National Park and Nature reserve as well as using the novel legal framework to create Private reserve. These new sites will underpin the connectivity as well as boost the percentage protected areas.

The coastal zones and inshore waters of the Republic of Mauritius islands are of vital importance for socio-economic development; protecting the island from the natural forces of the ocean; providing income through tourism and fisheries; and as the focus of many leisure and other activities. Intense pressure from sea- and land-based activities threatens to undermine the full socioeconomic potential of the country, and the government’s long-term goal of creating a sustainable ocean economy.

It is to be noted that the National target 11 has been derived and adapted from CBD Aichi Target 11.

Native Terrestrial Biodiversity and National Parks Act 2015

PANES 2017-2026

Proposed nomination of a Biosphere Reserve for Mauritius

Management Plan of Black River Gorges National Park 2017-2021

Management Plan of Bras d`Eau National Park 2017-2021

Management Plan of Rivulet Terre Rouge Estuary Bird Sanctuary 2015-2020.

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Other relevant website address or attached documents

National Biodiversity Strategy and Action Plan 2017 – 2025
NBSAP
Protected Area Network Expansion Strategy 2017-2026
Terrestrial Protected Areas of Mauritius
UNESCO MAN & BIOSPHERE
Native Terrestrial Biodiversity and National Parks Act 2015
Black River Gorges Management Plan Final draft July 2018_Full9.pdf
Bras D'eau Management Plan Final draft July 2018_Full2.pdf
RIVULET TERRE ROUGE ESTUARY BIRD SANCTUARY MANAGEMENT PLAN

12. Preventing extinctions

Relevance of National Targets to Aichi Targets

Aichi Targets

12. Preventing extinctions

Sub-Aichi Targets

Extinction of known threatened species has been prevented
The conservation status of those species most in decline has been improved and sustained

Relevant documents and information

To ensure that the diverse values of biodiversity and opportunities derived from its conservation and sustainable use are recognized and reflected in all relevant public and private decision-making.

Our country harbors several flora and fauna species and has a long-standing programme for the conservation of endangered endemic species. Conservation of native avian species and its species recovery programmes have started in the 1970 and have been successful for Mauritius Kestrel -*Falco punctatus*, Echo Parakeet -*Psittacula eques* echo and Pink Pigeon -*Nesoenas mayeri*. 12 species (out of which 9 are threatened) of land bird as well as Rodrigues fruit bat *Pteropus rodricensis* have so far escaped from extinction.

Reptile conservation works have started to show positive results and also enhance our knowledge and way ahead.

With regards to the status of flora conservation 61 of the country's native plant species are already classified as extinct, 141 of the flowering Mascarene endemic plant species are classified as Critically Endangered, 55 species are Endangered and 98 are classified as Vulnerable. Of the 192 native plants species were classified as Critically Endangered as per International Union for Conservation of Nature criteria (IUCN), of which only 43 have been successfully propagated and reintroduced.

The marine biodiversity does not lag behind in term of endemicity or rare fragile habitat. With the adverse effect of climate, the species thriving in coastal wetlands, shoreline as well as marine environment need constant dedication and care.

Accordingly, there is a need to develop a comprehensive species conservation strategy in Mauritius:

•There are major gaps in the understanding of the conservation status and levels of threat for many taxonomic groups (including plants, ferns, bryophytes, fungi, invertebrates, etc.);

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•Science-based recovery plans and time-bound targets for all priority species (i.e. the most threatened ones) need to be developed, alongside local capacity building strategies;

•An IUCN Red List of Ecosystems for Mauritius and Rodrigues is lacking. Given the importance of ecosystem restoration and re-wilding in Mauritius and Rodrigues, this should be seen as a priority (source NBSAP 2017-2025)

Hence the enabling activities will enable our country to protect, assess and conserve more species and prevent same from being extinct.

•Terrestrial Threatened Species Conservation Programme for Mauritius and Rodrigues;

•Marine Threatened Species Conservation Programme for Mauritius and Rodrigues.

It is to be noted that the National target 12 has been derived and adapted from CBD Aichi Target 12.

Other relevant website address or attached documents

National Biodiversity Strategy and Action Plan 2017 – 2025

13. Agricultural biodiversity

Relevance of National Targets to Aichi Targets

Aichi Targets

13. Agricultural biodiversity

Sub-Aichi Targets

The genetic diversity of cultivated plants is maintained
The genetic diversity of farmed and domesticated animals is maintained
The genetic diversity of wild relatives is maintained
The genetic diversity of socio-economically as well as culturally valuable species is maintained
Strategies have been developed and implemented for minimizing genetic erosion and safeguarding genetic diversity

Relevant documents and information

It is to be noted that the National target 13 has been derived and adapted from CBD Aichi Target 13. EN

Other relevant website address or attached documents

National Biodiversity Strategy and Action Plan 2017 – 2025
National strategy and action plan for crop wild relatives

14. Essential ecosystem services

Relevance of National Targets to Aichi Targets

Aichi Targets

14. Essential ecosystem services

Sub-Aichi Targets

Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded
Taking into account the needs of women, indigenous and local communities, and the poor and vulnerable

Relevant documents and information

It is to be noted that the National target 14 has been derived and adapted from CBD Aichi Target 14. EN

Other relevant website address or attached documents

National Biodiversity Strategy and Action Plan 2017 – 2025
Mauritius Clearing House mechanism

15. Ecosystem resilience

Relevance of National Targets to Aichi Targets

Aichi Targets

15. Ecosystem resilience

Sub-Aichi Targets

Ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced through conservation and restoration
At least 15 per cent of degraded ecosystems are restored, contributing to climate change mitigation and adaptation, and to combating desertification

Relevant documents and information

It is to be noted that the National target 15 has been derived and adapted from CBD Aichi Target 15. EN

Other relevant website address or attached documents

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

16. Nagoya Protocol on ABS

Relevance of National Targets to Aichi Targets

Aichi Targets

16. Nagoya Protocol on ABS

Sub-Aichi Targets

The Nagoya Protocol is in force
The Nagoya Protocol is operational, consistent with national legislation

Relevant documents and information

It is to be noted that the National target 16 has been derived and adapted from CBD Aichi Target 16. EN

Other relevant website address or attached documents

National Biodiversity Strategy and Action Plan 2017 – 2025

17. NBSAPs

Relevance of National Targets to Aichi Targets

Aichi Targets

17. NBSAPs

Sub-Aichi Targets

Submission of NBSAPs to Secretariat by (end of) 2015
NBSAPs adopted as effective policy instrument
NBSAPs are being implemented

Relevant documents and information

The Mauritius Biodiversity Strategy and Action Plan (NBSAP) 2017 – 2025

It is to be noted that the National Target 17 has been derived and adapted from CBD Aichi Target 17. EN

Other relevant website address or attached documents

Mauritius Clearing-House Mechanism

19. Biodiversity knowledge

Relevance of National Targets to Aichi Targets

Aichi Targets

19. Biodiversity knowledge

Sub-Aichi Targets

Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved
Biodiversity knowledge, the science base and technologies are widely shared and transferred and applied

Relevant documents and information

The CHM portal provides information on the implementation of the convention in Mauritius and brings EN

up-to-date information on events/conferences and other related issues. It contains National Biodiversity related information that is required to assist policy makers and stakeholders to meet the obligation defined by the Convention and to conserve biodiversity and to have the sustainable use of biodiversity.

It is to be noted that the National target 19 has been derived and adapted from CBD Aichi Target 19

Other relevant website address or attached documents

Mauritius Clearing-House Mechanism

20. Resource mobilization

Relevance of National Targets to Aichi Targets

Aichi Targets

20. Resource mobilization

Sub-Aichi Targets

Mobilization of financial resources implementing the Strategic Plan for Biodiversity from all sources have increased substantially from 2010 levels

Relevant documents and information

Resource mobilisation is key to sustainable biodiversity conservation in line with government programme.

The Fifth National Report on the Convention on Biological Diversity (CBD) for Mauritius recommended for development of a financial resources mobilization strategy including capacity building needs and the incorporation of ecosystem approach to mainstream biodiversity, coordination mechanisms.

Although the CBD fifth National Report highlighted to identify gaps and challenges to improve the implementation of the NBSAP 2017 – 2025 at national and local level; Mauritius and Rodrigues have yet to: Identify and report funding needs, gaps and priorities; And to develop the national financial plans for biodiversity activities as per its Aichi Targets.

It is to be noted that the National target 20 has been derived and adapted from CBD Aichi Target 20.

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Other relevant website address or attached documents

Mauritius National Biodiversity Strategy and Action Plan

Section II. Implementation measures, their effectiveness, and associated obstacles and scientific and technical needs to achieve national targets

Education, Capacity building, Training and Research on Terrestrial, Coastal and Marine Biodiversity in the Republic Of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

The Republic of Mauritius (ROM) has made significant progress in determining the values of biodiversity and understanding how to conserve and use it sustainably. It has also made a start on educating the public about this through various sensitisation and awareness programmes undertaken

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by most of the stakeholders of the ROM who work on biodiversity including Non-Governmental Organisations (NGOs). Such programmes take into account people's understanding of biodiversity and their local environments, foster an appreciation of local knowledge of biodiversity, establish clear links between biodiversity conservation and community health and welfare, and describe conservation actions that can be taken by specific groups that are school children and university students, tourism sector, agriculture sector and fishery sector.

In Mauritius, the National Parks and Conservation Service is the lead Agency responsible to ensure a sustainable management and restoration of native terrestrial Mauritian fauna and flora so as to retain its genetic diversity for the future generations through *in-situ* and *ex-situ* conservation strategies, ecosystem restoration, public awareness, promotion of ecotourism and implementation of international biodiversity agreements. On the other hand, the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping is mandated to make the Blue Economy an important pillar to sustain economic diversification and growth, having due regard to the conservation of marine ecosystems and to strengthen governance and harness the marine resources in our Exclusive Economic Zone (EEZ) for fostering sustainable development in contribution to human well-being, food security and poverty alleviation.

Likewise, in Rodrigues, the Commission for Environment & Others is responsible both for terrestrial and marine biodiversity conservation.

1.0 TERRESTRIAL BIODIVERSITY

Forest makes up around 25% of the land in Mauritius though 2% of the land of Mauritius is good quality native forest. Forests, both in Mauritius and Rodrigues are inhabited by a diversity of indigenous flora and fauna including, 691 plant species in Mauritius and 150 in Rodrigues. The forests also provide habitats for bats and several endemic birds and reptile species. The National Parks and Conservation Service (NPCS) and the Forestry Service under the aegis of the Ministry of Agro-Industry and Food security are institutions which have initiated several actions to raise public awareness and education on the conservation of Mauritian native biodiversity together with the promotion of ecotourism. Several activities are carried out by NPCS to sensitise school community and public at large at the importance of native terrestrial biodiversity, ecosystems resources and their conservation. Forestry Service also has its own sensitization campaign with a view to enlist the support of youths and the population in general in the daunting challenge to conserve, protect and propagate the rare endemic/indigenous fauna and flora. Research on terrestrial biodiversity fields supported by the national Government and the Rodrigues Regional Assembly have and are currently still underway, identifying new species of: lichens, grasshoppers, beetles, flies, investigating the genetic connectivity of organisms present in Mauritius with other similar species around the world. This research has led to the discovery of numerous new endemic and native taxa

The Protected Area Network (PAN) project was financed by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP) and implemented by the National Parks and Conservation Service (NPCS).The global objective of this project was to catalyze working partnerships between private, public and community stakeholders to more effectively conserve native forest biodiversity in the protected areas of Mauritius. The development objective was to help capacity building to expand and effectively manage a network of terrestrial protected areas on the mainland of Mauritius to safeguard threatened biodiversity. This 5 years project had a Total Project Budget (Global Environment Facility): U$4,000,000(USD); and a co- financing budget: U$11,764,400 (USD). One of the outputs of the project was to promote an increase in public awareness of the need to conserve native biodiversity in Mauritius. It specifically focused on the contribution that protected areas (PAs) make in conserving terrestrial biodiversity, and the value and benefits of these PAs to the ongoing socioeconomic development of Mauritius. An incremental improvement in awareness was used to facilitate the development of custodial partnerships between government agencies, PA institutions, civil society, private landowners, business and local communities.

2.0 AGRICULTURAL BIODIVERSITY

In Mauritius agro-biodiversity is directly linked to food security and broadly categorized into two main groups: sugar and non-sugar (i.e. vegetables, fruit, medicinal plants and livestock) while in Rodrigues it is categorized into fruits and food crops.

Through Beekeeping projects, Apiculture is practiced mainly as a part time activity in Mauritius.

In December 2015, the Ministry of Agro-Industry and Food Security signed an agreement with the International Centre for Insect Physiology and Ecology (ICIPE) Kenya for a project to boost up apiculture in Mauritius. The project was funded by the International Fund for Agricultural Development (IFAD) for an amount of USD 172,385 for a period of two years. The main activities of the project included:

1. Capacity building: training of beekeepers on the management of bee colonies
2. Control of honey bee pests and diseases with bio-products
3. Organic certification of our honey so that it can be branded
4. Pollination of crops so as to increase production of quality fruits and vegetables
5. Production and sale of queen bees both by grafting and artificial insemination
6. Setting up of a Honey Residue Monitoring Plan so that we can export our honey to the European Union

A second phase of the project started in November 2018 and will last for two years. Phase II builds on the foundations and achievements of Phase I. Projected activities from 2021 to 2025 include:

1. Preparation and enactment of the Animal Health and Livestock Production Bill which caters for registration of beekeepers, proclamation of bee zones and control of bee pests and diseases,
2. Capacity building of beekeepers,
3. Control of the varroa mite and the small hive beetle with safe products,
4. Organic honey certification,
5. Pollination of crops with bees,
6. Production and sale of queen bees, and
7. Implementation of a honey residue monitoring plan.

The honey bee species present include:

1. *Apis mellifera* unicolor (black African bee) ,aggressive, less productive
2. *Apis mellifera lingustica* (Italian bee), More productive
3. Hybrid bees (a cross between the black African bee and the Italian bee) are commonly observed in hives.

As at December 2019, there were 621 registered active beekeepers keeping some 3000 bee colonies in Mauritius.

3.0 MARINE BIODIVERSITY

The marine ecosystems and the marine biodiversity provide important ecosystem services, namely provisioning, regulating, supporting and cultural services to mankind. They also represent key component of mitigation and adaptation measures for climate change impacts, disaster risk reduction, economy and human well-being. Unlike terrestrial biodiversity, marine biodiversity is not always visible as they are found mostly underwater. Therefore, they are not always known to the public at large. As such, the objective is to create awareness, appreciation and understanding of the diverse values of marine biodiversity so as to bring about the required behavioural changes at all levels in favour of the protection and conservation of marine biodiversity as was as to address the drivers of biodiversity loss. On the other hand, marine biodiversity is under constant stress from human activities and climate change, with a large number of species becoming extinct even before being documented. The marine ecosystem in Mauritius is no exception, as it faces continuous coastal habitat degradation and over-exploitation of its marine living resources with the reefs constantly being threatened by rising seawater temperature and ocean acidification.

Coral culture therefore plays an important role in rehabilitating degraded reefs, while at the same time, enhancing the ecosystem services they provide for tourism, fisheries and coastline protection. Locally adapted techniques for culture of corals on-land and at sea for conservation purposes has successfully been developed and optimised. As such, the Ministry of Blue Economy, Marine Resources, Fisheries

and Shipping has set up 5 coral nurseries that can accommodate 2600 coral fragments each under the “Community-Based Coral Culture Project for the Republic of Mauritius” at Albion, Grand Gaube, Quatre Soeurs, Baie du Cap and La Gaulette whereby 110 fishers including 20 fisherwomen were trained in coral farming techniques and coral nurseries management.

On the other hand, Community-based coral rehabilitation in Rodrigues Island being an essential tool for the locals in response to a decline in coral cover and fish catch were provided to fishermen and youngsters. During the training over 3000 coral nubbins were transplanted by using a simple, low-cost method with the assistance of the researchers and locals. The transplanted corals were mainly Acroporids as they were freely available at the source site owing to human and current activities. Corals nubbins that were transplanted to the new sites showed an average survival rate of 70% through visual observation. Five main villages were fully involved in this project through extensive education and sensitization campaigns. A high presence of fishermen (92%) was noted at those sessions; however, low participation was perceived. Nonetheless, seven fishermen were wholly integrated into the project and together with the youngsters they showed a strong commitment. As a result, the low-cost coral transplantation method and environmental strategies used in this project were showed to be effective and successful.

National Target(s)

1. Awareness of biodiversity values
14. Essential ecosystem services

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The Republic of Mauritius (ROM) has made significant progress in determining the values of biodiversity and understanding how to conserve and use it sustainably. It has also made a start on educating the public about this through various sensitisation and awareness programmes undertaken by most of the stakeholders of the ROM who work on biodiversity including Non-Governmental Organisations (NGOs). Such programmes take into account people's understanding of biodiversity and their local environments, foster an appreciation of local knowledge of biodiversity, establish clear links between biodiversity conservation and community health and welfare, and describe conservation actions that can be taken by specific groups that are school children and university students, tourism sector, agriculture sector and fishery sector.

The strategies for increasing public awareness on forest, forest ecosystems and biodiversity conservation are outlined in the ‘National Forest Policy (2006)’ and ‘Strategic Plan (2016 - 2020) for The Food Crop, Livestock and Forestry Sectors’. Under the FAO project TCP MAR 3602 (2017 to March 2019) ‘Support to Forest Code Revision and Institutional Reform in Mauritius’, a Training of Trainers session was carried out from 29th July to 3rd August 2018. It targeted 20 beneficiaries from public and private institutions involved in the policy implementation. The training was focused on the following thematic areas: (i) Standard operating procedures (ii) forest policy development and evaluation (iii) environment economic valuation, (iv) research methodologies and survey techniques (v) formulation of awareness raising programmes. The followings are tools which were used to raise awareness on biodiversity:

1. Talks/ presentation on the importance of forests, including forest biodiversity, are given by Forest Officers in schools. About 20 schools and 10 Social Welfare Centres/Community Centers are targeted annually.

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2. Guided tours offered to students and private institutions at the three Nature Walks under the jurisdiction of the Forestry Service (Mon Vert at Forest Side, Powder Mills at Pamplemousses and Sophie at Plaine Sophie). Between January 2015 and December 2019, 342 guided tours have been carried out. The Nature walks receive on average 30 300 visitors annually.
3. At least two small exhibitions on forests are carried out annually.
4. Students and visitors are given opportunity for experiential learning (e.g. weeding and planting activities). Between January 2015 and December 2019, approximately 2000 plants have been planted by students and other visitors.
5. Creation of endemic gardens in schools/ and or free issue of plants to schools (on demand).
6. To raise awareness on importance of trees and encourage people to plant trees, plants were issued free of charge (to Government institution, NGOs, Parastatal bodies, schools, socio-cultural organisations) under the national tree planting campaign (from January 2015 to December 2020 more than 120 000 plants have been issued free of Charge).
7. Capacity building programme for Beekeeping project-847 persons have received training on beekeeping. Training of beekeepers is being carried out on a monthly basis and there are 20 to 30 persons in each batch. The training programme includes both theory and practical sessions. Six officers from the Agricultural Chemistry Division received training on honey analysis. One officer was trained on pollination of crops by bees including the stingless bees. Six officers were trained as facilitators and internal auditors for the establishment of the organic honey certification system.
8. Awareness raising pamphlets and factsheets, distribution of toolkit on good environmental practices to secondary students.
9. Participating in International Days: World Oceans Day, World Wetlands Day, World Environment Day.
10. PAN awareness materials displayed for International Day for Biological Diversity, World Food day, International Migratory Bird Day.
11. 30 contract labourers trained under the PAN project recruited on a permanent and pensionable basis by Ministry
12. A capacity building programme has been initiated to train 30 PA staff in a Certificate in Protected Area Management (Scottish accredited). Additional 15 middle management staff have been trained as trainers (activity ongoing).
13. Awareness material developed (booklet, pamphlets, banners, etc.) and a website has been designed and is currently operational on (http://pes.govmu.org/)
14. TV clip for International Day for Biological Diversity produced by Mauritius Broadcast

Obstacles and scientific and technical needs related to the measure taken

1. The main limiting factors for the promotion of beekeeping are as follows:(i) Presence of devastating honey bee pests namely the varroa mite and the small hive beetle,
(ii) Decrease in area under melliferous plants,
(iii) Inaccessibility to good apiary sites which are privately owned, and
(iv) Climate change: unfavourable weather conditions.
2. Inadequate human resource and capacity development
3. Lack of funding for: activities, salaries, infrastructure, equipment
4. Proper population and specific stakeholder group eg tourism sector, agriculture sector and fishery sector

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5. Lack of Training for the implementation of NBSAP

6. CHM not fully functional and lack of visibility among the public.
7. Lack of a common strategy for awareness on biodiversity conservation

8. No regulation for research on native terrestrial biodiversity

9. Measures implemented by the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping are relatively new measures being undertaken under the Mainstreaming Biodiversity Project and consist mainly of awarding contracts to international consultants for the preparation of action plans and/or management plans that would contain activities to be executed on a daily/monthly/yearly basis

for the protection, conservation, management and sustainable utilisation of marine biodiversity. The actions and/or management plans would only be implemented after having obtained cabinet approval.

Relevant websites, web links and files

https://blueconomy.govmu.org/Pages/Ministry.aspx
https://npcs.govmu.org/Pages/About%20Us/Vision-and-Mission.aspx
http://chiefcomm.rra.govmu.org/English/Pages/default.aspx
https://forestry.govmu.org/Documents/
Annual%20Report/(1)%20ANNUAL%20%20REPORT%20%20OF%20%20THE%20%20FORESTRY%20%20SERVICE%202018.pdf
Mauritius Clearing House Mechanism
Mauritian Wildlife Foundation

Review of the National Development Strategy for mainstreaming biodiversity values in the public sector

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

The Ministry of Housing and Land Use Planning (MHLUP) has prepared a National Development Strategy (NDS) for the Republic of Mauritius. The NDS provides the national planning framework of Mauritius over a twenty year horizon. It lays the basis for the formulation of the seven rural and five urban Development Plans. It is geared towards effective monitoring of physical development and environmental management at local level; and to provide a spatial framework for public sector investment programme. This NDS was approved by Government in 2005 and thus has the status of national policy. It is prepared under the provisions of the Planning and Development Act 2004. It seeks to translate the overall priorities and action plans of key stakeholders (including the Ministry responsible for Biodiversity) into a single harmonised planning development for the overall territory of Mauritius thereby mainstreaming biodiversity values across the key ministries/institutions. The NDS comprises a range of policies for nationally significant development and provides guidance for developing residential, tourism, a range of employment uses and major transport and infrastructure proposals. The NDS also provides guidance on where land should be protected or where caution should be exercised when determining if strategic development should go ahead. One of the key objectives of the NDS is to promote sustainable development which allows for the protection of the best quality agricultural land and of the environmentally sensitive areas. In this context, areas which are rich in biodiversity such as Nature Reserves, National Parks, Mountains, Forest Lands, Wetlands including RAMSAR sites and other sensitive green areas have been mapped digitally. Adverse developments affecting these areas' natural environment are not permitted. It is also to be noted that the national policies of the NDS are translated and strengthened into Outline Planning Schemes (OPS). (OPS) are local/regional plans and are the main tools used by Local Authorities (all the 7 District Councils and the 5 Municipal City Councils) in their day to day development control duties. Also, any person contemplating a development, for instance, scheme promoters, developers, planners, architects and other professionals should comply to the guidelines under the NDS and OPS when preparing their project proposals. The OPS recognise the nationally-ecological value of these environment sensitive areas and the successful protection of primary and marginal habitat which has aided in sustaining some of the country's rare and endangered species. The OPSs further supports the provision made in the **Native Terrestrial Biodiversity and National Parks Act 2015** to allow for some development supporting educational, leisure and tourism needs as well as visitor facilities, nature trails and research facilities.

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Moreover, the Government has appointed a team of experts for the review of the National Development Strategy (NDS). The new NDS will have a 20 year horizon of 2020-2040 and shall have regard to the NBSAP 2017-2025 in order to update the related spatial policies and plans. Also, the NDS review team will have stakeholder consultation meetings and workshops to discuss the priorities and action plan of various Ministries and organisations (including the National Parks and Conservation Service, NPCS). Once, the new NDS is approved by Government, then the Outline Planning Schemes (OPSs) will be reviewed, accordingly. Also the Land Based ESAs which have been mapped by the Ministry responsible for Environment and other Government organisations are in some way legally protected from development in the NDS and OPSs plans and policies. The MHLUP is awaiting the approval of ESA mainstreaming study by the Ministry responsible for Environment to update its policies and plans. MHLUP is also supporting the NPCS with respect to the UNESCO Biosphere Reserve Programme. Once the UNESCO Biosphere Reserve is approved by Government and Gazetted, the Outline Planning Schemes will be amended, accordingly to reflect the new zoning and its corresponding boundaries and policies.

National Target(s)

2. Integration of biodiversity values

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The NDS was approved by Government in 2005 and it has the status of national policy. It had been prepared under the provisions of the Planning and Development Act 2004 and covers the period up to 2020. Since this target cuts across other sectors and Ministries and Ministry of Housing and Land Use Planning has no expertise to assess the terrestrial component, the NDS is currently being reviewed. Moreover no tools or approaches have been used to assess progress towards this target at the level of the Ministry of Housing and Land Use Planning. EN

Relevant websites, links, and files

Mauritius Clearing-House Mechanism
https://www.cbd.int/doc/world/mu/mu-nbsap-v2-en.pdf
http://housing.govmu.org/English/DeptOrg/Divisions/Pages/Planning-Division0705-7504.aspx

Other relevant information

The NBSAP targets related to spatial planning will be mainstreamed in the New NDS, which is currently under preparation and which has a time frame from 2021 to 2040. A multi stakeholder committee comprising all Ministries related to environmental issues has been set up to oversee the new NDS. EN

Obstacles and scientific and technical needs related to the measure taken

- Inadequate human resource and capacity development.
- The Republic of Mauritius has limited and scarce land resources and encounters development pressure in and around ESA's.
- Moreover, as a SIDS, the Republic of Mauritius is vulnerable to the impacts of climate change.

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Expansion, redesignation and renaming of the Machabée Bel Ombre Biosphere Reserve for Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Mauritius made an application to the UNESCO Man and the Biosphere programme (UNESCO MAB) for the extension and redesignation of the Machabée Bel Ombre Biosphere Reserve (MBOBR) to Black River Gorges Bel Ombre Biosphere Reserve.

The MBOBR did not meet the criteria set up by UNESCO MAB. The latter decided to apply the exit strategy for the biosphere reserve. However, Mauritius was given the option to carry out the periodic review and provide substance to review the MBOBR in order to revitalize it and to keep the biosphere reserve status.

In September 2019, Mauritius submitted an application dossier for the nomination of Black River Gorges Bel Ombre Biosphere Reserve. The Biosphere Reserve was renamed and its area of **8,582.21 ha has been increased to include a core zone, a buffer zone and a transition zone.**

The CORE ZONE which is the Black River Gorges National Park (BRGNP) is home to most of the endemic species of flora and fauna and is legally protected under the Native Terrestrial Biodiversity and National Park Act 2015. The biosphere reserve contributes to the conservation of landscapes, ecosystems, species and genetic variation. The CORE ZONE of the Biosphere Reserve has been increased from 3777 ha to 6574 ha and which represent a total increase of 74 %.

The BUFFER ZONE adjoining the core area is used for activities compatible with sound ecological practices and in time can reinforce scientific research, monitoring, training and education. BUFFER ZONES would be proclaimed and included as Protected Area. This would contribute to increase our Protected Area Network from 4.725 % to 5.025%. As such contributing to Aichi Target 2,11 and 18.

The TRANSITION ZONE which is represented by St Martin- Bel Ombre village, the first village in Mauritius to be part of the UNESCO Biosphere Reserve, is the zone where activities fostering economic and human development that is sociocultural and ecologically sustainable are allowed. The TRANSITION ZONE has a coverage of 1511 ha.

The Biosphere Reserve will be the first initiative in Mauritius to reconcile the Protected Area with the local community. It will therefore also contribute to Aichi Target 18. In the current NBSAP and the CBD Fifth National Report, the Aichi Target 18 was not included. This will be the first attempt to amend this breach. The NPCS was the responsible organization to prepare and submit the dossier.

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National Target(s)

11. Protected areas
2. Integration of biodiversity values

tools or methodology used for the assessment of effectiveness above

Mauritius has been granted the extension of its existing biosphere reserve formerly known as the Machabee Bel Ombre Biosphere Reserve during the online meeting of the International Co-ordinating Council of UNESCO's Man and the Biosphere Programme from 27 to 28 October 2020.

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Relevant websites, links, and files

UNESCO website

Incentives implemented for the conservation and sustainable use of biodiversity taking into account the socio-economic aspect

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

In 2015, a **Zero budget natural farming project** was launched by the government of Mauritius. One of the key measures outlined in the Government programme for 2015-2019 with regard to agriculture refers to the promotion of natural farming and organic production in Mauritius. The vision of the government is to achieve 50% of vegetables and fruits produced as per bio norms by 2020. In order to promote bio-farming, various incentives and facilities are being provided to potential agri-entrepreneurs complying with specific guidelines. Biofarming development certificate and a package of incentives among which an 8-year tax holiday and exemption from various taxes and duties on importation of bio food inputs was also enunciated in the budget speech.

In addition to being a key element to sustainable agriculture production and a scientific step towards reducing chemical input in farming, zero budget natural farming addresses sustainability concerns and reminds that the solutions to the human made threats facing biodiversity reside in nature itself. The adoption of the zero budget natural farming techniques encourages local planters to produce high quality and nutritious food free of harmful chemicals and reduce risk of environmental damage associated with heavy reliance on agro chemicals.

In 2016, for the promotion of biofarming, measures like the compost subsidies scheme and the sheltered farming scheme have been introduced. The compost subsidy scheme encourages planters to shift from the use of chemical inputs to organic ones. On the other hand, the sheltered farming scheme encourages planters to undertake crop production under protected structures with climate change phenomenon; protected structures help producers to mitigate the outbreak of pest sand diseases dependence on agro-chemicals.

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One of the aims of Government is to transform Mauritius into an organic island in the near future, through different projects implemented by the Ministry of Agro-Industry and Food Security, as well as other institutions. Citizens will thus be encouraged to cultivate, as far as possible and without the use of any chemical product, vegetables in their backyard for their own consumption.
In order to reach Government’s objective, several incentives are being offered to planters to encourage them to shift from a conventional method to an organic one. One of these method is the bio-farming scheme whereby Government is financing all costs associated with the registration, certification and audit for those holders of a Bio-farming Development Certificate who would wish to acquire the international organic label for their farm produce. The launching of the Household Organic Garden project is part of a sensitisation campaign so as to encourage and enable the population to use the organic method of cultivation. All norms concerning organic agriculture will have to be adopted so as to ensure that every harvested product is healthy and of good quality.
The Bio Farming Support Scheme with funding of Rs 5 million as enunciated in Budget 2017/2018 to provide subsidy on the purchase price of bio inputs to small registered planters.
The scheme provides for up to 60% subsidy to small planters on the purchase price on bio inputs (bio fertilizer and bio pesticides) for a maximum of three crop cycles in a year. The aim is to encourage the utilisation and adoption of bio inputs by small planters in line with Government’s objective of converting 50% of food crop production system to bio norms by 2020 as well as bring the price of bio inputs at par with chemical inputs.

The objectives of the scheme are namely to enable the shift to organic farming through rendering the prices of organic inputs such as bio fertilizers, bio pesticides, accessible to planters and stop agricultural soil degradation while improving the quality of land through utilisation of bio inputs to increase agricultural productivity. It also aims to produce safer food for consumption for the benefit of customers and prevent pollution as well as promote environment stewardship.

Fruit Protection Scheme.

The Mauritius Fruit Bat, *Pteropus niger* is an endemic, endangered species which causes damage to lychee, mango and other tropical fruit crops in both orchards and backyard fruit trees across Mauritius.

It is perceived as a messy and noisy animal when feeding on fruit trees by many members in the public and effective and realistic solutions to the problem remain difficult to find. Traditional method such as burning tyres under the canopy, fire crackers etc. were seen to be not effective.

The Food and Agricultural Research Extension Institute (FAREI) under the aegis of Ministry of Agro-Industry and Food Security, has tried resolving this problem and since 2009 have provided substantial subsidies to growers in order to facilitate the purchase of nets to protect their fruit trees. The Fruit Protection Scheme was established to decrease damage on unprotected trees which was ranging between 30 to 50% of total yield (FAREI Report, 2019). This scheme was set up to facilitate purchase of nets at 25% of their cost. The scheme provides 75% subsidy and is currently eligible for those applicants who have not benefitted from the scheme during the past two years.

For 2018-2019, the number of beneficiaries were 3317. For the period 2019-2020, backyards owners are eligible for a maximum of 5 nets. However, those who have benefitted for 2017-2018-2018 season were not eligible. Thus, FAREI has advised growers to prune their trees after harvest and decrease their height as one method for alleviating their problem. Another facility provided by FAREI was the interface between growers and service providers for installing nets.

In Mauritius and Rodrigues, the Fisheries Division offers certain incentives to the fisher community namely the Bad Weather Allowance and Close Season Allowance. These allowances are not considered to be harmful to marine biodiversity as they are given to registered fishers so as not to capture fish on bad weather days or not to use their nets to capture fish during close season for net fishing.

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Research on fruit bat damage has shown that nets are effective in mitigating fruit bat damage only when they are appropriately placed to ensure full coverage of the tree. Consequently, there has been an increase in the demand for fruit bat net among the public. Although the government of Mauritius has invested massively in the fruit bat net scheme over the past decades, there still public outcry against fruit bat damage most predominantly in backyards. However, There is an urgent need to compliment further policies and more innovative technologies/ non lethal control strategies in order to mitigate the prevailing human-wildlife conflict and minimise fruit bat damage.

Biofarming is a proactive measure geared towards safe agricultural production. The implementation has experienced several level of success. It is to be noted that the vision sets by the government to achieve 50% of vegetables and fruit has not been attained. Biofarming is not still adopted on a wide scale by the farming community as compared to traditional agricultural practices which involve heavy use of agro-chemicals (pesticide and fertiliser).

-Setting up of a Technical Committee comprising of experts from different relevant stakeholders.

EN

Relevant websites, links, and files

Backyard Fruit Growers' workshop
Bio-Farming Promotion Scheme

Obstacles and scientific and technical needs related to the measure taken

-Low market demand and high price for agricultural products from biofarms.

EN

-Lack of marketing and awareness on biofarming.

-Anticipated high cost production for biofarms.

-Netting of tall backyard fruit trees is difficult, labour intensive and costly

-Inappropriate installation of nets results in fruit bat damage (fruit bats intrude through openings in nets and feed on fruits).

-Lack of know-how on orchard and tree management and cost:

-Awareness material (Pamphlets) at point of sale (for public and for private orchards)

-Hands on training of farmers/orchard growers

-Adoption of novel or modern technology

-Social media-platform for learning + sharing knowledge

Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius funded by UNDP/GEF and co-funded by government of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Mauritius forms part of the Western Indian Ocean Islands, one of the 25 internationally recognized global biodiversity "Hotspots". The tropical climate, topography and history of isolation of Mauritius, has resulted in the evolution of a diverse biota with high degree of endemism. However, land clearance and forest degradation has already impacted more than 90% of Mauritius Island's land surface. Most of the useable land on the island of Mauritius has been put to productive use, but coastal ecosystems and adjacent landscape still maintain their basic ecological functions.

In 2016, a project funded through a Global Environment Facility (GEF) grant of USD 4.66 million and with USD 13.39 million in co-financing (USD 9.4 million from the Government of Mauritius, and USD 7.75 million from other sources (NGO, private sector and UNDP) was initiated to mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management (CZM) and into the operations and policies of the tourism and physical development sectors through a 'land- and seascape wide' integrated management approach based on the Environmental Sensitive Areas' (ESAs) inventory and assessment. The operational closing date of the project is June 2022.

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UNDP, as the GEF Implementing Agency was designated to oversee and ensure quality assurance for the use of GEF resources. The Government of Mauritius as the Implementing Partner (IP) has designated the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping as the Lead Agency for the execution of the project. The aims of the project are to:

- Address threats to biodiversity and ecosystem function by ensuring that 27,000 ha marine and coastal Environmental Sensitive Areas (ESAs) are an integral part of planning and implementation mechanisms relating to coastal development and tourism sector.
- Mitigate the threats to marine and coastal biodiversity and protect fishery resources in at least 20,000 ha of seascapes through the improved management of Marine Protected Areas and no-take zone.
- Control erosion and ecosystem services restoration i.e erosion and soil loss reduction in 200h of erosion prone water sheds; and ecosystem services restoration in 100ha of coastal

wetlands.

National Target(s)

5. Loss of habitats

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The project is on good track to achieve its targets or even surpass these in some areas. The overall project implementation rate (including pre-encumbrance) is 82% with over 80% or the planned activities presented in its procurement plan already completed. EN

Relevant websites, links, and files

Mainstreaming biodiversity into the management of coastal zone in the Republic of Mauritius
PRODOC_4843 Mauritius Mainstreaming_110116_CLEARANCE (1) (2).docx (Mainstreaming biodiversity into the management of coastal zone in the Republic of Mauritius.)

Obstacles and scientific and technical needs related to the measure taken

The obstacles to achieve the project objectives are linked to indicators that are deemed " Not on Track " and these are:- EN

- Formalisation and enactment of bills and regulations . Wetland Bill is revised but awaiting validation and enactment.
- Formalization and implementation of the diverse Management Plans that have been developed (e.g for Marine Protected Areas (MPAs), RAMSAR Sites, District ICZM plans, Fishing Reserves).
- Engagement of stakeholders in mainstreaming.
- Inadequate legislation and regulatory framework.
- Unclear institutional responsibilities and implementation of ICZM and MPAs.
- Threats to biodiversity and ecosystem services through economic and development pressure.
- Limited financial sustainability of biodiversity conservation and protected areas.

Restoration and Sustainable Management of Forest Mauritius and Rodrigues

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Restoration area has increased significantly from 89 ha in 2012 to 646.3 ha in 2020, including National Parks, Nature Reserves, State Land and privately owned forest, through active management. Following the implementation of PAN project in 2010, 575.6 ha had been effectively managed as at the end of PAN Project in March 2018.

Government of Mauritius Strategic Plan 2018/19 – 2020/21.

A three year Strategic Plan 2018/19 – 2020/21 was presented by the Government of Mauritius to pursue the country transformation journey. EN

One of the medium and long term Goals in this strategic plan was to preserve the 47,000 ha of forests and natural parks and unique biodiversity of Mauritius. Forest and national parks biodiversity

is constantly exposed to threats arising from invasion of undesirable species.

A pertinent strategic direction in this plan is to preserve biodiversity by :-

- Enhancing forests and national parks through restoration and reforestation programmes and protect the unique flora and fauna from invasive species.
- Conduct a comprehensive forest inventory and provide basic amenities in natural parks to enhance eco-tourism.

In relation to biodiversity preservation, control of invasive species was identified as a key action in the Government program that will lead to an increase of land under conservation management (ha) from 575 ha in 2017/18, to 700 ha in 2018/19, to 800 ha in 2019/2020 and finally to 900 ha in 2020/21 i.e an increase by 100 ha annually.

Funds were made available for the rehabilitation of Nature Reserves and Parks (native terrestrial) in the strategic plan in the tune of Rs 18 million in 2018/2019, Rs 17 million in 2019/20 and Rs 16 million in 2020/21.

As at June 2020, 672.6 ha of forest has been brought under conservation management . Altough funds were available, the target of 900 ha set from 2017/2018 to 2019/2020 could not be achieved due to non-recruitment of labour force, transport and the outbreak of COVID -19.

Maintenance weeding are regularly carried out in the restored area. Restoration includes planting with native species, conservation of native fauna and control of Invasive Alien Species (IAS).

The re- nomination to Black River Gorges- Bel Ombre Biosphere Reserve and proclamation of 497.21 Ha as Buffer Zone around the Black River Gorges National Park comprising of both State and Private owned lands will also increase the acreage of restored area under conservation.

For Rodrigues island a total of 90 ha has been restored including both terrestrial and marine habitats. In Rodrigues, areas of Grande Montagne and Anse Quitor Reserves and in Mauritius, on Ile aux Aigrettes, Mondrain, and Round Island have been actively restored.

Several Memorandum of Understandings (MOUs) have been signed between Public, Private Sectors and also NGOs to encourage them and provide incentives for carrying out restoration within their area.

National Target(s)

5. Loss of habitats

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Budget measure for financial year 2018-2020 is not fully implemented due to limited resources both human and financial.

Area restored under actual Conservation Management Areas in Mauritius being reported yearly.

Area restored under different MoUs signed between Rodrigues Regional Assembly and relevant Stakeholders for Rodrigues.

EN

Other relevant information

Protected Area Network (PAN) project final report

Protected Area Network Expansion Strategy (PANES)

EN

Obstacles and scientific and technical needs related to the measure taken

Limited resources both human and financial. EN

Relevant websites, web links and files

Ministry of Agro Industry and Food Security
THE NATIVE TERRESTRIAL BIODIVERSITY AND NATIONAL PARKS ACT 2015
PROTECTED AREA NETWORK EXPANSION STRATEGY 2017 - 2026
Protected Endemic Sanctuaries
Mauritius Clearing House Mechanism
CBD Website

Legal framework for the Protection of Environmental Sensitive Areas (ESAs) in the Republic of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Enactment of Wetlands Bill

As to date, there is no stand-alone legislation framework that ensures the protection of our wetland natural resources in the Republic of Mauritius. During the past decade, rapid and irreversible land use changes owing to high socio-economic and development pressure have resulted in fragmentation of the wetland, habitat loss and most importantly backfilling.

The Government has thus prioritised the revision and enactment of a new Wetlands bill that will cater for a more appropriate legislation to reinforce the protection of our wetland natural resources occurring on both state land and privately owned land. As per the ESAs study commissioned by the Ministry of Environment, Solid Waste Management and Climate Change in 2008-09, fourteen types of ESAs were identified, grouped and classified under five ecological systems

An ESA Policy and Bill were also drafted, though these have not yet been promulgated. Six main coastal and marine ESA types are covered under this project

Under the GOM/UNDP/GEF project:" Mainstreaming Biodiversity into the Management of the Coastal Zone in the Republic of Mauritius", the Wetland Bill has been drafted and is under consultation with relevant stakeholders.

The objectives of the Bill are to:

(a) establish a mechanism for the creation, conservation, protection, and enhancement of the ecological character of all wetlands on both State and private lands in the Republic of Mauritius;

(b) identify and establish management goals for wetlands for protection and conservation of ecosystem services and biodiversity;

(c) provide a framework for the listing of Ramsar Wetlands under the *Convention on Wetlands of International Importance* (Ramsar Convention) and the protection, conservation and enhancement of any other wetland on both State and private lands;

(d) provide a framework for ensuring that the Republic of Mauritius complies with its international obligations under the *Convention on Wetlands of International Importance;*

(e) integrate ecosystem-based approaches to disaster risk reduction and climate change adaptation into the management of wetlands;

(f) provide a framework for making consistent, equitable and informed decisions about all wetlands;

(g) establish permitting and compliance requirements related to wetlands; and

(h) monitoring and reporting on the condition of all wetlands in the Republic of Mauritius.

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2.0 Enactment of Forests and Reserves Bill 2019

Under the FAO project TCP MAR 3602 '***Support to Forest Code Revision and Institutional Reform in Mauritius***' (August 2016 to March 2019), a revised Forests and Reserves Bill has been initiated by the Ministry of Agro-Industry and Food Security. The new Forests and Reserves Bill provides for a better management and protection of the forestry sector in Mauritius. It reflects the objectives under the National Forest Policy of 2006 and has been developed following an analysis of all the laws relating directly or indirectly to the forestry sector in Mauritius. It was drafted by taking into consideration all the feedback received from stakeholders under the project. Under the new bill, provisions have been made for a regular forest inventory, the proclamation of National Forests and additional Nature Reserves.

The final draft Forest and Reserves Bill has already been finalised and submitted to the Parent Ministry for endorsement prior to seeking necessary Cabinet/State Law Office approval and enactment through the Parliament.

National Target(s)

5. Loss of habitats

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

1.0 In respect of Wetlands Bill, inception workshops and bilateral meetings already being held.

The new revised Wetland Bill has been circulated for views and comments to relevant stakeholders including the lead agency; relevant ministries and private stakeholders. The Regulations are currently being worked out.

A first draft of the ESA digital maps with defined delineation has already been produced for Wetlands (uplands, marshy land, coastal wetlands including our Ramsar sites) and same circulated for views and comments to relevant stakeholders including the lead agency; relevant ministries and private stakeholders.

A Validation Workshop is planned to be held to validate the Wetlands bill by relevant stakeholders on board.

2.0 The status of the progress of drafting of Forests and Reserves Bill 2019 are reported in the Annual Report 2019 of the Forestry Service.

Forestry Service already submitted completion report for FAO project TCP 3602 on Forests and Reserves Bill 2019 expected to be enacted by 2021.

EN

Other relevant information

The steering committee to monitor progress of mainstreaming ICZM project which also includes drafting of the Wetlands bill as one of the key deliverables of the project has been established at the seat of the Ministry of fisheries and is fully functional.

EN

Obstacles and scientific and technical needs related to the measure taken

1. Lengthy procedure for both Wetlands and Forests and Reserves Bill to be translated into an Act

2. Expected opposition from the private Sector regarding the Forests and Reserves Bill proposals for protection of private forests

3. Lack of resources (human/financial)

4. Needs for capacity building to enable effective enforcement of both Acts

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Implementation of the Marine Spatial Planning (MSP) for the Republic of Mauritius (including Rodrigues island)

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

1.0 Implementation of a Coordinating Committee on MSP

A Coordinating Committee on MSP, including relevant Ministries, Departments and NGOs, was set up under the Chairmanship of the Director General of the Department for Continental Shelf, Maritime Zones Administration and Exploration (CSMZAE) which look into the Marine Spatial Plan for Mauritius. The Committee agreed to priorities some areas based on a baseline survey conducted among relevant stakeholders. Mauritius has so far established three technical working groups towards Marine Spatial Planning. Three Working Groups have been identified with the following themes: New Economic Activities; Conservation; and MSP Framework and Coordination of MSP related projects.

2.0 Development of an Ocean Observatory Database platform for Exclusive Economic Zone for the Republic of Mauritius

The Department for Continental Shelf, Maritime Zones Administration and Exploration, with the expertise of CSIRO Oceans & Atmosphere, has developed an **Ocean Observatory Database Platform** under the Indian Ocean Rim Association (IORA) project “*Developing an Enhanced Ocean Observatory in support of Ocean Exploration and Development*”. The Ocean Observatory Platform is designed to support the Marine Spatial Planning initiative of the Republic of Mauritius by providing a platform to collect, store, organise and provide access to spatio-temporal data relevant to ocean exploration and development. The platform will ensure that data meeting the needs of industry and government authorities can be easily accessed and analysed. By providing relevant information, the database will also help to sustainably manage the maritime zones of Mauritius through informed policy decisions.

The Ocean Observatory platform uses GeoNode, an open source Geospatial Content Management System, which allows data to be loaded into a geospatial database alongside connected metadata and document resources. The relationships between data, metadata and documents are maintained to ensure that it is easy for end users to discover and access data resources. In addition, GeoNode includes a web-based interface to allow simple discovery and management of spatial data and metadata as well as interactive mapping. GeoNode leverages existing security frameworks, is scalable and includes an administration console which makes it easy to manage resources and front-end settings.

This project has developed Ansible playbooks for automated, production-grade installation and configuration of the Ocean Observatory as a template for other developing nations.

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National Target(s)

6. Sustainable fisheries

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

1.0 Implementation of a Coordinating Committee on MSP

Mauritius has established three technical working groups towards Marine Spatial Planning with the following themes: New Economic Activities; Conservation; and MSP Framework and Coordination of MSP related projects.

These working groups are now focusing their actions on the new Economic Activities addressing issues related to aquaculture sites, marina development and tourism and recreational activities; Sustainable Development Goal 14 (SDG14) to achieve Target 14, that is conserving 10% of the marine area by 2020 and provide a relevant indicator for measurement; and mainstreaming Biodiversity Project–Establishing an electronic platform depicting geographical database concerning Environmentally Sensitive Areas within the framework of our Ocean Observatory. Mauritius Hydrographic Service (MHS) is an integral part of the working groups. The bathymetry data collected by MHS is shared with MOI and Mauritius Met Office for the development of a robust Tsunami Surge model. MHS also works collaborates with National Disaster Risk Reduction and Management Centre (NDRRMC) towards certain technical issues.

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2.0 **Development of an Ocean Observatory Database platform for Exclusive Economic Zone for the Republic of Mauritius**

The Ocean Observatory Database platform by the Government Intranet System (GINS) is already accessible by Ministries and Departments.

Relevant websites, links, and files

COUNTRY REPORT – MAURITIUS 16 th MEETING OF SOUTH AFRICAN ISLANDS HYDROGRAPHIC COMMISSION (2019)
IORA Conference on Marine Spatial Planning

Other relevant website address or attached documents

Marine Spatial Planning an Excellent Strategy for the Development of Oceanic Resources, by Minister Mentor
Mauritius Ocean Observatory platform for Marine Spatial Planning

Obstacles and scientific and technical needs related to the measure taken

The main challenge faced while implementing MSP is the lack of data in some areas in the EEZ of Mauritius. However, satellite imagery is being used to provide baseline information in remote regions. EN

Seasonal closure of octopus fishery in Mauritius and Rodrigues

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Along the coastal areas of the Republic of Mauritius, octopus fishery has a crucial part to play in the livelihoods and way of living for the fisherman community. However unsustainable fishing practices may cause a significant reduction in species abundance which may drive the Octopus to extinction and jeopardize the livelihoods of the local artisanal fishers. The Fisheries and Marine Resources Act was amended in 2016 to make provision for the octopus fishing closure in Mauritius. For Mauritius, close season for octopus fishing starts on 15 August and ends on 15 October each year, whilst in Rodrigues, there are two close seasons; the first period starts on 15 January and ends on 15 March and the second period starts on 15 August and ends on 15 October every year. EN

National Target(s)

4. Use of natural resources
6. Sustainable fisheries
12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

The implementation of this measure proved to be effective since the annual octopus catch increased from **25 tons to 39 tons** from **2015 to 2017**. It was also pointed out that in 2017, the average octopus weight before closing was 312 g and at the reopening of octopus fishery, the average weight was 1124 g, thereby indicating an increase in weight. EN

Relevant websites, links, and files

http://www.govmu.org/English/News/Pages/Octopus-fishery-reopens-after-two-months%E2%80%99-ban.aspx
https://blueventures.org/wp-content/uploads/2017/01/Jhangeer-Khan_et_al_2015_Managing_Octopus_Fisheries_Through_Seasonal_Closures_Rodrigues.pdf

Obstacles and scientific and technical needs related to the measure taken

Reluctance of fisher community in Mauritius to accept and implement the octopus closure season in the absence of any subsidy and or compensation to substitute for the economic loss (livelihood) incurred during the closure season. However, it is to be acknowledged that fisher community in Rodrigues are given alternatives to earn their livelihood (agricultural activities).

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Relevant websites, web links and files

FISHERIES AND MARINE RESOURCES ACT Regulations made by the Minister under section 74(1)(f) and (j) of the Fisheries and Marine Resources Act

Sustainable Forestry Programme

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Restoration of river areas with indigenous species to reduce erosion and restore ecological corridors from mountain to sea

The Forestry Service (FS) is sequentially moving towards sustainable forestry practices (Forestry Service 2014), with a pledge to:

- Improve the management, protection, rational use and diversification of forest resources;
- Protecting the environmentally sensitive area (ESAs) in forests to reduce soil degradation and enhance water conservation to ensure a steady supply of clean and fresh water for domestic and other purposes.
- Preserving our rich heritage of native species of plants, birds and animals
- Developing facilities in forests for leisure and recreation.

Also, in line with the National Forest Policy (2006), timber exploitation is gradually being phased out in Mauritius and the exotic timber yielding species are continuously being replaced by native species (MAIFS 2015b).

For instance, from 2015 to January 2020, approximately 6.5 ha of River Banks have been weeded and replanted with native species (including approximately 5 ha along Takamaka River Bank and 1.5 ha at Grand River North west).

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Provision of incentives are given to private land owner for the restoration of river reserves. E.g. Clearance for removal of invasive species and free issue of 2000 native plants to a private institution for the restoration of approximately 5 ha of Jacotet River. Technical advice on species selection and planting techniques are also provided by the forestry services.

2.0 GEF 6 project proposal: Mainstreaming Sustainable Land Management (SLM) and Biodiversity Conservation in the Republic of Mauritius

- The objective of the project concept aims to scale up the adoption of sustainable land management (SLM) in production landscapes across Mauritius and Rodrigues. The project will tackle the main drivers of Mauritius's land degradation and ecosystems services deterioration and loss, including: deforestation and conversion of land for pasture, agriculture and settlement; intensification and adoption of unsustainable agricultural

practices; overgrazing of livestock; recurrent wildfires; habitat fragmentation; and climate change.

- Through the adoption of a comprehensive, inter-sector approach to scale-up SLM technologies across all the islands, the project will catalyse improved management and conservation of production landscapes—while providing downstream benefits in riverine, coastal and marine habitat.

National Target(s)

7. Areas under sustainable management

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Project Identification Form (PIF) approved and Project Preparation Grant (PPG) has been submitted for approval.

Progress made in terms of areas restored and sustainable forestry and agroforestry practices (agroforestry).

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Implementation of a Sustainable agricultural programme for the Republic of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Sustainable farming practices (Organic farming)

Organic Farming has been developed including an integrated approach to soil fertility management, and which relies on a range of biodiversity conservation practices. Government a has provided a number of schemes to promote bio-farming and As at December 2019, 12ha of agricultural land is under bio-farming production. Presently, organic farming in Mauritius is still at its infant stage of development. In line with government policy to encourage producers to gradually shift to organic farming, research at Food and Agricultural Research Extension Institute (FAREI) is in progress for improving soil health and structure using soil amendments, developing organic fertiliser packages for vegetable crops and use of integrated approach to soil fertility management. Organic fertiliser packages have been developed for fifteen (15) crops. The organic fertiliser package developed comprises of a combination of: Crop rotation/mixed cropping including legumes, soil conservation practices, incorporation of manure/compost and organic fertilisers. Organic fertilisers found effective have been recommended to organic growers. Since the certification process is being in force in Mauritius, only certified products (which need to be certified by an accredited certifying body) are allowed for use in organic farming. One Research Station and two (2) Model Farms of FAREI are being certified according to Canadian Organic Regime (COR). Farmers have been trained for adopting organic farming through the following: Conduct tours carried out, Technology Review Meetings done, a research station has been used as a Demonstration Centre. A series of publications were prepared and distributed to planters.

2.0 Establishment of the MauriGap Certification Standard (MS 184:2015) for agricultural produce for the Republic of Mauritius

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MauriGAP Certification is presently being carried out by the **Mauritius Agricultural Certification Body (MACB)**. The MauriGAP certification system which have three levels of standards is based on Good Agricultural Practices (GAPs).

MauriGAP level 2 has been published in 2019 and is of a higher level than the level 1 in terms of higher level of risk assessment and critical points. Residue analysis is on all products to be certified and all analytical tests will be carried out by the applicant.

MauriGAP level 3 is being finalized and will be published in 2020. It is of a higher level that the previous two levels and has as benchmark the Global G.A.P standards. It is more stringent in terms of critical points for the different requirements.

Currently only MauriGAP level 1 and MauriGAP level 2 standards have been finalized by the Mauritius Standard Bureau (MSB). The MauriGAP (MS184:2015) level 1 was published in 2015. It takes into account local realities and provide a minimum achievable level of assurance and reliability acceptable to the local market. It establishes basic requirements for sustainable crop production, focusing on Good Agricultural Practices for food safety, environmental stewardship and farmer/worker welfare. It aims to be a stepping stone towards international production standards viz. GLOBALG.A.P. It offers producers an entry-level recognition that is adapted from the LOCALG.A.P of the GLOBALG.A.P and thus agricultural produces have the added advantage to market agricultural produce bearing the MauriG.A.P certificate at a remunerative price on the local market including the hotelier sector. The Standard applies to open field and protected field cultivation as well as to hydroponics. It is used for inspection and certification purposes of the crop production process from production to farm.

The MauriGAP standard is a voluntary standard as such there is no enforcement measures provided by law. The monitoring of the compliance is carried out through two audits of the 68 control points in the MauriGAP level 1 Standard. The first audit is effected just after the processing of the application of the operator and second one is a surprise audit which is carried randomly during the year. The following Table provides the number of audits effected since 2016 by the MACB. In the event that the operator/farmer do not comply with the Standard after an audit, the latter is given 28 days to make necessary amendments. In the event, the operator is still non –complying to the Standard, the MauriGAP certificate is withdrawn.

S/N	Year	No of Audits
1	2016	2
2	2017	68
3	2018	130
4	2019	110

National Target(s)

7. Areas under sustainable management

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

1.0 Sustainable farming practices (Organic farming)

1. A series of publications has been prepared for awareness and sensitisation amongst the farming and scientific community.

2. Conducted tours have been carried out with farmers community.

3. Technology Review Meetings effected.

4. Workshop on Biofarming Approaches and Practices for farmers conducted.

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2.0 Establishment of the MauriGap Certification Standard (MS 184:2015) for agricultural produce for the Republic of Mauritius

There are 55 MauriG.A.P level 1 certified operators and as at date, no application for certification to MauriG.A.P level 2 has been obtained. The percentage of certified operator is 0.02% with respect to 3000 farmers registered with FAREI.

Relevant websites, links, and files

Bio Farming
SFWF- Bio Farming Support Scheme
Sensitization Campaign on the Use of Pesticides Bill
Scheme

Obstacles and scientific and technical needs related to the measure taken

1. No facilities available at FAREI for chemical and microbiological analysis of soil.
2. High cost of production and shortage of labour with respect to organic farming.
3. Limited availability of organic inputs.
4. Tropical climatic conditions highly favourable for plant pests and diseases occurrence.
5. Limited availability of organic seeds and planting materials.
6. High cost of inspection and certification.
7. Low and irregular production and supply of organic produce.
8. The interest for shifting from conventional farming to alternate, more sustainable farming practices (including organic farming) is restricted to a few farmers given the limited incentives, limited technical support and organic inputs. A pro-active policy framework, with incentives for pro-biodiversity practices and disincentives for harmful practices, is needed to support the opportunity cost e.g. training, certification cost, loss of productivity) for shifting towards environmentally friendly food production systems.

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Pollution minimisation implementation programme for the Republic of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Enactment of Pesticides Use Act 2018

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A Comprehensive Freshwater and marine Pollution Minimisation Programme is developed and adopted for the Republic of Mauritius through the enactment and enforcement of a robust legislation that regulates the use and discharge of chemical contaminants such as pesticide. The National Target addresses pollution problems caused through the excessive use of pesticides in agricultural practices and leachate caused thereof through run off into water acquifers, wetlands or marshy areas and the lagoons resulting in biodiversity loss and ecosystem dysfunctioning.

In order to address the excessive and unregulated use of pesticides, the Government of Mauritius prescribed and enacted the Use of Pesticides Act 2018 (No. 8 of 2018). The enactment of such an Act has reinforced the legislation (to regulate, control and monitor the use of pesticides) and awareness among the farmers community on the judicious and regulated use of pesticide to safeguard public health and combat pollution problems caused as a result of excessive nutrient discharge in our water bodies, acquifers, wetlands, coastal mangroves and the lagoons.

The Food Agricultural Research and Extension Institute (FAREI) recommends on the use of pesticides for control of pests (insects, diseases, and weeds) and contributes to the list of pesticides allowed for use in crops in the first schedule of the Use of Pesticide Act 2018. The FAREI is also responsible for training of farmers and pesticide operators (retailers and sprayer men) on pesticide application and use.

National Target(s)

8. Pollution

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The measure described above has been partially effective since the enactment of the law on the Use of Pesticide has been recently enacted in 2018 and thus still a premature law in terms of its full implementation. The Pesticides Regulatory Office in accordance to the provision of the legislation has been established and operational.

The tools/methodology used for the assessment of the effectiveness of the measure described above is based on; [a] the statistic and trends on pesticide residue level analysis recorded since enactment of the law, [b] good agricultural practices adopted by farming community and [c] number of contraventions issued for non-compliance of relevant sections of the law.

So far, 56 training sessions were carried out by Food Agricultural Research and Extension Institute (FAREI) on pesticide application and 1168 farmers have been trained.

The present recommendations for judicious pesticide use is listed in the Guide Agricole launched by FAREI in December 2019.

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Relevant websites, links, and files

Portal Government of Mauritius
Ministry of Agro Industry and Food Security website
Sensitization Campaign on the Use of Pesticides Bill
Hydroponics Mauritius

Other relevant information

1. Monitoring programme-by Water Resources Unit (All test on water quality)
2. Food Technology Laboratory/Agricultural Chemistry Division Ministry Reports
3. List of chemicals banned under the Dangerous Chemical Board

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Obstacles and scientific and technical needs related to the measure taken

The implementation of the Use of Pesticide Act 2018 requires a robust resource mobilisation strategy or plan with

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adequate administrative, financial and other logistic [laboratory facilities] for its successful adoption and enforcement. Human resource needs in terms of capacity building and laboratory equipment and research remains priority needs.

Institutional responsibilities NOT clearly defined and Pesticides Regulatory Office NOT fully functional.

Comprehensive Marine Debris Management programme

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 South-East Islets Cleaning and Sensitisation Project.

The National Parks and Conservation Service has an ongoing South East Islets restoration, sensitisation and cleaning programme as part of the islets conservation programme.

In 2017, the Mauritian Wildlife Foundation initiated the Southeast Islets Sensitisation project ((funded by European Union through the Indian Ocean Commission, IOC) in collaboration with NPCS and Forestry Service to work with the local community to reduce human-mediated threats to biodiversity on the southeast islets namely Ile aux Aigrettes, Ile aux Fouquets, Ile aux Mariannes, Ilot Vacoas and Ile de La Passe. A Training programme targeting leisure boat skippers, fisher, the National Coast Guard (NCG) and private boat owners was undertaken in view of reducing littering, fire, trampling, introduction of exotic species to the islets and unauthorized access to closed islets, in order to safeguard the islets' biodiversity. Appropriate biosecurity measures in terms of quarantine practices were reinforced for visitors on the islets. Certificates were awarded in the year 2018 to participants upon completion of the training programme.

The cleaning of the islets was undertaken by NPCS and MWF on a fortnightly basis in 2017 using the National Coast Guard (NCG) and the MWF Boats. During each expedition, one National Park and Conservation Service Officer and two General Workers were delegated to carry out litter collection and monitor the weight of litter being collected on each islet.

It is to be noted that cleaning of South-East Islets is now carried out by the National Parks and Conservation Service (NPCS) and funded under the capital budget earmarked for Islet Conservation Management Programme.

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2.0 **Evaluating the Anthropogenic Accumulation of Micro-Plastics across Mauritian Waters**

Plastic pollution has been identified as one of the alarming issues that we should keep track of as it is the biggest threat to the marine biodiversity and humans; being at the top of the food chain. According to the World Economic Forum 2016, it is estimated that the ocean would contain 1 tonne of plastic for every 3 tonnes of fish by 2025 and more plastics than fish in the ocean by 2050 (by weight) if no action is taken. To keep tract of the extent of plastic pollution in our waters, Mauritius Oceanography Institute (MOI) pioneered the first ever **Microplastic Observatory** in the world.

The Mauritius Oceanography Institute embarked on a two- year investigation on microplastics in sea surface waters since July 2017. While there is a growing interest in the study of microplastics and their possible impacts on the marine environment, the methodology for assessing their occurrence and monitoring is still under development. The first year of the project was entirely dedicated in setting up a methodology for sampling and analysis of microplastics adapted to the pollution level in our waters.

Definition on microplastics by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP): *Plastic particles <5mm in diameter, which includes particles in the nano size range (1nm)*

Once the experimental approach was optimised, two distinct set of experiments were performed. Firstly, the distribution of these persistent particles was assessed around Mauritius. Samples were collected both in the shallow lagoon and in off-shore waters. The sites surveyed are Albion, Trou aux Biches, Grand River South East, Mahebourg, Gris Gris and Le Morne and sampling carried out using plankton net. After different chemical treatments, microplastics were removed from the seawater samples. Identification was performed on an optical microscope and the particles were categorised under five types based on their morphological characteristics: Pellet, Fragment, Foam, Film and Fibre. The results show some interesting patterns. Firstly, the **amount of microplastics is almost ten-fold higher in offshore waters than in the lagoon.** This trend was observed in the other sites investigated. Secondly, **the amount of plastic is much higher on the west coast of Mauritius**.

Marine debris within the Saint Brandon Archipelago was assessed, demonstrating that the 50,000 items detected were most likely from Southeast Asia, the Indian sub-continent, and the countries on the Arabian Sea with 79% of the debris being plastic. However, persistent organic pollutants within the top predators in the ecosystem (seabirds) remains relatively low. (Bouwman et al;2016)

National Target(s)

6. Sustainable fisheries
8. Pollution

tools or methodology used for the assessment of effectiveness above

1.0 South-East Islets Sensitisation Project and cleaning of islets

I. In the year 2017, 24 Trips have been effected for the cleaning of these islets.
II. Through the Southeast islets sensitization project (IOC funded project) MWF and NPCS have worked jointly in the design of signage on Ile aux Fouquets and Ilot Vacoas and procurement procedures for informative boards was launched to sensitise visitors about the unique endemic and native species found on the islets and actions to avoid (such as littering which is a key issue) in order to help safeguard the islets's biodiversity and the southeast lagoon.

III. A total of 262.4 kg of debris have been collected on the South-East Islets for the month of November and December 2019.

2.0 Evaluating the Anthropogenic Accumulation of Micro-Plastics across Mauritian Waters
I. Since August 2018, surface water samples are being collected on a monthly basis at an off-shore station in Albion. The data is still being analysed and the results are expected to be made freely available on the MOI website by the year 2020.

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Relevant websites, links, and files

Microplastics Marine Pollution MOI MAR 2020.pdf (Microplastics)
Report on South east cleaning 2019.docx and data.docx (Islets debris)
The flip-or-flop boutique: Marine debris on the shores of St Brandon's rock an isolated tropical atoll in the Indian Ocean
Perfluoroalkyl substances (PFAS) in tern eggs from St. Brandon's Atoll, Indian Ocean. Marine Pollution Bulletin
RODRIGUES REGIONAL ASSEMBLY (BANNING OF DISPOSABLE PLASTIC FOOD ITEMS) REGULATIONS 2019
Rodrigues regional assembly (prohibition of use of plastic bags) regulations 2014

Obstacles and scientific and technical needs related to the measure taken

1. Lack of resources (funding, logistic and human) to sustain (a) south east islets cleaning and sensitization campaign and (b) Evaluating the Anthropogenic Accumulation of Micro-Plastics across Mauritian Waters in the long run
2. Act of vandalism resulting in destruction of sensitization-information boards placed on

EN

offshore islets

3. Capacity Building (advanced technology) for further in-depth investigation of Evaluating the Anthropogenic Accumulation of Micro-Plastics across Mauritian Waters and addressing the issue of micro-plastic pollution within the realm of Mauritian waters.

Proclamation of regulation on banning of plastic bags and control of single use plastic products in Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

To sensitize the population on the two forthcoming regulations on plastics, the Ministry of

Environment, Solid Waste Management and Climate Change launched its sensitisation campaign yesterday, 15 October 2020, through a press conference and an expo-vente on alternatives to single use plastic products and plastic bags.

The two regulations are:

(i) Environment Protection (Banning of Plastic Bags) Regulations 2020 (made by the Minister under section 96 of the Environment Protection Act), which shall come into operation on 01 March 2021;

(ii) Environment Protection (Control of Single Use Plastic Products) Regulations 2020, which shall come into operation on 15 January 2021 (except for items mentioned at Part II of the Second Schedule which shall come into operation on 15 April 2021).

The above regulations will regulate the use of plastic in Mauritius (excluding Rodrigues) in an endeavor to minimize and/or control plastic pollution and make Mauritius a plastic free country in accordance with the provisions as per below:

Subject to paragraph (2) and regulation 5, "*No person shall possess, use, distribute, sell, export, import, manufacture or supply a plastic bag.*"

No person shall import or manufacture an exempt plastic bag unless he is registered with the Director

No person shall import or manufacture a biodegradable or compostable plastic bag unless he – (a) is registered with the Director; and Government Notices 2020 601 OliImac2 / Govt Notices 2020 / The Environment Protection (Banning of Plastic Bags) Regulations 2020 4th Proof 01.09.20 OliImac2 / Govt Notices 2020 / The Environment Protection (Banning of Plastic Bags) Regulations 2020 4th Proof 01.09.20 (b) has obtained clearance from the Director and upon obtaining a CERTIFICATE of Registration.

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The Sensitisation Campaign on Alternatives to Single Use Plastic Products and Plastic Bags was launched by the Ministry of Environment, Solid Waste Management and Climate Change during a press conference in October 2020 by the Honourable Minister. The latter emphasised on the dreadful impacts of the plastic pollution and the firm commitment of the Government in its Programme 2020-2024 to make Mauritius a plastic free country. He further added that the new regulations were a bold step forward to achieving the goal of the Government.

Offences and fines as at Section 14 of the regulation on Banning of Plastic Bags

The Control of Single Use Plastic Products Regulations 2020 aims to promote the use of "biodegradable single use product" manufactured from any material other than plastic and through a certificate of registration.

Other support of the Government for achieving this initiative are:

capacity building of individuals and entrepreneurs for the production of alternatives to single use plastic bags and products.

Sensitisation materials (radio spot, TV clip; video clip and posters

Expo-vente opened to the public free of charge from 10 00 hours to 15 00 hours on Thursday 15 October and Friday 16 October 2020 on alternatives to single use plastic products and plastic bags at the Esplanade of the Emmanuel Anquetil Building, Port Louis. The expo-vente was organised in collaboration with the Ministry of Industrial Development, SMEs

and Cooperatives. 24 exhibitors participated in the expo-vente to showcase and sell alternative products to single use plastic and plastic bags.

In 2014, the Rodrigues Regional Assembly implemented an effective ban on the (a) possession or use; (b) distribution or selling; or (c) manufacture, import or stockpile of a plastic carry bags, or a pocket-type plastic bag, of any size or colour. This ban was supported by RRA passed Regulation: Rodrigues regional assembly (prohibition of use of plastic bags) regulations 2014. In 2019, the above ban was extended to all single-use food-related plastic items such as plastic forks, spoons, plates, cups, take-away containers, under the: RODRIGUES REGIONAL ASSEMBLY (BANNING OF DISPOSABLE PLASTIC FOOD ITEMS) REGULATIONS 2019. Work is currently underway to extend these bans to include plastic flowers. These regulations have drastically reduced the amount of plastic waste finding its way onto the marine ecosystem, with obvious positive results on Marine fauna that are susceptible to ingesting plastic waste. This has also reduced the amount of plastic waste that requires disposal in landfills.

National Target(s)

8. Pollution

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Unknown

tools or methodology used for the assessment of effectiveness above

Regulation 2020 on Banning of Plastic Bags use in Mauritius Regulations 2020 shall come into operation on 01 March 2021;

Regulation 2020 on Control of Single Use Plastic Products) shall come into operation on 15 January 2021 (except for items mentioned at Part II of the Second Schedule which shall come into operation on 15 April 2021).

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Relevant websites, links, and files

Regulation 2020 on banning of pastics and control of single plastic use in Mauritius
Gazetted Environment Protection (Control of single use plastic products) Regulations 2020.pdf (National Target 8)
GN 197 of 2020 - Environment Protection (Banning of Plastic Bags) Regulations 2020.pdf (National Target 8)

Mainstreaming IAS prevention, control and management for the Republic of Mauritius

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

1.0 Implementation of the National Invasive Alien Species Strategy and Action Plan (NIASSAP 2018-2024) for the Republic of Mauritius

The National Invasive Alien Species Strategy and Action Plan (NIASSAP 2018-2024) for the Republic of Mauritius presents a vision in which the negative impacts of IAS on the economy, environment and society are avoided, eliminated or minimized through a consolidated effort of the Mauritian nation. An integrated ‘biosecurity approach’ is required so that biological invasions are managed in a systematic manner based on risk analysis.

Revision and updating of the current NIASSAAP (transcribed in an integrated biosecurity approach) with progress assessed, gaps identified (including marine IAS) and activities and fully costed with precise timeline for

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implementation for both terrestrial and marine IAS is a key measure through mainstreaming IAS prevention, control and management.

Mainstreaming IAS prevention, control and management is a 6 years GEF-UNDP funded project funded to the tune of USD 3,888,265 with co-financing from government funding mobilized to the tune of USD 17,003,000.

The Project objective is to safeguard globally significant biodiversity in vulnerable ecosystems through the prevention, control and management of Invasive Alien Species (IAS) in the Republic of Mauritius.

The Project identifies three impact pathways: the first creates the policy and institutional frameworks needed for effective prevention, control and management of IAS to secure ecosystem goods and services currently under pressure from IAS. It builds the right enabling environments (policies, institutional coordination) for mainstreaming IAS prevention, control and management. The second puts in place a multi-tier strategy for effective tackling of IAS that includes improved preventative measures at points of entry into the country and inter-Islands, early detection and rapid response programs to eradicate new incursions and improved capacity to upscale proven methodologies for managing IAS on a landscape level. The third provides up-to-date information for raising public awareness to enhance understanding of the centrality of IAS programs for protecting biodiversity, ecosystems, the economy and livelihoods. It also ensures that knowledge management supports monitoring, assessment and learning and forms the basis of adaptive project implementation, achievement of results, impacts and upscaling of experiences in the Republic of Mauritius and in the region. This will ensure that the interventions of the project inform and impact the behaviours and approaches of a wider IAS constituency.

2.0 Establishment of the Statutory IAS Committee

A comprehensive risk assessment system through the establishment of the Statutory IAS Committee under section 30 of Native Terrestrial Biodiversity and National Parks Act 2015 serves to (1) assess the risks that new species proposed for importation to the RoM or moved between its islands may become invasive (border control), and (2) assess the risks associated with species already present in the RoM but which may not yet have become invasive there (management prioritisation). Species identified by formal risk assessment as having high invasiveness potential in the RoM are refused permission for importation or for translocation between its islands.

National Target(s)

9. Invasive Alien Species

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

1.0 Implementation of the National Invasive Alien Species Strategy and Action Plan (NIASSAP 2018-2024) for the Republic of Mauritius

The revision of the NIASSAP 2018-2024 has been partially achieved since the Pro-doc has recently been endorsed by UNDP and project still ongoing and on track to meet project timeline and set deliverables. The Local Project Appraisal Committee Meeting under the chairmanship of the ministry of Agroindustry and FS approved and endorsed the project operational and implementation plan including log frame, budget and deliverables in August 2019. Establishment of the Project Management Unit and the full operation of Project Board [Project Steering Committee] in the pipeline.

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2.0 Establishment of the Statutory IAS Committee

The assessment of the effectiveness of the measure above is based on the number of IAS clearances issued and the number of applications denied/Not approved for the importation of exotic wildlife in the country.

Obstacles and scientific and technical needs related to the measure taken

Unforeseen circumstances resulted in delayed project time lag due to obstacles faced in setting up of Project Steering Committee and Project Management Unit (PMU) to proceed with timely recruitment of project manager and project chief technical officer for mainstreaming IAS Control, Prevention and Management.

However, it is to be recognised that upon successful endorsement of the Pro-doc by GEF Council, the project progress has resumed and recruitment of project management unit in the pipeline.

Capacity building for scientific and technical cadre in relation to IAS screening, identification, risk assessment and evaluation is necessitated for more robust assessment and evaluation of request for importation of exotic wildlife. The regulation for IAS control has not been drafted as to yet. Furthermore, there is no standardised Black List for IAS species for Mauritius including CITES listed species.

Training in key areas such as international, national and inter-island laws, policies and institutions, global standards and best practices for early detection and prevention of spread/eradication, risk analysis, technologies and techniques for identification, monitoring and surveillance, ecological and socio-economic impact assessment, contingency planning, integrated IAS management and ecosystem restoration. IAS tools and manuals needs to be developed to complement training courses and for use in day to day IAS management operations.

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Relevant websites, web links and files

UNDP in Mauritius & Seychelles website

Coral Reefs Restoration Programme

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future

A concrete measure adopted and implemented by Republic of Mauritius in an attempt to reverse and remediate coral reef degradation problem resulting from ocean acidification and climate change; is coral reef rehabilitation to meet a changing climate change.

Mauritius embarked on a big-scale regional coral farming project entitled "Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future" facilitated by UNDP and funded under AFB Project Formulation Grant in collaboration with Seychelles.

Along the same vein, with a view to rehabilitate the degraded coral reef areas of the Blue Bay Marine Park, the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping has set up five coral nurseries that can accommodate-culture 2500 coral fragments. Furthermore, an additional five coral nurseries capacitated to culture 2600 coral fragments each under the "Community-Based Coral Culture Project for the Republic of Mauritius" at Albion, Grand Gaube, Quatre Soeurs, Baie du Cap and La Gaulette. Besides, one coral nursery has also been set up in the Balaclava Marine Park and another one in Trou aux Biches.

2.0 Rehabilitation of Mauritius Coastal Zone through artificial reef installation

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Beach Erosion is recognized as a recurrent problem encountered within the coastal areas of the Island. Such intensive erosion is evidenced Mon Choisy Beach which is losing about 1-2 meters of beach width/year due to failure of beach function and increasing sea levels.
Installation of 995 artificial reef units (Diameter 2.1m and height 1.8 m) to (Diameter 1.8m and height 1.3 m) UNDP GEF Project under Climate Change Adaptation Programme in the Coastal Zone of Mauritius with a funding grant of USD 8,404,830 (excl. UNDP Mgt Fee and Seychelles) covering period 31 Aug 2012 to 30 Aug 2019 (6 Years) with Financial Closure 31 March 2020 Budget 2019: USD 3.9 Million.

National Target(s)

10. Vulnerable ecosystems

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

1.0 Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future

Coral farming was undertaken for the first time in Mauritius in 2008. In fact, a pilot project was started in 2008 by the Albion Fisheries Research Centre of the then Ministry of Fisheries in the lagoon of Albion. The main objective of the project was to farm corals in ocean based nurseries whereby five (5) basal tables were placed in the lagoon of Albion in July 2008 and coral fragments were fixed to the tables in September 2008. 25 fragments of corals from 12 different species were placed on each of the five tables and were observed on a monthly basis to note the growth and status of the coral fragments until till December 2009.

Following the success of the pilot project, the Ministry decided to continue the project in other regions around Mauritius. Under the Africa Climate Change Adaptation Programme, the Ministry has acquired a funding of MUR 1.2 million to carry out coral farming at five sites in Mauritius and Rodrigues. In Mauritius the three sites are Pointe aux Sables, Trou aux Biches and Albion while at Rodrigues the sites are: Graviers and Hermitage. The project was on-going until December 2012.

In 2012, the basal tables were upgraded to galvanised basal iron tables, which could hold 100 coral fragments, and five of these tables were placed in three sites namely: Trou aux Biches, Balaclava Marine Park and Blue Bay Marine Park. The Blue Bay Marine Park which showed a successful coral growth rate of 70% as compared to the nurseries at the other sites.

In line of this success, in 2016 and early 2017, 4 coral nurseries each consisting of 5 new galvanised iron basal tables have been added to the Blue Bay Marine Park (BBMP) to increase the number of coral nurseries using the government fund and corals have been transplanted to a degraded area in the BBMP.

Currently, **5** coral nurseries which can accommodate 2500 coral fragments have already been installed at selected sited in the Blue Bay Marine Park. However, as at date, 1500 coral fragments have been fixed on the basa1 tables and another 500 coral fragments have been fixed on polypropylene ropes as a trial.

Out of the 1500 coral fragments fixed in 2017, about 350 coral fragments were transplanted to a degraded area in the Strict Conservation Zone A of the BBMP in 2018. The remaining coral colonies that successfully survived were used as donor colonies to re-establish the coral nurseries.

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In February 2020, about 300 coral fragments successfully grown on the polypropylene ropes nursery was transplanted to another degraded area of the Strict Conservation Zone of the BBMP.

In 2018, **1** new nursery consisting of 5 basal tables was set up in Trou aux Biches as a demonstration to commemorate the visit of the Secretary General of the Commonwealth Heads of Government Meeting (CHOGM). The coral nursery accommodated 500 coral fragments that have been fixed on polypropylene ropes. Monitoring of the coral nursery at Trou aux Biches has shown positive growth results.

The successfully grown coral fragments has been planned to be transplanted in June 2020.

In line with the budget speech of 2017-2018 and 2018-2019, the Ministry has also started promoting coral farming by fishermen and SMEs by setting up sea-based coral farms for the rehabilitation of degraded areas of the reef around Mauritius. In this context, a *"Community-Based Coral Culture Project for the Republic of Mauritius"* was initiated and spear-headed by the Mauritius Oceanography Institute (MOI) in joint collaboration with the Albion Fisheries Research Centre (AFRC).

Under the project, **5** pilot coral farms each consisting of **3** nurseries have been established, namely at Albion, Quatre Soeurs La Gaulette, Bel Ombre and Grand Gaube and as at date around 110 persons, which include 20 women from the local community, have been trained.

SN	Site	Number of coral nurseries	Number of coral fragments
1	Blue Bay Marine Park	5	2000
2	Balaclava Marine Park	1	Nil – All coral fragments died
3	Trou aux Biches	1	500
4	Albion	3	2600
5	Quatre Soeurs	3	2600
6	La Gaulette	3	2600
7	Grand Gaube	3	2600
8	Bel Ombre	3	2600
	Total	**22**	**15 500**

Currently, the *"Community-Based Coral Culture Project for the Republic of Mauritius"* has come to its end as funds were provided for 2 years only. The successfully grown corals have already been transplanted on degraded areas of the reef of the respective regions for restoration purpose.

Mauritius will soon embark on a big-scale regional coral farming project entitled "Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future" funded by the UNDP (AFB Project Formulation Grant) with the Seychelles. A sum of 10 Million USD has been granted to Mauritius and Seychelles to carry out coral restoration project. It is expected to restore 2.5 hectare of coral within the Blue Bay Marine Park Centre within the next 5 years.

It is to be noted that, the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MOEMRFS) will coordinate the project, while the AFRC will be the implementing body in

collaboration with Mauritius Oceanography Institute and other partners which include NGOs, local communities, Rodrigues Regional Assembly (RRA), Ministry of Defence and Rodrigues (MDR).

As at date, the procurement plan and the action plan are under the process of being finalized and after having hired the services of project managers, project assistants in Mauritius, Rodrigues and the Seychelles, field activities will kick start.

The Ministry is also collaborating with the University of Mauritius which has embarked on a coral farming project at two sites in Mauritius, namely at Flic en Flac and Quatre Soeurs. It is expected to set up nurseries that will accommodate some 8 800 fragments of corals at both sites. The project is led by the Faculty of Agriculture and is being implemented by the students under the guidance and supervision of the Ministry.

2.0 Rehabilitation of Mauritius Coastal Zone through artificial reef installation

The project has been successful achieving 100% delivery as per set targets. The Project Report available on UNDP Seychelles/Mauritius Website.

Relevant websites, links, and files

Rehabilitation of Mauritius Coastal Zone through artificial reef installation
Status - Coral Farming project in Mauritius June 2020.docx (Coral farming)

Obstacles and scientific and technical needs related to the measure taken

The following lessons directly associated-constraints faced in respect of coral farming and transplanting activities were learned in Mauritius:

(a) Site selection of Coral farms

In order to successfully grow coral fragments, it is very important to select appropriate sites for establishing coral farms. Moreover, more research is needed for the selection of suitable transplant sites in order to recover fully structural and functional characteristics of a degraded ecosystem. It is also paramount to address ecological factors that might stress out coral transplants and affect their survival and growth (e.g. sediment input, exposure to runoff and pollution). Another critical lesson learned was the need to avoid areas exposed to urban runoff, human trampling and uncontrolled recreational impacts.

(b) Design of coral nurseries

Multiple coral farming unit designs have been used in Mauritius involving the use of pvc plastic pipes, plastic wire mesh, plastic bottle caps, metallic basal tables and rope nurseries. However, horizontal rope nurseries have been found to be highly successful in terms of colonies percentage survival rate and growth rate.

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(c) Timing of coral farming activities

It is critical to avoid coral transplanting during the warmest months as survival rate is significantly reduced during late summer due to a combination of impacts associated to high sea surface temperature, major runoff impacts, major risk of disease outbreaks and risk of bleaching. Most coral transplanting should be carried out in winter to increase survival rates.

(d) Collection of coral fragments

It is fundamental to reduce negative impacts of coral fragments collection on donor colonies.

Collection of fragments should be limited to 10-15% of the donor colony surface area or volume in order to avoid mortality or reduced growth rate in donor colonies. Monitoring of the donor colonies should be carried out.

(e) Transportation, handling and transplanting

Transportation should be conducted in order to avoid coral exposure to direct sunlight and warm temperatures. For short distances, colonies may be transported under sub-aerial exposure, but under humid conditions. For longer distance travel, a water tank provided with an air pump, water pump and chiller to control temperature should be used.

(f) other

- Field-works dependent on favorable weather/sea conditions
- Limited man power

Increase in protected area network for terrestrial biodiversity in Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Protected Area Network Expansion Strategy (2017-2026) was endorsed by the Government in May 2017.

The main aim is to protect, conserve and restore native biodiversity, natural landscapes and ecosystem services in Mauritius to benefit present and future generations through the implementation of following thematic:

- Create a Protected Area Network (PAN) that sustains and protects the natural, social, economic and cultural values of Mauritius;
- Implement a broad-scale programme of ecological rehabilitation and restoration for the persistence of the native species of Mauritius and the resilience of its ecosystems;
- Provide opportunities for people to discover, enjoy and appreciate the country's unique nature and to derive benefits from its protection;
- Ensure the maintenance and provision of ecosystem services and critical ecological functions to enable Mauritius to withstand environmental pressures such as drought, severe storms and climate change in the face of a growing and urbanising population;
- Engender a love of nature and a deeper understanding of the importance of our critical ecosystems and biodiversity; and
- Set an outstanding example in Mauritius that advances global sustainability initiatives and contributes to a habitable planet.

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2.0 Enactment of Native Terrestrial Biodiversity and National Parks Act in 2015

§ The Wildlife and National Parks Act (1993) and its associated regulations has been replaced by the Native Terrestrial Biodiversity and National Parks Act enacted in 2015;

§ To make further and better provision for the protection, conservation and management of native terrestrial biodiversity in Mauritius. The Act makes renewed provision for – (a) generally the protection of wild fauna and flora; (b) giving effect to the Convention on International Trade in Endangered Species of Wild Fauna and Flora

(CITES) and any other biodiversity related Convention to which Mauritius is or may become a party; and (c) the identification, control and management of reserved lands and private reserves.

National Target(s)

2. Integration of biodiversity values
5. Loss of habitats
11. Protected areas
12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

1.0 Protected Area Network Expansion Strategy (2017-2026) was endorsed by the Government in May 2017.

A PANES document has been endorsed by the Government 2017, however, there was major challenges to increase the protected area as more than 50% of biodiversity rich area are privately owned. There has been minor increase in protected area taking into consideration the designation of buffer zone for the Black River Gorges National Park and under the Biosphere Reserve Project.

2.0 Enactment of Native Terrestrial Biodiversity and National Parks Act in 2015

Number of regulations promulgated.

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Other relevant information

1.0 Nomination Dossier of Black River Gorges as a Biosphere Reserve

2.0 Two Studies on the Ecological Services provided by Mare Longue and Mare aux Vacoas reservoirs completed

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Other relevant website address or attached documents

NBSAP

Obstacles and scientific and technical needs related to the measure taken

1. Reinforcement and restructuring of the existing institutions for the implementation of PANES;
2. Absence of a communication and negotiation mechanism with the private sector;
3. Concern of private sector to be part of the protected area network;
4. Absence of a statutory (decision-making) committee to guide the full process of implementation into the different primary and secondary stakeholders;
5. Lack of capacity building and adequate resources for the implementation of PANES and Native Terrestrial Biodiversity and National Parks Act 2015.

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Increase in protected area network for marine biodiversity in Mauritius and Rodrigues

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Expansion of Fishing Reserve Areas and Creation of Marine Protected Areas (MPAs)

Under the Mainstreaming biodiversity project, the expansion of the boundaries of the existing fishing reserves to include the coral reef is being considered;

Currently there are 6 Fishing Reserves and 2 Marine Parks; there are no Marine Reserves, but in Blue Bay Marine Park (BBMP) there is a designated zone within which fishing is prohibited, as allowed for under the regulations. The Fishing Reserves are primarily important as fish nursery and spawning areas and were initially designated as fishery management areas and in 2000, re-designated as MPAs. Fishing Reserves cover a much larger area (6352 ha) of inshore waters than the Marine Parks (838ha) and could potentially protect a significant proportion of important ESAs, notably seagrass and algal beds, and intertidal mud flats.

The project seeks to mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone management and into operations and policies of the tourism and physical development sectors in Mauritius.

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National Target(s)

11. Protected areas
12. Preventing extinctions

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

The Mainstreaming Biodiversity Project is ongoing and the boundaries have been defined.

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Obstacles and scientific and technical needs related to the measure taken

Installation of an online knowledge management system;

Production of maps for all coastal and marine ESAs, including upland wetlands in Mauritius and native forest in Rodrigues;

Developing fully costed ICZM plans for Black River district and the whole island of Rodrigues, using the ridge-to-reef concept.

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Improving conservation status of known threatened species for Mauritius and Rodrigues

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Improving conservation status of known threatened species for Mauritius and Rodrigues

1.0 Updating of the IUCN Red list for native biodiversity.

1.1 IUCN red list for flowering plants

Review and updating of the IUCN red list by the IUCN Mascarene Islands Plant Specialist Group for plant species in Mauritius and Rodrigues was initiated in the year 2016 through wide consultation with relevant stakeholders. The red list has not yet been published.

1.2 IUCN red list for fauna

Mauritius harbours numerous threatened flora and fauna species and has a long-standing programme

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for the conservation of endangered endemic species. Conservation of endemic avian species and species-specific recovery programmes were started in the 1970s. 12 species (out of which 9 are threatened) of land bird as well as Rodrigues fruit bat *Pteropus rodricensis* have so far escaped from extinction.

The endemic Mauritius Kestrel (*Falco punctatus*), Pink Pigeon (*Nesoenas mayeri*), Echo Parakeet (*Psittacula eques*), Mauritius Fody (*Foudia rubra*), Mauritius Olive White-eye (*Zosterops chloronothos*) and Mauritius Cuckooshrike (*Lalage typica*) and the native Mascarene paradise flycatcher (*Terpsiphone bourbonnensis desolata*) have all been targeted with species-specific conservation projects / actions.

Some of the greatest conservation achievements for land birds has included:

• The restoration of the Mauritius Kestrel population from around four individuals to over 350 individuals in 2020.

• The Pink Pigeon population from fewer than 20 individuals to over 500 individuals in 2020 – listed as Critically Endangered on The International Union for Conservation of Nature's (IUCN) Red List of Threatened Species in the 1990s, and listed as Vulnerable since 2018.

• The Echo Parakeet population from fewer than 20 individuals to over 800 in 2020 – listed as Critically Endangered by the IUCN in the 1990s / early 2000s, listed as Vulnerable since 2018.

• The Mauritius Fody listed as Critically Endangered the 1990s / 2000s, listed as Endangered since 2009.

The Mauritius Fruit Bat, *Pteropus niger* was uplisted from Vulnerable to Endangered in 2018.

In December 2019, the Rodrigues Fruit Bat was downlisted from Critically endangered to Endangered.

Reptile conservation works have started to show positive results and also enhance our knowledge and way ahead.

The slight increase of the Round Island Day Gecko - Günther's gecko (*Phelsuma guentheri)* population on Round Island and the second population established on IAA has contributed to down-list the Günther's gecko from Endangered to Vulnerable on the IUCN Red List of Threatened Species in 2018.

The significant increase in the number of adult Keel scale boa, *Casarea dussumieri* on Round Island over the past few years and the second population that has become established on Gunner's Quoin since translocations in 2012 and 2014 has allowed us to down list the species from Endangered to Vulnerable on the IUCN Red List of Threatened Species in 2018.

A further 14 endemic reptile species within Mauritius and Rodrigues were assessed against the IUCN Red-List criteria, which includes the Bouton's skink, *Cryptoblepharus boutonii* that is now considered as a Mascarene endemic. The completion of these accounts, several of which will be published by the IUCN in 2020, means that all endemic lizard and snake species have been assessed for the Republic of Mauritius.

2.0 Good Practice Guide

A Good Practice Guide for forest restoration was finalized in 2017.

The purpose of this Good Practice Guide to Native Vegetation Restoration in Mauritius (GPG) is to provide an overview of the vegetation restoration process – what it consists of and how it can be done, as a basis for action for site restoration practitioners in Mauritius.

The GPG was produced through a consultative process to gather information from all relevant stakeholders. The consultative period was from 2015 to 2017 during which three workshops were held. Draft versions of this document were circulated to all participants whose feedback was incorporated as far as possible into this document.

3.0 Collaboration with international organization

Fauna Conservation

Our country has collaboration with numerous organisations, namely Mauritian Wildlife Foundation, The Durrell Wildlife Conservation Trust, The International Zoo Veterinary Group, North of England Zoological Society, the World Parrot Trust (UK), Chester Zoo, the New Zealand Department of Conservation, Zoological Society of London

and The Natural History Museum of London).

Flora Conservation

The Missouri Botanical Garden is collaborating on rare plant cultivation, many of which are critically endangered, such as Mauritius' national flower, *Trochetia boutoniana*.

Project on re-introduction of rare plants to Mauritius and Rodrigues and assistance in plant conservation projects. Plants were repatriated to Mauritius in September 2018 and were kept in quarantine at the NPCS nursery in Curepipe. (Conservatoire Botanique National de Brest, France).

The Conservatoire Botanique National de Brest collaborated on a Project on re-introduction of rare plants to Mauritius and Rodrigues and assistance in plant conservation projects. Plants were repatriated to Mauritius in September 2018 and were kept in quarantine at the NPCS nursery in Curepipe. The NPCS has already reintroduced in the wild some of these plants propagated in the nursery.

The Botanical Gardens Conservation International has received funds from Franklinia to support a plant restoration and red-listing project in Mauritius and Rodrigues.

Additionally, numerous international academic institutions collaborate with NGOs and Government Agencies to support the management of biodiversity in the Republic of Mauritius.

DELIVERY OF A DATABASE
ASTIRIA is a CEPF project awarded to Brest Botanical Gardens. The project is spearheaded by the government in collaboration with local NGOs. ASTIRIA program, aimed in particular at improving knowledge, filling in the gaps concerning the flora of the Mascarene archipelago and improving the management of collections of endangered plants in Mauritian nurseries. It met the expectations of Mauritian partners subject to the objectives of the Convention for Biological Diversity.

The Scientific Director of international actions at the Conservatory delivered to the Republic Of Mauritus; the new ASTIRIA database developed by the Conservatory. It should make it possible to centralize observations on the management of collections, to help diagnose the state of the flora, to better define conservation priorities, to contribute to the development of an atlas of endemic flora, of books and red lists and to optimize site restoration, reintroductions or reinforcements of species and their monitoring.

PARTNERS

- Critical Ecosystem Partnership Fund
- L'Arche aux Plantes
- Klorane Botanical Foundation
- Mauritian Wildlife Foundation
- National Parks and Conservation Service
- Forestry Service
- ONG François Leguat

BRAHMS online database for The Mauritius Herbarium

The Mauritius Herbarium was created in 1960 but its roots dates from 1830. It is the world's main repository of plant specimens of the Mascarenes (Mauritius, Rodrigues and Réunion), with its oldest collections dating from 1769. Its collections sum some 23,000 flowering plants and ferns, with other 3,000 specimens of bryophytes, lichens, algae and fungi. Most of its higher plants were partially databased using BRAHMS (Botanical Research And Herbarium Management Software), and specimens are now being barcoded. Part of these data is available through BOL (BRAHMS online).

BRAHMS is database software for managing natural history collections, botanic gardens, seed banks, field surveys, taxonomic research and biogeographic study.

Museum databases involve bulk data and image capture, creating lists and labels, updating annotations, managing transactions such as loans and exchanges. BRAHMS is database software for managing natural history collections, botanic gardens, seed banks, field surveys, taxonomic research and biogeographic study. This database encourages the use of these data to catalyse research initiatives.

BRAHMS version 8 has been developed to store all categories of natural history collection. Above family, taxa levels including Kingdom, Phylum, Class, Order and Suborder are provided as standard higher classification fields. However, depending on the collections you are managing, you can define as many new taxonomic ranks as required, both above and below family level (superfamily, subfamily, tribe, subtribe, etc.).

National Target(s)

1. Awareness of biodiversity values
11. Protected areas
12. Preventing extinctions
5. Loss of habitats

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

A draft of the updated and reviewed IUCN red list for flowering plants of Mauritius and Rodrigues has already been produced. However, the draft document has to be validated and submitted to IUCN for online publishing.

Number of sites where this Good practice guide has been implemented

Number of protected endemic fauna that has been uplisted on the IUCN Red List database.

EN

Relevant websites, links, and files

Good Practice guide
BRAHMS online database for The Mauritius Herbarium
IUCN Red Listing

Other relevant information

The GPG was produced through a consultative process to gather information from all relevant stakeholders. The consultative period was from 2015 to 2017 during which three workshops were held. Draft versions of this document were circulated to all participants whose feedback was incorporated as far as possible into this document.

EN

Obstacles and scientific and technical needs related to the measure taken

Delay in validation and input of the red list on the IUCN portal.

EN

No comprehensive inventory of threatened species:

- There are major gaps in the understanding of the conservation status and levels of threat for many taxonomic groups (including plants, ferns, bryophytes, fungi, invertebrates, etc.);
- Science-based recovery plans and time-bound targets for all priority species (i.e. the most threatened ones) need to be developed, alongside local capacity building strategies;
- An IUCN Red List of Ecosystems14 for Mauritius and Rodrigues is lacking. Given the importance of ecosystem restoration and re-wilding in Mauritius and Rodrigues, this should be seen as a priority (source NBSAP 2017-2025)

Hence the enabling activities will enable our country to protect, assess and conserve more species and prevent same from being extinct.

The GPG needs to be regularly updated for different diverse array of biogenic habitats.

Lack of capacity building and adequate resources.

Preservation and conservation of local breeds and varieties, by assessing and setting expansion targets for area/population under the Crop Wild Relatives/local cultivar/breed

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 National strategy Action Plan for the Conservation and Sustainable Use of Crop Wild Relatives (CWR) for the Republic of Mauritius,2016.

The SADC-driven project was co-funded by the European Union and was carried out in South Africa, Zambia and Mauritius including Rodrigues. As part of the project, a National Strategic Action Plan for the Conservation and Sustainable Use of CWR in Mauritius and Rodrigues was prepared in the year 2016 in consultation with all stakeholders to provide a coherent approach for conservation and use of CWR.

2.0 Implementation of Strategic Plan (2016-2020) – for the Food Crop, Livestock and Forestry sector

This strategy sets the objectives to improve the level of food security and food safety and promote a more sustainable agriculture in Mauritius. Agriculture plays an important role in the national economy. Although no more the largest contributor to national production and wealth, the sector still makes a stable contribution to the economy.

EN

Traditionally, the non-sugar sector has contributed particularly to food production and has ensured some measure of food security. Its forestry and biodiversity components are now playing vital roles in the management of natural resources, and are recognised as significant contributors to sustainable development and to the mitigation of climate change impacts. Hence, improvement of this sub-sector is even more beneficial for the country.

Building on the achievements of past strategic plans and based on lessons learned, the Ministry of Agro-Industry and Food Security has developed its new strategy for the period 2016-2020 using a participatory approach. The Plan is inspired broadly by the Government Programme 2015-2019, and has been formulated to take Mauritius to a higher level of food security whilst respecting the need for safe food and better nutrition of the population. It takes on board the need for sustainable agricultural development in a climate-friendly mode as well as safeguarding farmers livelihoods.

The Strategy identifies MAIFS's mission as:

"to enable and facilitate the advancement of agriculture and the agri-business sector for improved food security and safety in line with requirements for sustainable development, with support from national service providers and regional stakeholders."

and sets its vision as :

"An integrated development to build vibrant non-sugar agriculture and agri-business sectors that utilise natural resources sustainably, contribute significantly to national food security and safety, empower producers to higher productivity, and enhance the welfare of the farming community."

2.1 The Republic of Mauritius promulgated the Seed Act in the year 2013and the progress achieved during period 2015 to 2020 are as per below:

a. National Seed Committee has been set up in 2017
b. Four Sections of the Seeds Act 2013 have already been promulgated in 2018
c. The Attorney General's Office has finalised seven Regulations in 2019
d. The National Plant Varieties and Seeds Office (NPVSO) has already been set up at Barkly in 2019 and an initial training has been provided to the staff
e. The Seed testing Laboratory has been renovated in 2019. The personnel of Laboratory has also received training.

Projected activities for 2021 to 2025

a. Accreditation of the Seed Testing Laboratory by ISTA
b. All crop varieties in Mauritius are listed on the National List of Varieties
c. Seed Testing Laboratory to become a member of the International Seed Testing Association

2.2 **The National Plant Genetic Resources Unit**

The National Plant Genetic Resources Unit (NPGRU) forms part of the Agronomy Division of the Ministry of Agro Industry and Food Security. The Unit is mandated for effective management, long term conservation and sustainable utilisation of crop genetic resources in Mauritius. Its main activities comprise of collection, conservation, multiplication, regeneration, characterisation and documentation of locally available crop germplasm. Rescue of a few critically endangered endemic species is also undertaken by the unit.

The NPGRU consists of:

(i) A National Seed Gene Bank (NSGB) located at Curepipe

The NSGB has been mandated to collect the locally available crop diversity for long term conservation and make them available to different stakeholders for research and ultimate utilization in crop improvement. The NSGB hosts an ex-situ collection of seeds for local crops in freezers at -18^{0}C to -20^{0}C at Curepipe and Bambous Experimental Station. Seed accessions are also sent to the SADC Plant Genetic Resources Centre (SPGRC), Zambia for safety duplicate storage.

(ii) A National Field Gene Bank (NFGB) located at Nouvelle Decouverte

The NFGB is used for conservation of vegetatively propagated accessions and also for regeneration/multiplication of seed accessions.

2. The activities carried out by the NPGRU during the covering period (2015-2020) include:

- Conservation of 464 local seed accessions of different crops in freezers at -18^{0}C to -20^{0}C, which, also include 21 accessions of Crop Wild Relatives.
- 178 accessions are conserved ex-situ in field at the NFGB, which, also include 5 accessions of crop wild relatives.
- A total of 242 seed accessions have been deposited to SPGRC, Zambia as a safety backup of seed accessions.
- Allicin content in 20 Garlic accessions was determined in 2016 by University of Mauritius final year Student.
- 43 new crop accessions were collected during reporting period: (20 garlic (*Allium Sativum*) accessions from FAREI, 1 banana (*Musa spp*), 1 sweet potato (*Ipomea batatas*), 4 cassava (*Manihot esculenta*), 1 eggplant (*Solanum melongena*), 1 Igname (*Dioscorea spp.*), 1 Brede Gondol (*Basella Alba*), 1 Wild passion fruit (*Passiflora foetida*), 9 Lima bean(*Phaseolus lunatus*), 1 Pigeon pea (*Cajanus cajan*), 1 Winged bean(*Psophocarpus tetragonobolus*) from FAREI, 1 sword bean (*Canavalia gladiate*) from FAREI, 1 Jack Bean(*Canavalia ensiformis*) from FAREI)
- 2 Carrot accessions in 2017 and 4 sweet potato accessions (pigmented tubers) in 2020 were provided to FAREI for research purpose.
- In view of promoting use of underutilised crops at NPGRU, food transformation was carried in collaboration with the Food and Technology laboratory of the Ministry of Agro Industry and Food Security (MAIFS). Mango ginger was transformed into pickles, fruit paste, dried powder and candied products. Igname was used to prepare various sweet dishes, pudding and ice cream.
- Additional land (2A56) has been allocated to NFGB in June 2020 following Covid-19 pandemic to further improve PGR activities and promote food security. A strategic stock of planting material is being established in terms of high yielding cassava and sweet potato accessions at the NFGB.
- A showcase of crop germplasm is being set up at the NFGB to create awareness for local accessions within our collection of vegetable crops, root crops and fruit trees for ultimate utilisation by PGR stakeholders and the public aiming at broadening the food spectrum.

Projected activities of the NPGRU for 2021-2025 are as follows:

- Collection, maintenance, regeneration/multiplication of accessions and deposition of seed accessions to SPGRC will be ongoing.
- Characterisation of at least 12 accessions per year is targeted depending on staff availability
- For promotion of underutilised crops, food transformation will be continued with the collaboration of the Food and Technology Laboratory, MAIFS.
- National Plant Genetic Resources Committee need to be re-established

2.3 Biosafety Clearing House (BCH)

I. The BCH, Article 20 Para (a) of Cartagena Protocol, has the main objective to facilitate the exchange of Scientific, technical, environmental and legal information on living modified organisms'. In short, it involves the management of information on the web site of the BCH.
For the period under review, no activities has been carried as the GMO Act 2004 has not been promulgated *in toto* and it was being reviewed. The GMO Act 2004 was eventually repealed in May 2018 and a new Act is being prepared.

II. A draft of the new GMO Act has already been finalized by the National Biosafety Committee. In November 2018, the finalised document was sent to the Attorney General's office (AGO). The AGO has already vetted the first draft and has submitted same to the National Biosafety Committee (NBC) for review.

On 29 April 2019, the NBC has completed the task of reviewing the document and has submitted the new draft to Ministry of Agro industry and Food Security for onward transmission to the AGO. The document is near finalisation.

III. No document has been produced as the Act has not been promulgated *in toto*.

IV. The main issue is that GMO has never been regulated in Mauritius. Staff has to be trained both for GMO testing and inspection of GMO facilities. Training should also be provided for risk assessment

The new GMO Act has to be proclaimed at earliest. The National Biosafety Office has to be set up and the training of the personnel be initiated.

3.0 Implementation of the action plan for Public Sector Business Transformation (PSBT) Strategy 2020-2021

Government has approved a Public Sector Business Transformation Strategy (PSBTS) in October 2017. The PSBTS was developed with the assistance of the Commonwealth and its main objective is to prepare and equip the Public Sector to remain efficient, resilient and responsive in order to face a complex and highly competitive global landscape by leveraging on innovative technologies, lean and smart processes and a fit-for-purpose organisational structure.This englobes the following:

- Setting up of national livestock identification system;
- Enactment of the Animal health & Livestock Production Bill;
- Web based application to manage records at Poultry breeding;
- Regulate, control and monitor use of pesticide in agricultural produce;
- Devise pesticide code of practice;
- Food Technology laboratory already accredited to ISO 17025;
- Revision of plant protection Act 2006;
- Sensitisation campaign on biosecurity;
- Computerization of the process of issuing of electronic phytosanitary certificate;

4.0 To implement the research and development plan (2016 -2020) for Mauritius Sugarcane Industry Research Institute (MSIRI)

MSIRI has developed a range of new more productive sugarcane varieties that are adapted to specific soil types and agroclimatic zones and for harvest at different period across the milling season that spans from June to mid-December. These varieties have in-built resistance, in various combinations, to five diseases of economic importance;

Government of Mauritius proposed measures for providing immediate relief to planters for Crop 2018. These included (a) a cash compensation of Rs1,250 per tonne of sugar to all planters, (b) additional remuneration from bagasse of Rs1,250 per tonne of sugar thus bringing the revenue accruing from bagasse to Rs2,500 for small planters and Rs1,700 for other planters, (c) for planters with less than 100 hectares of cane cultivation, the advance of 80% would be extended on all the revenue received from sugar and co-products instead of the ex MSS price on sugar only, (d) the Mauritius Cane Industry Authority provided assistance to planters with less than 100 hectares under cane cultivation through an advance from the Planters Fund for the purchase of fertilisers for crop 2019 and (e) the advance

would be around Rs13,000 per hectare in order to consolidate productivity in a sustainable manner, the Government had in its 2019 Budget taken a number of steps (a) waiving of the amount due by small planters under the Field Operations Regrouping Project Scheme, (b) waiving of 50% of the advance on fertilisers provided to planters through the Mauritius Cane Industry Authority (MCIA), (c) waiving of the insurance premium paid to the Sugar Insurance Fund Board by planters producing up to 60 tons of sugar for crop 2019, (d) funds will be available under the Cane Replantation Programme to encourage planters to bring their lands back under cultivation i.e. the grant allocated has been increased from Rs71 000/ha to Rs83 000/ha for those who have completed a cane cycle of six years and from Rs50 000/ha to Rs58 000/ha for those who have not completed a cane cycle of six years (e) Rs 15 million will be allocated to the MCIA to acquire equipment for harvesting sugar cane of small planters and (f) all planters will benefit of Rs 25,000 per tonne of sugar for the first 60 tonne of sugar;

5.0 The Interactive Online Toolkit

The Interactive Online Toolkit for CWR Conservation Planning is based on the publication Resource Book for the Preparation of National Plans for Conservation of Crop Wild Relatives and Landraces published by the Food and Agriculture Organization of the United Nations (FAO). The Resource Book was then transformed to an interactive and online version in the context of the project In situ Conservation and Use of Crop Wild Relatives in Three ACP Countries of the SADC Region project (SADC Crop Wild Relatives for short) co-funded by the European Union and implemented through the ACP-EU Co-operation Programme in Science and Technology (S&T II by the ACP Group of States (grant agreement no. FED/2013/330-210).

National Target(s)

1. Awareness of biodiversity values
13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Papers published

Annual reports

Number of new varieties produced

Number of cultivars maintained

Active in-situ and ex-situ conservation of CWR

Annual Report of PGR

EN

Relevant websites, links, and files

INTERACTIVE TOOLKIT FOR CROP WILD RELATIVE CONSERVATION PLANNING version 1.0 (In Situ Conservation and Use of Crop Wild Relatives in three ACP countries of SADC region)
Public Sector Business Transformation Strategy 2020-2021
Research and Development Plan 2016-2020 for a resilient Mauritian cane industry, MSIRI, MCIA

Obstacles and scientific and technical needs related to the measure taken

Invasive alien species, habitat alteration, infrastructural development, soil erosion, pests and diseases, whereas the major threats in Rodrigues are invasive alien species, grazing by livestock, soil erosion, and infrastructural development.

EN

1. Limited land availability; small size of land holdings debars from economies of scale for mechanisation; and the absence of Specialised Agricultural Production Areas dedicated to organic or agro-processing;

2. Relatively low farm productivity associated with limited uptake of modern management techniques; an over-reliance on manual methods and agro-chemicals; low level of investment, and unwillingness to take risks; farmers' resistance to cluster to gain on economies of scale and productivity; no entrepreneurial aptitudes for vertical integration up the value chain;

3. High cost of labour and agricultural inputs; weak supply chains in terms of lack of planting material, storage infrastructure and agri-service support; shortage of skilled and unskilled labour;

4. Unprepared to face negative impact of Climate Change;

5. Unstructured marketing; absence of norms and standards, and enforcement thereof;

6. Weak co-ordination and linkage between institutions, farmers and other stakeholders;

7. Inadequate investment in research, intensive technologies and capacity development;

8. Unattractive to youth, and an ageing farming community.

9. Logistic and financial support;

10. Capacity building

11. Sharing platform for data use, synergies between stakeholders

The main challenges faced by the NPGRU during the reporting period are listed below:

- Need for a national PGR legislation & policy
- Shortage of staff at the NFGB

Ecosystem valuation of protected areas in the Republic of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

A study was carried out for ecosystem valuation of catchment area from Mare Longue to Mare aux Vacoas to downstream users as part of the preparatory study for the National Biodiversity Strategy and Action Plan (NBSAP) for the Republic of Mauritius 2017 -2025 Ministry of Agro-Industry and Food Security (2017).

The objective of this study was to explore how environmental valuation may be able to inform land use decision-making in the catchments of the Mare Longue (ML) and Mare aux Vacoas (MAV) reservoirs, and investigate how such an approach could be linked to the national environmental accounts. The results suggest that significant economic benefits can be gained through improved catchment Management. This pilot study presents an important example of how economic valuation, coupled with natural capital accounting, can help improve decision-making. By developing and regularly monitoring precise natural capital / ecosystem accounts, the country will be able to develop credible and reliable scenarios of change to explore alternative land use options, the expected costs and benefits for targeted or impacted stakeholders and the associated budget requirements.

EN

National Target(s)

14. Essential ecosystem services

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been ineffective

tools or methodology used for the assessment of effectiveness above

There has not been any dedicated strategy on the economic valuation of protected areas for the Republic of Mauritius except for the pilot study on the Ecosystem valuation of catchment from Mare Longue / Mare aux Vacoas to downstream users. EN

Relevant websites, links, and files

https://www.cbd.int/doc/world/mu/mu-nbsap-v2-en.pdf
http://chm.govmu.org/publications/

Obstacles and scientific and technical needs related to the measure taken

There is a significant gap in Mauritius with respect to capacity and knowledge available to undertake the study locally. Local universities up till now are not dispensing courses in economic valuation due to lack of experts in academia. Due to the complexity of economic valuation, the lay public often perceives it to be difficult to assign a hypothetical monetary value to our natural resources. EN

Carbon Stock Enhancement Programme

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Carbon stock enhancement programme through carbon assessment and monitoring in different ecosystems (forest, wetlands, coral reefs, seagrass meadows, mangroves), for different agricultural practices (vegetables, sugar cane, orchards) as well as different sites in Rodrigues and developing guideline and capacity building for ecosystem restoration while minimising carbon loss were highlighted within the NBSAP.

1.0 Agroforestry development in Mauritius and Rodrigues

Removing atmospheric Carbon (C) and storing it in the terrestrial biosphere is one of the options, which have been proposed to compensate greenhouse gas (GHG) emissions. Agricultural lands are believed to be a major potential sink and could absorb large quantities of C if trees are reintroduced to these systems and judiciously managed together with crops and/or animals. Thus, the importance of agro-forestry as a land-use system is receiving wider recognition not only in terms of agricultural sustainability but also in issues related to climate change. EN

In 2018 Food and Agricultural Research and Extension Institute (FAREI) and the Forestry Service embarked jointly into the setting-up of Agro-Forestry projects in Mauritius. Although this technique of food production is practiced in many countries around the world, it is the first time that Mauritius has embarked in such venture.
Twelve sites of State forest lands were initially earmarked but only a plot of 4 acres at Petit Sable (South East of Mauritius) has been developed till date where the biodiversity of the forest land was minimally disturbed during plantation and no chemical fertilizers were applied since only organic and natural methods of soil fertilization were practiced. In 2020 a new pilot agroforestry site was kickstarted on a 10 Arpent plot of abandoned agricultural land at Villebague. Additional agroforestry projects in collaboration with the private sector (sugarcane estate) are in the pipeline.
Another Agro-Forestry project, funded by the EU has been set up at Britannia (South of Mauritius) in 2020 on an ex sugar cane plot of 5 acres where fruit species, several short-term vegetable crops, ornamental and at least 50 bee hives will be set using alley cropping system.
By definition, Agro-Forestry is the intentional combination of agriculture and forestry to create integrated and

sustainable land-use systems. Agro-Forestry systems have showed to play remarkable role in soil and water conservation and enhance biodiversity, as well as raising the production of food crops, legumes and tuber to meet the rapidly growing food requirements of the population. Agro-Forestry plays an important role in Carbon sequestration and this project will contribute to climate change mitigation, in line with the country NDC (National Determined Contributions) commitments.

The potential of the agricultural sector to mitigate climate change through carbon sequestration in the soil and in tree species, namely fruit trees and tea plants have been included in the overall carbon absorption in this sector. However, due to limited data available, locally default emission factors were used by the IPCC GHG Inventory Software. A project to determine some local emission factors, funded by UNEP, is ongoing at FAREI, and include the carbon content of crop land and the biomass carbon content of the main fruit tree species cultivated in Mauritius. The extent of carbon capture in the agroforestry system will also be determined for the pilot plots that are being set up.

2.0 Implementation of the Strategic Plan (2016 - 2020) for the Food crop, Livestock and forestry sector

The main objective of this project is to increase tree cover over the island to increase carbon stocks.

During the period January 2016 – March 2020, approximately 400 000 plants have been planted or issued under the national tree planting campaign to schools, socio-cultural organisations, NGOs and public. Other private initiatives for planting trees have not been accounted. The planting sites identified for planting included: State lands (approx. 30 ha), Mountain Reserves (2.5 ha), river reserves (6.5 ha), roadside of Motorway M1 and M2 (approx. 37 600 plants over 22 km) and other roadsides, government compounds, schools, botanical garden, socio-cultural compounds and NGOs' compounds.

A small decrease in the total area under forest cover (approximately 20 ha) was noted since the start of the implementation of the strategic plan in 2016. However, the overall stocking density of the state forest lands has been increased in some forest land, mostly due to the replanting of bare lands and filling of gaps within forest areas. In the long run, this will increase the overall forest productivity.

A mini forest over an extent of approximately 2 ha was created at Bel Air. The site which was previously in an abandoned/neglect state was cleared and replanted with some 2744 native plants. The site was inaugurated in 2018 for the celebration of the International Day of Forests.

The two bee reserves zones that were created with meliferous trees during the financial year 2016-2017 over an extent of 20 ha at Bras D'Eau and 5 ha at PG les Salines) were maintained. Around 8111 meliferous trees were planted between January 2015 to August 2019.

Approximately 6.5 ha of River Banks have been weeded and replanted with native species (including approximately 5 ha along Takamaka River Bank and 1.5 ha at Grand River North West).

As an incentive to protect and restore native forests, an additional 7000 native plants were also issued free charge to private land owners to plant in their Mountain and River Reserves.

Due to acute lack of labour force, the annual target of 100 000 to 160 000 trees planted was not met in 2019 and will also not likely be achieved in 2020.

National Target(s)

15. Ecosystem resilience

tools or methodology used for the assessment of effectiveness above

1.0 Agroforestry development in Mauritius and Rodrigues

As a pilot project at Petit Sable, 240 plants (11 different fruit species) were planted on an area of 1.6 A in 2018-19 on a secondary Eucalyptus forest.

Five acres of sugarcane land converted to agricultural land using alley cropping system for cultivation of fruit crops, seasonal vegetable crops, ornamental plants and apiculture (50 bee hives installed).

EN

2.0 Implementation of the Strategic Plan (2016 - 2020) for the Food crop, Livestock and forestry sector

From January 2016 to August 2019, more than 200 000 seedlings (subset of 400 000 plants mentioned above) have been planted in bare lands/gaps within the forest areas, water catchment areas, steep slopes and other Environmentally Sensitive Areas.

A mini forest over an extent of approximately 2 ha created and 2744 native plants species planted.
Two bee reserves zones over a total area of 25 ha created with 8111 meliferous trees between January 2015 to August 2019.
Approximately 6.5 ha of River Banks have been weeded and replanted with native species.
As an incentive to protect and restore native forests, an additional 7000 native plants were also issued free charge to private land owners to plant in their Mountain and River Reserves.

Relevant websites, links, and files

Strategic Plan (2016 - 2020) For The Food Crop, Livestock and Forestry Sectors

Other relevant information

The carbon stock in forests changes due to the following: biomass increments in forests, losses from deforestation, harvesting of round wood and fuel wood and disturbances such as fires, cyclones, pest and diseases.

Mauritius, being a signatory party to the United Nations Framework Convention on Climate Change (UNFCCC) has to periodically report on greenhouse gas (GHG) emissions through the National Communication Report (NC), National Inventory Report (NIR) and Biennial Update Report (BUR). These reports include assessment of carbon emission from forest land.

IPCC guidelines 2006 were used for the estimation of the CO_2 emissions of the forest sector (net carbon sink). CO_2 emissions from living biomass, dead organic matter and soil were calculated using a Tier 1 approach (IPCC guideline 2006). In accordance with this approach, net change of CO_2 for dead organic matter is equal to zero as it is assumed that the average transfer rate of CO_2 into the dead wood pool is equal to transfer rate out of the dead wood pool. No specific carbon stock for native forests was estimated. However, for the purpose of the assessment the forests were divided into three ecological zones (Wet Upland Forests, Moist Forests, Dry lowland Forests). The growing stock data were available for the following species: *Pinus elliottii*, *Eucalyptus sp*, *Araucaria sp*, *Tabebuia pallida*, *Cryptomeria japonica* and *Casuarina equisetifolia*.

According to the Third National Communication Report and National Inventory Report (TNC and NIR reports, 2016) the average carbon emission from forest land in Mauritius for the inventory cycle 2006-2013 was estimated to be around -314.627Gg of CO_2 equivalent (i.e. a net carbon sink). The biennial update report (BUR) is currently under preparation.

EN

Obstacles and scientific and technical needs related to the measure taken

1. Poor road access.
2. Shadowing on new plants by existing trees.
3. Inadequate resources (funding, human resource and logistics) for maintenance.
4. High mortality rate of new plants due to absence of an irrigation system.
5. Persistent rainy periods since January 2020 till March 2020 which are jeopardising the kick off of the project.
6. No proper training on Carbon Sequestration has been obtained.
7. There has not been a fully dedicated in situ carbon assessment in Mauritius and Rodrigues.

EN

Review of Nationally Determined Contributions of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

The launch of the review process of the Nationally Determined Contributions (NDCs) of Mauritius has been effected through video conference and brought together all stakeholders and different segments of the society to promote an inclusive and participatory approach in that exercise. The country is moreover benefitting from the support of the French government to the tune of 200,000 euros and the United Nations Development Programme (UNDP) to the tune of USD 300,000 for the review.

NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. Parties whose NDCs have a time frame of up to 2030, need to communicate or update by 2020, their contributions and do so every five years. The time frame of Mauritius is 2030, hence the need for a review.

This review will determine Mauritius's new commitments in terms of greenhouse gas reduction and adaptation measures to protect the country from risks associated to climate change.

Although Mauritius emits only 0.01% of greenhouse gases, through NDCs, the country has made a commitment to reduce its greenhouse gas emissions by 30% by 2030. In this context, several priority sectors have been identified such as energy and transport with regards to mitigation, and sectors such as water, agriculture, fisheries, health and protection of coastal areas in terms of adaptation.

For the review process, Mauritius is benefiting from the support of the French Government through the *Agence Française de Développement* (AFD) and *Expertise France*. In fact, following the climate summit held in December 2017 under the chairmanship of the French President, and through the signature of an agreement with the AFD, Mauritius received technical assistance to the tune of 2 million euros. Within this assistance, Mauritius has secured funding to the tune of 200,000 euros.

In addition, the services of a consortium of international experts have been mobilised by the AFD and *Expertise France*, namely *Application Européene de Technologies et de Services* and Cibola Partners.

As for the UNDP, the assistance extended to Mauritius lies within the framework of the Climate Promise Initiative project. The UNDP will help the country to hold consultations with various socio-economic partners and raise awareness on the NDCs to ensure an inclusive and participatory approach. The UNDP is providing assistance to Mauritius to the tune of USD 90,000 for the elaboration of the master plan on the environment.

Ahead of the COP21 (21st Conference of the Parties of the United Nations Framework Convention on Climate Change [UNFCCC]), the NDCs of Mauritius were submitted to the secretariat of the UNFCCC on 28 September 2015. The new NDCs of Mauritius, will be submitted before COP26, which had to be postponed to November 2021 due to the Covid-19 pandemic.

Mauritius ratified the Paris Agreement on climate change on 22 April 2016 and has been very proactive since the adoption of the agreement. The main measures are: strengthening of the drain system; protection and rehabilitation of coasts, and monitoring of climatic parameters.

EN

National Target(s)

15. Ecosystem resilience

tools or methodology used for the assessment of effectiveness above

A series of measures was adopted pertaining to disaster risk reduction, adaptation to the adverse effects of climate change, as well as for the reduction of greenhouse gas emissions. and carbon emission.

EN

Mauritius has also introduced four legislations namely, *National Disaster Risk Reduction and Management Act*, *Land Drainage Authority Act*, *Local Government Amendment Act* and *Mauritius Meteorological Services Act*. In addition, the **Climate Change Bill**, is under preparation to improve Mauritius's capacity to adapt to the growing negative impacts of climate change while promoting sustainable development.

Relevant websites, links, and files

Nationally Determined Contributions of Mauritius
Climate Change Bill 2020 for Mauritius
Third National Communication for Mauritius

Obstacles and scientific and technical needs related to the measure taken

Nationally Determined Contributions for the Republic of Mauritius as a small island developing state is challenging and ambitious which requires mainstreaming of adequate resources (funding, human resources-capacity building, logistics-research and development) to achieve a reduction of 30% of its greenhouse gas emissions by 2030.

Weak or poor mechanism to harmonise a common strategy/system for assessment of green -house gas emission across key sectors (economic pillars) inter-alia agriculture, tourism, fisheries, transport, urbanisation, manufacturing, industrial.

EN

In situ carbon stock assessment and monitoring in the Republic of Mauritius Seagrass and Blue Carbon Assessment in Mauritius: Relevance for Marine Spatial Planning

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

Seagrass ecosystems have been acknowledged for their blue carbon potential which is a recent concept used to refer to organic carbon stored in coastal and marine ecosystems. These blue carbon ecosystems are considered important natural carbon sink sources.

Unfortunately, seagrass beds are globally being impacted by multiple anthropogenic stressors from coastal development, nutrient enrichment, sediment runoff, physical disturbance, commercial fishing practices, invasive species, diseases, aquaculture, algal blooms and global warming among others. The result of seagrass loss worldwide is leading to a loss of associated ecosystem services, which makes it a contributing factor to the degradation of the ocean's health.

Although very limited baseline data is available on the seagrass species composition, biogeography, density distribution, the potential for seagrass beds in Mauritius to act as a natural carbon sink and contribute to mitigating local climate change in Mauritius is yet to be investigated. To bridge this gap, a team from the Albion Fisheries Research Centre, under the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping has kicked off a project *"Assessment of Blue Carbon Ecosystem (Seagrass) around the island of Mauritius: Relevance for Marine Spatial Planning".* This project is being made possible with the help and funding from the United Nations Environment Programme (UNEP) Nairobi Convention under their scheme "Implementation of the Strategic Action Programme for the protection of the Western Indian Ocean from land-based sources and activities (WIO-SAP)".

The project consists of investigating the current status of seagrasses around the coast of Mauritius and to determine their carbon sink potential to further enable the develop of management strategies, to formulate policies gearing towards conservation and rehabilitation of seagrass ecosystems and

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to generate blue carbon credit. The project is being planned over 2 years and comprised of three components:

Component 1: Seagrass Mapping and Ground truthing around the island

Component 2: Seagrass Monitoring Program

Component 3: Blue Carbon Storage Capacity in Seagrass

Component 4: Sensitisation and Educational programme for Coastal Community and Sea Users

Overall, both the outcomes from the seagrass assessments and the determination of the blue carbon storage will give substantial data and insight to determine the specific location and the seagrass species to be targeted for the implementation of policy and management plans to conserve, reduce existing pressures and rehabilitate seagrass beds in degraded areas around Mauritius.

National Target(s)

15. Ecosystem resilience

tools or methodology used for the assessment of effectiveness above

The project on Seagrass and Blue Carbon Assessment started in March 2019 and as at date, Seagrass Reconnaissance survey has been carried out in the South East region and seagrass ground-truthing is being undertaken in the North West Regions of Mauritius.

Seagrass ground-truthing is on-going to cover the whole island.

Sediment samplings for blue carbon determination and the educational / sensitization surveys are planned for the end of this year.

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Other relevant information

Carbon sequestration measurements in Mauritius forests

The Agence Francaise de Developpement (AFD) is funding a research project led by the University of Mauritius on carbon sequestration measurements in Mauritius forests through funding provided to Business Mauritius. The project duration will be 18 months and will start in January 2021.

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Obstacles and scientific and technical needs related to the measure taken

The ground truthing and mapping components should have been completed by end of May 2020. However, with the lockdown due to the COVID-19 Pandemic, the whole project is envisaged to go beyond 2 years with a tentative end date of December 2022.

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Nagoya Protocol implementation program for the Republic of Mauritius

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

1.0 Adoption of a Material Transfer Agreement (MTA) for non-commercial use of Genetic Resources for Native Terrestrial Biodiversity

Mauritius ratified and acceded to the Nagoya Protocol on 17 December 2012. The Ministry of Agro Industry and Food Security is the focal point in Mauritius for the Nagoya Protocol. In the absence of a legal framework for implementing

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the Nagoya Protocol, different measures were adopted for sharing of genetic resources for non-commercial use. A Material Transfer Agreement (MTA) was prepared and approved by the State Law Office in 2015 for the non-commercial use and sharing of genetic resources for Native Terrestrial Biodiversity. The Horticulture Division – Plant Genetic Resources Unit that falls under the same Ministry is also responsible for the International Treaty on plant genetic resources.

2.0 A National Intellectual Property Development Plan for The Republic of Mauritius was prepared in January 2017

The Republic of Mauritius has developed an Intellectual Property Right Bill that also caters partially for the protection of intellectual property rights for certain targeted agricultural commodities (selected traditional crop varieties) and thus ensures access and benefit sharing through fair and sustainable utilisation of crop genetic resources.

The Bill, in line with the recommendations made by the 2009 IPDP, addressed issues related to sharing of benefits. Section 11 (3) (d) provides that:

"Any description shall contain a clear identification of genetic resources that are collected in Mauritius and directly or indirectly used in the making of the invention as well as of any element of traditional knowledge associated or not with those resources, that was directly or indirectly used in the making of the claimed invention without the prior informed consent of its creators".

Such a provision may be complementary to meeting the objectives of the CBD and the Nagoya protocol, to which the country is a party, and national laws regulating access to genetic resources and Traditional Knowledge. However, the latter is not yet put in place. GoM may consider to Draft and enact laws on protection of traditional knowledge and on access to genetic resources[1] and associated traditional knowledge to complement the IP Bill as well as support the objectives of the CBD and the Nagoya protocol to which Mauritius is a party. "ABS Capacity Development Initiative" provides legal framework regarding sovereignty of genetic resources for developing countries while abiding by the CBD and Nagaya protocol.

There are research and academic institutions that are involved in the generation and use of intellectual property assets. However, these institutions do not have institutional IP policies that may guide and support the generation, protection, and exploitation of IP assets and determine rights and benefits of researchers. As a result of this, there are cases that demonstrate loss of valuable research results that could have been patented due to disclosure through publication.

There are no laws dealing with the protection of new plant varieties, layout designs, traditional knowledge and geographical indications that may enable the country to meet the needs of different stakeholders in protecting IP assets as well as the country in strengthening competitiveness and enhancing export income.

Moreover, stakeholders indicated the need for protection of geographical indications and traditional knowledge to strengthen competitiveness and enhance export income from products that have unique attributes resulting from the origin of the products as well as prevent misappropriation and ensure equitable sharing of benefits resulting from the use of traditional knowledge.

3.0 Regional Analysis on the Implementation of the Nagoya Protocol in the Western Indian Ocean

A Regional Analysis on the Implementation of the Nagoya Protocol in the Western Indian Ocean,

including Mauritius, was carried out and published on 11th May 2018. The overall objective of the Biodiversity Project was to contribute to regional integration by ensuring more effective, coherent and collective biodiversity management in line with international and regional agreements and priorities for sustainable development and to promote sustainable livelihoods. The purpose of the current assignment under the Biodiversity Project is to assist the beneficiary countries to fulfill their obligations under the Nagoya Protocol on Access and Equitable Sharing of Benefits, in accordance with the third objective of the Convention on Biological Diversity (CBD) and where appropriate, to transcribe the provisions of the said Protocol into their national regulations.

The findings for Mauritius was as follows:

- Mauritius acceded to the Nagoya Protocol on 17 December 2012. However, up to date, there is no specific legislation in the country that has implemented the articles of the Protocol. However, one strategic goal put forward by Mauritius, which is based on the Aichi Targets, is to create a legal framework which will implement the Articles of the Nagoya Protocol by 2020, and to have best practices showcased by 2025.
- Various institutions are encouraged to participate in the enactment of laws that will ensure the appropriate use of genetic resources in or from Mauritius, ascertain the equitable share of benefits from the use of those resources, and protect the traditional knowledge associated with them.
- The Ministry of Agro-industry and Food Security is the focal point in Mauritius for the Nagoya Protocol. It has the duty to ensure the application and implementation of the Nagoya Protocol on ABS as well as the CBD. In terms of a permitting system, the National Parks and Conservation Service, under the same ministry, is responsible for granting permits and establishing Material Transfer Agreements concerning research projects with no commercial purposes. The Horticulture Division - Plant Genetic Resources Unit that falls under the same Ministry is also responsible for the international treaty on plant genetic resources. However, as to date no national competent authority has been designated for the Republic of Mauritius.
- In Mauritius, no steps have been taken so far to implement the NP and it appears that institutions are not yet familiar with the ABS process. There is no coordinated mechanism among the different ministries and as far as genetic resources are concerned there seems to be a clear line between terrestrial and marine issues. Indeed the Maritime Zone Act was adopted in April 2017 and provides access and use of marine biological material including genetic resources in accordance with the Nagoya protocol. It stipulates that "*the party conducting the research shall provide Mauritius with a fair and reasonable share of any benefits arising out of any utilization of the biological material or its progeny or derivatives* "(art 8.d): This concerns research for non-commercial purposes. In case of commercial purpose there should be the possibility to conclude mutual terms of agreement. The implementation of this legal instrument falls under the responsibility of the Prime Minister's Office and the Department for Continental Shelf, Maritime Zones Administration and Exploration.

National Target(s)

16. Nagoya Protocol on ABS

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

1.0 Adoption of a Material Transfer Agreement (MTA) for non-commercial use of Genetic Resources for Native Terrestrial Biodiversity

MTA has been put in place for only non-commercial use for native terrestrial biodiversity only. From 2015 to 2020, 24 MTAs have been signed by Mauritius for use of genetic resources mainly for research purposes.

The National Parks and Conservation Service is currently working on a regulation on research for the native terrestrial biodiversity.

2.0 A National Intellectual Property Development Plan for The Republic of Mauritius was prepared in January 2017

The Intellectual Property Rights Bill still under review and has not been enacted so far due to lack of harmonisation and a common consensus on IPR issues amongst key stake holders and liability.

3.0 **Regional Analysis on the Implementation of the Nagoya Protocol in the Western Indian Ocean**

The recommendation of the situational regional analysis on the implementation of the Nagoya Protocol still not implemented for the Republic of Mauritius.

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Relevant websites, links, and files

Report MSIRI
Nagoya situational analysis mauritius NP Regional analysis _final version oct 2018.pdf (Regional Analysis Nagoya WIO)

Other relevant information

Other Genetic Resources in Mauritius (Source: FAREI)

A number of varieties from gene pool are used in breeding programmes. Local pea variety, bean variety Long Tom, Local Red onion, Local cauliflower, Tomato variety MST 32/1, White Cucumber, Local cauliflower, Local cabbage, Carrot variety Cape Market and local colocasia accessions are parent used in various breeding programme at FAREI. The different breeding techniques used include maintenance breeding, conventional breeding and mutation breeding.

Crop Improvement Programme at the FAREI: characterisation and utilization, breeding and improvement works are underway on the following:

Onion (*Allium cepa*), garlic (*Allium sativum*), potato (*Solanum tuberosum)*, tomato (*Solanum lycopersicum*), cauliflower (*Brassica oleracea botrytis*), cucumber (*Cucumis sativus*), carrot (*Daucus carota*), **pea (*Pisum sativum*), snap bean (*Phaseolus vulgaris*), colocasia (*Colocasia esculenta var esculenta*), cassava (*Manihot esculenta*)** and Oyster Mushroom –*Pleurotus* strain

- Two locally bred open-pollinated onion varieties namely Bellarose and Francia were released for commercial cultivation in 2007. Bellarose originated from a cross between Local Red and introduced varieties. Francia is a Brazilian variety improved through selection.
  - 2 strains of *Pleurotus* mushroom (CC 200 and CC 201) were recommended in 2013. Pleurotus mushroom varieties (CC 71/1) (CC 71/4), (CC 66/4) and CC 46/2) developed under mutation breeding and released in 2015.
- Vigora, highly tolerant to late blight (*Phytophthora infestans*) disease, is a new potato variety developed jointly by the Mauritius Sugar Industry Research Institute and the Food and Agricultural Research and Extension Institute and released in 2018.
  - The local pea variety Local has been used as recipient in crosses with introduced varieties

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and F6, F9 and F12 generation has been reached.

- Local Variety Long Tom was improved in year 2018 by FAREI by maintenance breeding.
- FAREI Bean Selection 1 (FBS 1) and FAREI Bean Selection 2 (FBS 2), 2 snap bean varieties originating from cross between local bean variety Long Tom and introduced variety, was recommended in 2018 to growers for commercial cultivation while one advanced line is F12 stage. Lines for other crosses using Long Tom as parent are at F6 stage and F7 stage.
- Tomato varieties Summer King, Summer Star and Rising Star were developed under mutation breeding using variety MST32/1 as parent line. The three lines were released in 2015 and other potential lines are still under observation.
- A conventional breeding programme for tomato is on-going and crosses were effected between varieties Wild type x Metis and Calora x Swaraksha. This project is at its second year of implementation. Potential lines are still to be identified.
- A mutation breeding programme using Local cauliflower and Local Cabbage as parent line has been initiated since 2016. M4 seed have been collected and project will continue till stabilisation of the characteristics of selected lines.
- Carrot variety obtained from the collection at PGR Unit of Agricultural Services of MAIFS is being used as a parent line in a mutation breeding project.
- Garlic: 12 local accessions were characterised morphologically
- Cassava: 8 local accessions characterised morphologically
- Colocasia: 10 local accessions comprising of 2 accessions of Arouille violette, 3 accessions of Arouille carri and 5 accessions of songe characterised morphologically.

· Five anthurium varieties namely Ceres (Acropolis X Cumbia), Achilles (Midori X Cumbia), Luna (Anneke X Altiplano), Icarus (Anneke X Altiplano) and Juno (Anneke X Altiplano) were released in 2006 while varieties Twilight (Ozaki and Nunzia) and Starlight (Colorado and Angel) were released in 2018. A number of lines of potential interest are in their final year of evaluation.

· Litchi germplasm characterised using phenological and morphological characteristics and molecular markers.

· Seventeen litchi genotypes exist in the germplasm pool at Reduit CRS. Among which, one litchi variety, Yook Ho Pow was released in 2016 and a new variety Kiamana variety was introduced from Australia in 2017 and are under evaluation at Reduit CRS and Pamplemousses Organic Research Station.

· Morphological and molecular characterisation of 28 banana varieties existing in the germplasm pool at Pamplemousses Experimental Station has been completed. A mutation-breeding programme on banana has started since 2008. The genetic stability of 5 promising mutant lines is currently under evaluation.

· Six local papaya accessions were selected at Pamplemousses Organic Research Station and bagged seeds are produced for interested planters. Eleven new papaya varieties were imported from South Africa in December 2019 and one new variety from America. These new varieties will be evaluated on our stations and on farms.

- Eighteen underutilised fruit species are under conservation at FAREI Pamplemousses Organic Research Station. They included Pommegranate (*Punica Granatum*), Rousaille (*Eugenia Uniflora*), Acerola (*Malpighia glabra*), Coeur de Moiselle (*Carissa Cararandas*), Mabolo (*Diospyros discolor*), Jamblon (*Syzygium Cuminii*), Jaboticaba (*Myciara Cauliflora*), Bibasse (*Eriabotrya Japonica*), Figue (*Ficus Carica*), Cashewnut (*Anacardium Occidentale*), Duku (*Lansium Domesticum*), Jambos (*Syzygium Malacennse*), Chalta (*Dillenia Indica*), Pomme Jacot (*Mimusops Bojeri*), Lucuma (*Lucuma Nervosa*), Pistache Malgache (*Bombax Echilis*) and Cerise (*Eugenia Brasileasis*).

Obstacles and scientific and technical needs related to the measure taken

1. There is no Strategy and Action Plan for implementation of Nagoya Protocol in Mauritius.
2. There is no Legal Framework to regulate the fair and equitable sharing of genetic resources.
3. There is limited capacity to prepare and enforce a legislation on Nagoya Protocol.
4. There is no designated institution as National Competent Authority for the administrative entity for the management and implementation of the provisions of the Nagoya Protocol.
5. There is currently no specific legislation in the country that has implemented the articles of the Protocol. However, one strategic goal put forward by Mauritius, which is based on the Aichi Targets, is to create a legal framework which will implement the Articles of the Nagoya Protocol by 2020, and to have best practices showcased by 2025. Various institutions are encouraged to participate in the enactment of laws that will ensure the appropriate use of genetic resources in or from Mauritius, ascertain the equitable share of benefits from the use of those resources, and protect the traditional knowledge.

6. A number of stakeholders including the Mauritius Chamber of Agriculture, Mauritius Sugarcane Industry Research Institute and the Association of Horticulture Producers and Exporters expressed the need for a plant variety protection law in the country. They argued that the absence of such a law:
(i) Resulted in loss of IP Assets-Improved varieties such as a tomato variety developed in Mauritius is being used in other countries free of royalty;
(ii) Could not support local research by facilitating access to improved new plant varieties from abroad that could be used for experimental and adaptive research;
(iii) Hampered the import and use of new plant varieties by the productive
sector thereby resulting in lower productivity and having varieties with desirable traits such as disease resistance; and
(iv) Discouraged Foreign Direct Investment (FDI).

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Preparation, endorsement of National Biodiversity Strategy and Action Plan (NBSAP) by Government of Mauritius

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

In adherence with obligations of the CBD, Mauritius prepared the NBSAP (2017-2025) in 2017. The NBSAP was prepared for both Mauritius and Rodrigues. The NBSAP was endorsed by the Cabinet of Ministers on Friday 19 May 2017 and it was launched on the occasion of the International Day for Biological Diversity 2017, commemorated on 22 May. Some 500 copies of the NBSAP were published and distributed to various sectors and the general public. An awareness workshop was organized on 22 May 2017 to disseminate the NBSAP to various stakeholders.

The implementation of the NBSAP has not been carried out effectively as per proposed recommendation in the said document.

For the preparation of Sixth National Report for the CBD, a Steering Committee and Technical Committee was recommended to be put in place. The Steering Committee chaired by Senior Chief Executive of the Ministry of Agro-Industry and Food Security and was held for the first time on 21 January 2020.

The Technical Committee, chaired by the Director of the National Park Conservation Service regrouped focal persons from various institutions to:

1. Assist the Chairperson in undertaking of a desk review and situational analysis of implementation of CBD National Biodiversity Strategic Action Plan 2017-2025 and its CBD Aichi Targets.

2. Provide up to date and as far as possible accurate information (publications-databases) pertaining to Biodiversity thematic areas inter alia Terrestrial, Marine and Agro biodiversity as and when

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necessitated that adheres to the CBD 6th NR manual template for providing information.

However, the Steering Committee did not view the implementation of the NBSAP per se. A workshop on the preparation of the CBD 6th National report was organized in Rodrigues on Tuesday 10th March 2020.

The NBSAP was not mainstreamed fully across all sectors.

The Key Performance Indicator (KPI) “NBSAP is fully endorsed by the Cabinet” as stated in the NBSAP is the only KPI that has been achieved for this National Target

National Target(s)

17. NBSAPs

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

As per KPI set by NBSAP and report from the Technical Committee for the Sixth National Report EN

Relevant websites, links, and files

CBD Website
Portal Government of Mauritius

Obstacles and scientific and technical needs related to the measure taken

There were no strategies adopted to raise awareness amongst decision makers and politicians and to mainstream the NBSAP document across various relevant stakeholders/institutions/Ministries/Private sectors/NGOs/CSO both in Mauritius and Rodrigues.
There are various lessons learnt and gaps which were also mentioned in the Fifth National Report on the CBD.
There is no coordination process for the implementation, monitoring and evaluation of NBSAP KPI among the different sectors both in Mauritius and Rodrigues.
There is still significant fragmentation in the responsibilities among various ministries and institutions in the implementation of the NBSAP. Many institutions are even now, working in isolation. EN

Setting up and operationalisation of a Clearing House Mechanism for the Republic of Mauritius

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

The absence or difficulty in accessing relevant information related to biodiversity is regarded as an obstacle to the implementation of the goals of the Convention. Therefore, as a general commitment to CBD to increase the amount and quality of biodiversity relevant information and technologies, all contracting countries need information to identify threats to biodiversity and determine priorities for conservation and sustainable use.
In view of the above, Mauritius had set up a **Clearing House Mechanism** (CHM) for the country under the priorities identified in the Fifth National Report for developing a scientific data and EN

publication exchange mechanism to improve the CBD reporting and exchange mechanisms.
The setting of the CHM was an activity under the UNDP while preparing the NBSAP. The CHM is housed under the Government Online Centre. **The CHM has not yet been officially launched**.
There was capacity building but the implementation with full logistic was not discussed on the way forward. Thus, the operation of the CHM has not been fully implemented.
Since the creation of the CHM, only the publications that were originally uploaded appears on the National CHM website.
One of the Key Performance Indicator mentioned in the NBSAP is “number of website visits”, unfortunately there is no provision on CHM website to indicate the latter.
For Rodrigues, there is a need to set up an appropriate logistics for the provision of internet.

National Target(s)

19. Biodiversity knowledge

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

As per KPI set by NBSAP and report from the Technical Committee for the Sixth National Report

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Relevant websites, links, and files

CBD Website
Mauritius Clearing-House Mechanism
Mauritius Clearing-House Mechanism

Obstacles and scientific and technical needs related to the measure taken

The institutions responsible for addressing biodiversity conservation and sustainable use across different thematic areas (freshwater, terrestrial , marine and agricultural biodiversity) was not fully provided with adequate resources (human, logistics, financial)
Capacity building on the CHM was not provided to all the stakeholders
The role of institution responsible for the CHM was not formalised.
For Rodrigues, stakeholders informed that the speed of the internet is the biggest limiting factor to allow them to browse for information, load and download data.

Effective sharing mechanism between the different stakeholders has not been put in place.

EN

Relevant websites, web links and files

CBD Website
http://chm.govmu.org/publications/
http://chm.govmu.org/nbsap/nbsap-2016-2025/#

Green Finance

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

The Financial Services Commission of Mauritius (FSC) has become the latest financial regulator to

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sign the Marrakech Pledge, a coalition of African capital market regulators and exchanges committed to act collectively in favour of green finance.

Green finance comprises the financing of public and private green investments (including preparatory and capital costs) in the following areas:

- environmental goods and services (such as water management or protection of biodiversity and landscapes)
- prevention, minimization and compensation of damages to the environment and to the climate (such as energy efficiency or dams)
- the financing of public policies (including operational costs) that encourage the implementation of environmental and environmental-damage mitigation or adaptation projects and initiatives (for example feed-in-tariffs for renewable energies)
- Components of the financial system that deal specifically with green investments, such as the Green Climate Fund or financial instruments for green investments (e.g. green bonds and structured green funds), including their specific legal, economic and institutional framework conditions.

1. Creation of GREEN JOBS

- Within the context of a green economy, green jobs provide decent work opportunities and contribute to preserving and restoring the environment. Green jobs are defined as those that help (1) improve energy and raw materials efficiency; (2) limit greenhouse gas emissions; (3) minimize waste and pollution; (4) protect and restore ecosystems; and (5) support adaptation to the effects of climate change. Green jobs can be created in all sectors, industries and types of enterprises. They can be promoted in urban and rural areas, and in countries at all levels of economic development.
- Since 2015, green jobs have been created in the Ministry of Agro Industry and Food Security for forest restoration and tree planting through the GEF/UNDP projects ‘expansion of protected area PANES. After completion of the GEF/UNDP Funded Project: Expanding Coverage and Strengthening Management Effectiveness of The Terrestrial Protected Area Network on the Island of Mauritius (PAN Project) and as a continuation of the project objective, the 113 contract general workers whose contract were terminated in February and March 2018, were recruited by the Ministry of Agro-Industry & Food Security using Ministry funding.
- In Rodrigues, the Rodrigues Regional Assembly fully supports the development of green businesses and jobs, giving permits for ecotourism activities, such as guided ecotours in the Grande Montagne and Ile aux Coco Nature Reserves. Green jobs were also provided to tourism employees affected during the COVID lockdown and tourism decline

- 2. Participation of the private sector including CSR funding

- The banking sector in Mauritius is also participating in the financing of the biodiversity sector through different schemes. Banks such as The Mauritius Commercial Bank Ltd and the Hong Bank Ltd have been spearheading biodiversity activities for restoration of biodiversity and sensitization campaign to the general public via NGOs. For e.g. The Mauritius Commercial Bank Ltd (MCB) committed itself to promoting sustainable development across all its activities. The MCB acknowledged the need for socio-economic development to be sustainable, such that future generations are not adversely impacted by present actions. One of the governing principles of this environmental and social policy is the compliance with the environmental laws, including health and safety legislation, of the Republic of Mauritius.

- Corporate bodies in Mauritius are required to operate a CSR fund. All profitable companies are required in a year to set up their CSR Fund of an amount equivalent to 2% of their chargeable income of the preceding income year. One of the priority areas of intervention is Environment and sustainable development.
- 3. Biodiversity conservation projects and financing
- In line with our international commitments, the implementation of the NBSAP, including the targets set, have been fully supported by Government through adequate funding and the Government also seeks funding from Development Partners to support the existing financial and non-financial resources mobilized for the NBSAP but also for other biodiversity projects, whether terrestrial and forest or coastal and marine biodiversity. Significant funding has been provided in the budgets of former years for protection of our forests and fauna. Furthermore, to protect our freshwater biodiversity, the inland wetlands are being studied and mapped through various projects using new technologies and a new Wetlands bill is under preparation. Significant funding is also provided to the Food and Agricultural Research Organization, Veterinary Services and the Ministry of Blue Economy, Marine Resources and Fisheries to control pests and diseases which would be likely to affect our biodiversity. For instance, the latter Ministry is implementing two projects on ships biofouling and ballast management fully funded by Government to assess the impact of invasive species in our waters through the harbour. The restoration of coral reefs is also being implemented on a regional basis with Seychelles through co-funding from UNDP/GEF. Funding has also provided in recent years to the Rodrigues Regional Assembly for restoration of coral reefs and assessment of the impact of climate change on coral bleaching.
- As at date, Government has directly funded more than Rs 500 million in biodiversity projects mainly for the preservation and conservation of our terrestrial and forest biodiversity and marine biodiversity.
- In addition, investment in Biodiversity Conservation has also being through regional and international funding agencies, mainly under the GEF Fund. Finally, local NGO'S as well as some private sectors also generates funding that goes into Biodiversity Conservation Programmes.

  Finally, Mauritius has created two financial instruments, namely National Parks and Conservation Funds under the Native Terrestrial Biodiversity and National Parks Act 2015, and The National Environment Fund, under the EPA Act 2002, whereby money credited to these funds are used to support conservation activities in Mauritius.
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National Target(s)

20. Resource mobilization

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Unknown

tools or methodology used for the assessment of effectiveness above

As per Key Performance Indicators set by NBSAP and report from Technical Committee for the sixth National report.

Annual Report of Financial Services Commission.

EN

Relevant websites, links, and files

https://www.ocorian.com/article/green-finance-mauritius-financial-services-commission-signs-marrakech-pledge)
https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_317238.pdf)
https://www.mcb.mu/en/mediacontent/environmental and social policy_tcm55-40653.pdf

Obstacles and scientific and technical needs related to the measure taken

1. No action plan and strategy for resource mobilisation.
2. No capacity building
3. NBSAP not fully mainstreamed within the accounting of the government.

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Section III. Assessment of progress towards each national target

1. Awareness of biodiversity values

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Please refer to Section II

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Indicators and Activities

Indicator(s)used in this assessment

The key indicators as spelt out in the NBSAP were not implemented accordingly. However the following indicators in some way attempt to address the objectives of the National Target.

1. Number of education and awareness programs carried out by government and non government organisations, and private sectors.
2. Celebration of national and International Days related to biodiversity.
3. Number of training carried out by government and non-government organisations, and private sectors on both marine and terrestrial biodiversity.
4. Number of students sensitized on biodiversity through Eco-schools programme, open days, learning with Nature Programme, Rodrigues Environment Education Programme, Islets Education Programme, Human-Bat conflict resolution, open days, creation of endemic gardens.

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5.Number of Mauritians on Eco-tourism tour provided by NGOs and the private sector, and in national parks and reserves.

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Level of confidence of the above assessment

Some reports were based on information collected and some were based on expert stakeholders from the different thematic areas discussed during Technical Committee. EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

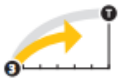
Monitoring system for the target

At present, there is no agreed protocol on a common method of assessment and as such no proper monitoring and reporting system have been put in place for each target.

Information received from Technical Committee (TC) members and from various individual meetings are usually inadequate despite their commitment. Furthermore, the indicators and activities are not specific as requested by the NBSAP.

The Clearing House Mechanism (CHM) is not well structured and has remain inactive up till now due to resource limitations. There is need to carry out capacity needs assessment for implementing, monitoring and reporting the activities set by the NBSAP. EN

2. Integration of biodiversity values



2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Some reports were based on information collected and some were based on expert stakeholders from the different thematic areas. The Land Use Planning Framework caters for the protection and promotion of biodiversity values. The existing planning tools namely National Development Strategy (NDS) for the Republic of Mauritius, and Outline Planning Schemes (OPS) makes necessary legal provision for the continued protection of the environment sensitive and biodiversity areas. The permitting authorities including Non-Governmental Organisations (NGOs) are playing an active part in integrating the set of biodiversity values.	EN

Indicators and Activities

Indicator(s)used in this assessment

National Development Strategy (NDS) review Mainstreaming biodiversity project Integrated Coastal Zone Management	EN

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Some reports were based on information collected and some were based on expert stakeholders from the different thematic areas discussed during Technical Committee.	EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

At present, there is no agreed protocol on a common method of assessment and as such no proper monitoring and reporting system have been put in place for each target for the Republic of Mauritius. Information received from Technical Committee (TC) members and from various individual meetings are usually inadequate despite their commitment. Furthermore, the indicators and activities are not specific as requested by the NBSAP. The Clearing House Mechanism (CHM) is not well structured and has remain inactive up till now due to resource limitations. There is need to carry out capacity needs assessment for implementing, monitoring and reporting the activities set by the NBSAP.	EN

3. Incentives

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Date the assessment was done

24 Jul 2020

Indicators and Activities

Indicator(s)used in this assessment

-Annual Report FAREI 2015-2020 (status/progress on Zero budget Natural Farming project and biofarming certificate issued). -Fruit Protection Scheme and quantum of subsidy granted by the Government of Mauritius for protection of fruit trees against fruit bad damage. For 2018-2019, the number of beneficiaries were 3317. For the period 2019-2020, backyards owners are eligible for a maximum of 5 nets but is insufficient to meet the demands.	EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Some reports were based on information collected and some were based on expert stakeholders from the different thematic areas. Adoption of the use of pesticide Act 2018 gives more impact to the development of a Bio-based agricultural industry. Biofarming promotion scheme report published.	EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Under the Strategic Plan (2016-2020) for the Food Crop, Livestock and Forestry Sectors, Proposed Measures for the development of Bio Farming: a. Development of bio production protocols. b. Introduction of bio farming certificate to encourage bio food production c. Establishment of dedicated bio farming zones, and the relevant conditions to be imposed on land use and crop management d. Training of farmers in production of bio food production e. Provision of support schemes for the purchase of inputs/equipment for bio farming f. Promoting markets for produce from fields in the process of conversion to organic g. Review of Dangerous Chemicals Control Act to regulate the import and use of bio pesticides h. Sensitization of the public on the importance of consuming bio food and valuing the difference	EN

i. Review of Chemical Fertilizers Act to regulate the import and use of bio fertilizers and other organic fertilizers, growth promoters and activities such as dyes and colorants; and

j. Harmonizing and standardizing procedures for the evaluation of plant protection products, and soil conditioners for use in bio farming.

4. Use of natural resources

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Date the assessment was done

24 Jul 2020

Indicators and Activities

Indicator(s)used in this assessment

Indicators being addresses in the project.

1. Area of coastal and marine ESAs under improved management or conservation status.
2. Policy effectiveness of ESA categorization in key planning and decision making processes pertaining to coastal and marine areas.
3. Spatial and policy information for all marine and coastal ESAs openly and freely available to all planning agencies, decision makers, stakeholders and to different target audiences in the terms of data use and data applications.
4. Protected area management effectiveness scores for each MPA as recorded by Management Tracking Tools.
5. Area (ha) of MPAs either legally designated or established through MOUs with communities.
6. Key MPA finance indicators.
7. Total operational budget (including Human Resource and Capital Budget allocation for MPA management.
8. Number of additional males and females benefiting from livelihoods strengthened through solutions for management of MPAs.
9. Area of coastal wetlands managed effectively.
10. Promulgate Wetlands Act and ESA regulations.
11. Area over which soil erosion are successfully applied .

EN

12. Number and profile of persons and organisations accessing coastal and marine biodiversity information using the tools and products developed by and/or influenced by the project.
13. Existence of marine and coastal information and GIS Unit.
14. Number of tourism operators participating in eco-labelling/tourism standards schemes.

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Mainstreaming biodiversity in ICZM project surpass project outcomes in some thematic areas (the overall project implementation rate (including pre-encumbrance) is 82% with over 80% or the planned activities presented in its procurement plan already completed).

Mid term and terminal evaluation reports of the implementation of the PAN project

EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Project Steering Committee oversees and monitors progress of project.

EN

5. Loss of habitats

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Please refer to Section II

EN

Indicators and Activities

Indicator(s)used in this assessment

Legal framework for Environmental Sensitive Areas (ESAs) is in place and enforced. One of the main components of the mainstreaming biodiversity in the management of the Integrated Coastal Zone of the Republic of Mauritius was to develop this framework. The other outputs of the project included:1. A first draft of wetland bill including digital maps of Environmental Sensitive Areas (ESAs) with boundary delimitation produced and circulated to relevant stakeholders including key Ministries, private sectors and non-governmental organisations. 2. Management plans for critically threatened marine and coastal biodiversity. 3. Erosion control and ecosystem services restoration.	EN

Any other tools or means used for assessing progress.

-The project is funded under the GEF/UNDP and follows all the evaluation requirements. -Mid term and final evaluation reports.	EN

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

The project will end by 2021 and is expected to produce targeted deliverable.	EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Project Steering Committee set up as part of the UNDP facilitated Mainstreaming biodiversity in ICZM within the Ministry of Blue Economy, Marine Resources and Shipping as the parenting-lead agency for monitoring progress on the set deliverable of the said project.	EN

6. Sustainable fisheries

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Increase in weight and Quantity of octopus after closure.

Monitoring and record of catch and weight data at landing sites on a daily basis.

Annual report from Ministry of Blue Economy, Marine Resources and Shipping.

EN

Indicators and Activities

Indicator(s)used in this assessment

The UNDP-Joint Management Area (JMA) Demonstration Project aims at consolidating existing databases and elaborate further on the framework for data and information management. So far the following progress has been achieved:

Marine Spatial Planning (MSP) Framework, Roadmap for MSP completed. Geospatial platform set up using ArcGIS. Key factors for future JMA Scenarios identified such as petroleum exploration and production, exploration and production of seabed minerals, and conservation and exploitation of sedentary marine species. Capacity building in MSP and in Area beyond National Jurisdiction being implemented (2 MSP Training and 1 ABNJ Training completed). Data Management System, Draft Hardware and Software architecture proposal completed.

Management plans for critically threatened marine and coastal biodiversity in progress.

EN

Any other tools or means used for assessing progress.

A study and survey was carried out for the identification of off-lagoon aquaculture sites.

Mid term and terminal evaluation UNDP report.

EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Technical reports on MSP produced and experts groups as members of the three working groups on thematic areas such as New Economic Activities; Conservation; and MSP Framework and Coordination of MSP related projects.

EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

GIS Platform for Marine Spatial Planning.

The information collected by the Indian Hydrographic ships for the last 13 years has been compiled in the form of nautical charts. Additionally, MHS has carried out numerous surveys in the near shore areas for meeting requirements of various stakeholders. The above data and information has been shared with the Department of Continental Shelf,

EN

Maritime Zones and Administration for implementing GIS Platform for Marine Spatial Planning, which would be useful for all concerned stakeholders of oceanic domain in future. Mauritius has so far established three technical working groups towards Marine Spatial Planning. These working groups are now focusing their actions on the new Economic Activities addressing issues related to aquaculture sites, marina development and tourism and recreational activities; Sustainable Development Goal 14 (SDG14) to achieve Target 14, that is conserving 10% of the marine area by 2020 and provide a relevant indicator for measurement; and mainstreaming Biodiversity Project–Establishing an electronic platform depicting geographical database concerning Environmentally Sensitive Areas within the framework of our Ocean Observatory. MHS is an integral part of the working groups. The bathymetry data collected by MHS is shared with MOI and Mauritius Met Office for the development of a robust Tsunami Surge model. MHS also works collaborates with National Disaster Risk Reduction and Management Centre (NDRRMC) towards certain technical issues.

7. Areas under sustainable management

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Date the assessment was done

24 Jul 2020

Indicators and Activities

Indicator(s)used in this assessment

- **12ha** is under bio-farming production. Government has provided a number of schemes to promote bio-farming.

There are **55** MauriGAP level 1 certified operators and as at date, no application for certification to MauriGAP level 2 has been obtained. The percentage of certified operator is 0.02%.

EN

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Area under Bio -Farming production

Number of planters who have been MauriGap certified

Annual Reports FAREI 2015-2020

EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Sample collected and Tests effected for pesticide residue to ensure compliance with MAURIGAP certification standard of Agricultural crops. EN

8. Pollution

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Evidence of progress assessment is based on the number of tests conducted by agricultural laboratories on pesticides residues level from samples collected by Pesticide Regulatory Office for analysis on a prescribed time frame as follows:

Short Term- 100 units of samples collected per month

Medium Term- 125 units of samples collected per month

Long term- 200 units of samples collected per month

Number of contraventions filed against non-compliance of Act EN

Indicators and Activities

Indicator(s)used in this assessment

Number of tests conducted by agricultural laboratories on pesticides residues level from samples collected by Pesticide Regulatory Office

Number of contraventions filed against non-compliance of Act

Water quality Tests (Rivers downstream, Coastal marshlands-Belle Mare, Grand sable

As to date; 56 training sessions were carried out on pesticide application and 1168 people have been trained by Food EN

and Agricultural Research and EXtension Institute (FAREI).

Approved list of pesticides listed in the Guide Agricole launched by FAREI in December 2019.

Any other tools or means used for assessing progress.

Annual Report Agricultural Services Report 2015-2020. EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

A well-defined protocol established for the collection of agricultural fields produce samples and analysis of pesticide residue pesticide as per international standards and records kept. EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

The enactment of the Use of Pesticides Act 2018 (No. 8 of 2018) has reinforced the legislation to regulate, control and monitor the use of pesticides in the Republic of Mauritius. The main objective is to regulate, control and monitor the importation and use of pesticides in or on certain fresh fruits, plants, seeds or vegetables with a view to, *inter alia*, minimising risks to human health and the environment. The Act makes provision for the setting up of a PESTICIDES REGULATORY OFFICE which has been set up and is housed within the Ministry of Agro-Industry and Food Security.

The PESTICIDES REGULATORY OFFICE is mandated to:

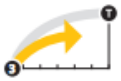
(a) regulate, control and **monitor** the use of pesticides in or on any agricultural produce; (b) develop strategies for the sound use and management of pesticides and for risk reduction associated with the use and disposal of empty pesticide containers; (c) keep relevant information on pesticides; (d) devise a Pesticides Code of Practice; (e) advise the Minister on any matter related to the use of pesticides; (f) do such other things as may be necessary for the purposes of this Act. EN

The Act empowers the Ministry responsible for agriculture to conduct regular official monitoring of agricultural crops; the use of pesticides; obtain, without payment, a sample of the agricultural produce for the purpose of examination, analysis or testing of sample in a laboratory for determining the residue level of pesticides it contains and serve a notice on the owner or person in charge of the land or premises, or seller, for any non-compliance with respect to pesticide use.

Other relevant website address or attached documents

Pesticide Use Act 2018
Pesticide Use Act 2018

9. Invasive Alien Species



2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

The UNDP-GEF mainstreaming IAS Control, Prevention and Management of IAS Project Pro-doc as a key deliverable achieved under UNDP-GEF project framework and Local Project Appraisal committtee (LPAC) meeting held under the chairmanship of the hosting ministry to endorse the implementation operation (PMU establishment, procurement for logistics and other modalities as agreed among stakeholders). However, PMU establishment still in the pipeline. The significant number of exotic wildlife species successfully screened and prevented from entry and invasion in the country.	EN

Indicators and Activities

Indicator(s)used in this assessment

1. Pro-doc document for mainstreaming IAS prevention control and management produced and endorsed by GEF council. 2. Number of prescribed and exotic wildlife species successfully screened and evaluated for their risk of introduction as invasive species. 3. Number of CITES and Import Permit for Exotic Wildlife (IPEW) permits delivered by the NPCS to the public/applicants.	EN

Any other tools or means used for assessing progress.

The CITES Annual reports published on the CITES Website for period 2015 to 2019. Annual Report NPCS 2015-2019.	EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

The mainstreaming IAS Control, Prevention and Management of IAS in an internationally funded project and a comprehensive document endorsed by GEF international council and also approved by Cabinet of ROM. However, the project Project Management Unit and Steering Committee has to be fast tracked to	EN

meet project completion deadline.

The IAS Committee established under section 30 of Native Terrestrial Biodiversity and National Parks Act 2015 that regulates the introduction of exotic wildlife in Mauritius. The committee is Statutory comprising of expertise from different fields and operates under an approved Terms of Reference. It is the main regulatory body that evaluates and provide necessary recommendation to the Parent Ministry on the importation of exotic wildlife including introduction/import of exotic animals in Mauritius.

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Necessary action has been initiated for the establishment of the Mainstreaming IAS control, prevention and management under the seat of the Ministry of Agro-industry and FS to monitor progress of the project. Furthermore, recruitment of the Project Management Unit is currently in the pipeline.

Since the year 2015, the IAS Committee has screened several applications pertaining to introduction of exotic wildlife (plants and animals (prescribed and non prescribed species) including a few agricultural crops, ornamental plants and biofuel plants-trees (*Melia azedarach,Arundo donax*, eucalyptus, bamboo) and turf grass for golf course (Bermuda grass etc).
All applications are carefully evaluated and scrutinized by the IAS Committee members to control the introduction of exotic wildlife including prescribed species in the Republic of Mauritius. As a guiding principle, species assessed with high risk of invasion are NOT recommended for importation.

EN

Other relevant website address or attached documents

NPCS Annual Reports 2015 to 2019
UNDP in Mauritius & Seychelles website
CITES Annual country report for Republic of Mauritius

10. Vulnerable ecosystems

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Number of coral reefs successfully culture and transplanted in the sea. Rate of regeneration of transplanted coral reef and/or mortality rate encountered. Ecosystem health assessment of transplanted reef patches and their associated marine life (fauna and flora diversity inclusive of sea grass bed)	EN

Indicators and Activities

Indicator(s)used in this assessment

Management plan of Blue Bay Marine Park and Ramsar Site of international Importance Marine Biodiversity Index for Lagoon (Fisheries to confirm and produce scientific reports) Annual Reports of Fisheries for period 2015 to 2019 (fisheries stock index and coral degradation and relief progress) Awareness raising and capacity building of fishermen community in sustainable in lagoon and off lagoon fisheries Number of licenses issued for nautical activities issued within Marine Protected Areas (MPA)	EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

1. Number of coral farming projects (governmental institutions and NGO's) implemented by Mauritius Oceanographic Institute (MOI) in collaboration with Ministry of Fisheries and other NGOs since 2015 to date. MOI: One (Coral Culture Training Programme(CCTP) at Quatre Soeurs, La Gaulette, Bel Ombre, Grand Gaube) (2017-2020) ECOSUD: One (Pte D'Esny) (2018-2020) AFRC: Three (Balaclava, Trou aux Biches, Blue Bay) Shoals Rodrigues : Two (Jeantac, Anse aux Anglais) (2012-2015) ECOMODE: Two (Pte aux feuilles, Flic-en-Flac) WiseOceans: One (Grand River South East) Reef conservation: One (Anse La Raie) 2. Area that has been restored with coral from these farms. MOI: 1,400 sq metre with 6,100 aqua-cultured coral colonies 6. Awareness or capacity building with respect to the coral farming projects. MOI's CCTP Project: - Trained work-force in the field of coral culture (102 participants trained under the CCTP), thus providing alternative livelihoods to fishers and coastal communities. - More than 3,000 members of the public sensitised about the project activities from 2017-2020 through mass media (MBC interviews, newspaper articles, posters, flyers), public talks (in schools, in community centres/village halls), celebration of local/international events (i.e. celebration , University of Mauritius (UOM) and MOI, presentation at international/regional forums including WIOMSA event, UNEP WIOSAP PSC meetings, UNDP PSC meetings) amongst others The Installation of 995 artificial reef units Shipment was made possible through import of 15 Reef Molds by Air from Australia followed by Shipment of 10 Reef Molds by Sea and the Casting and Placement of	EN

995 Reef Units at Sea.

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring of marine conservation projects by the Mauritius Oceanographic Institute:

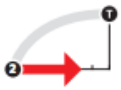
- Quarterly reporting to MOFED through Parent Ministry (Budget measure reporting)
- Quarterly reporting to MOI RAC
- Monitoring of farms and coral gardens by CCTP trainees on a monthly basis
- Monitoring of coral gardens (after transplantation) for at least 2 months

EN

Other relevant website address or attached documents

Coral Rehabilitation Project
Rehabilitation of Coastal Zones in Mauritius

11. Protected areas



2020 - No significant change

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

No significant change

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

No new areas under formal protection except for Biosphere Reserve (>400ha) proclaimed under Black River Gorges Bel Ombre Biosphere Reserve.

EN

Indicators and Activities

Indicator(s)used in this assessment

Establish, expand and maintain a Protected Area Network (PAN) that is representative of ecosystems, safeguards the unique biodiversity of Mauritius and adequately protects its natural assets.

EN

Develop, amend and otherwise continuously improve the legal framework that supports the establishment, maintenance and sustainable use of the Protected Area Network (PAN).
Develop innovative programmes and mechanisms to expand the Protected Area Network (PAN) to include all key biodiversity areas as far as possible, including certain private lands.
Restore indigenous ecosystems as essential components of the country's ecological infrastructure for water, biodiversity and other ecosystem services.
Disseminate biodiversity information and good practises and influence political and economic decision-makers in favour of biodiversity and conservation priorities for a habitable Planet.

Any other tools or means used for assessing progress.

Mid term and terminal evaluation UNDP report. EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

World Database For Protected Area. EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

There has been a monitoring strategy put in place for implementation of PANES for terrestrial biodiversity . However, the implementation has not be effective due to challenges and obstacles faced.

For marine biodiversity, the UNDP Mainstreaming Biodiversity Management into the Integrated Coastal Zone Areas makes proposal for the setting up of new Marine Protected Areas. EN

12. Preventing extinctions

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Date the assessment was done

24 Jul 2020

Indicators and Activities

Indicator(s)used in this assessment

Number of threatened native species of fauna and flora down listed. Number of species found in new location/habitat and database of IUCN. ASTIRIA, database for native flora updated.	EN

Relevant websites, links, and files

IUCN Website for Red List

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

ASTRIA database updated	EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Regular monitoring of critically endangered plants Monitoring of the insitu population of avian endemic species in the wild Annual Reptile NPCS Report 2015-2019	EN

13. Agricultural biodiversity

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Please refer to Section II	EN

Indicators and Activities

Indicator(s)used in this assessment

Implementation of National strategy Action Plan for the Conservation and Sustainable Use of Crop Wild Relatives (CWR) for the Republic of Mauritius,2016. Implementation of Strategic Plan (2016-2020) – for the Food Crop, Livestock and Forestry sector. Implementation of the action plan for Public Sector Business Transformation (PSBT) Strategy 2020-2021. Number of research papers published. Number of crop accession collected and conserved in field gene bank and exsitu seed gene bank.	EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Annual Agricultural Services Report 2015-2019. Number of new varieties produced. Number of cultivars maintained in field gene bank and seed gene bank.	EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring of accession number. Number of targets achieved as per the three strategic plans.	EN

14. Essential ecosystem services

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Refer to Section II EN

Indicators and Activities

Indicator(s)used in this assessment

Study of Ecosystem valuation of catchment area from Mare Longue to Mare aux Vacoas as a pilot study.
Capacity building for monitoring of coastal and off islets biodiversity initiated. EN

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

-Study of

Ecosystem valuation of catchment area from Mare Longue to Mare aux Vacoas study report published in 2017.

-Capacity building programme for (a) fisher community for offshore fishing
(b) Scientific Community/Non-Government Organisations (NGOs) in coral farming and transplant EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Monitoring of reef rehabilitation project including coral farming and transplant by Ministry of Blue Economy, Marine Resources and Shipping, Continental Shelf and other relevant partners on board including Non-Governmental Organisations. EN

15. Ecosystem resilience

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Please refer to Section II EN

Indicators and Activities

Indicator(s)used in this assessment

1. Area (ha) of Agroforestry developed in Mauritius and Rodrigues.

2. Development and implementation of the Strategic Plan (2016 - 2020) for the Food crop, Livestock and forestry sector

3. Number of activities implemented within the Nationally Determined Contributions of Mauritius

4. Enactment of the Climate Change Bill

5. Seagrass Mapping and Ground truthing around the island

6. Seagrass Monitoring Program

7. Blue Carbon Storage Capacity in Seagrass

8. Sensitisation and Educational programme for Coastal Community and Sea Users

9. Insitu carbon stock assessment and monitoring in protected area, agricultural practices and marine ecosystem. EN

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Level of confidence of the above assessment

Some reports were based on information collected and some were based on expert stakeholders from the different thematic areas discussed during Technical Committee. EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

At present, there is no agreed protocol on a common method of assessment and as such no proper monitoring and reporting system have been put in place for each target for the Republic of Mauritius. EN

Information received from Technical Committee (TC) members and from various individual meetings are usually inadequate despite their commitment. Furthermore, the indicators and activities are not specific as requested by the NBSAP.

The Clearing House Mechanism (CHM) is not well structured and has remain inactive up till now due to resource limitations. There is need to carry out capacity needs assessment for implementing, monitoring and reporting the activities set by the NBSAP.

16. Nagoya Protocol on ABS

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

No steps have been taken so far to implement the Nagoya Protocol and it appears that institutions are not yet familiar with the ABS process. There is no coordinated mechanism among the different ministries and as far as Genetic resources are concerned, there seems to be a clear line between terrestrial and marine issues. Indeed, the The Maritime Zone Act was adopted in April 2017 and provides access and use of marine biological material including Genetic resources in accordance with the Nagoya Protocol. It stipulates that "The party conducting the Research shall provide Mauritius with a fair and reasonable share of any benefits arising out of any localisation of the biological material or its progeny or its derivatives": This concerns research for non-commercial purposes. In case of commercial purpose, there should be the possibility to conclude mutual terms of agreement.

In terms of a permitting system, the National Parks and Conservation Sevice, under the Ministry of Agro Industry and Food Security, is responsible for granting permits and establishing Material Transfer Agreements concerning research projects with no commercial purposes. The Horticulture Division-Plant Genetic Resources Unit, that falls under the same Ministry, is also responsible for the International Treaty on Plant Genetic Resources.

The implementation of this legal instrument falls under the responsibility of the Prime Minister's office and the Department for Continental Shelf, Maritime Zones Administration and Exploration.

EN

Indicators and Activities

Indicator(s)used in this assessment

1.0 Adoption of a Material Transfer Agreement (MTA) for non-commercial use of Genetic Resources for Native Terrestrial Biodiversity 2.0 National Intellectual Property Development Plan for The Republic of Mauritius was prepared in January 2017 3.0 Regional Analysis on the Implementation of the Nagoya Protocol in the Western Indian Ocean	EN

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Level of confidence of the above assessment

Some reports were based on information collected and some were based on expert stakeholders from the different thematic areas discussed during Technical Committee.	EN

Adequacy of monitoring information to support assessment

No monitoring system in place

17. NBSAPs

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Refer to Section II	EN

Indicators and Activities

Indicator(s)used in this assessment

NBSAP is fully endorsed by the Cabinet Each partner Ministry and stakeholder is committed to contributing to the national targets (budget, expenses, project KPI). The focal point designates a responsible officer for coordinating and monitoring the NBSAP, and each KPI is monitored on a quarterly basis MoUs are drafted and signed by the focal point and lead stakeholders responsible for implementing each national target The NBSAP is effectively mainstreamed into policy and sectors (number of documented changes in policy and / or practice)	EN

Relevant websites, links, and files

Mauritius Clearing House Mechanism
Government of Mauritius Portal
CBD Website

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

There is no implementation committee in place for the Republic of Mauritius. The Clearing House Mechanism (CHM) is not well structured and has remain inactive up till now due to resource limitations. There is need to carry out capacity needs assessment for implementing, monitoring and reporting the activities set by the NBSAP.	EN

Adequacy of monitoring information to support assessment

No monitoring system in place

19. Biodiversity knowledge

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

24 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Although the CHM has been setup, the latter is not or partially being used by stakeholders in both Mauritius and Rodrigues and the contents has not been updated since its creation. Refer to Section II	EN

Indicators and Activities

Indicator(s)used in this assessment

The number of publications and other resources freely available online on the National CHM website Number of working groups addressing specific thematic areas established under CHM but not updated. Number of meetings held related to biodiversity with regards to CHM	EN

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Although the CHM has been setup, the latter is not or partially being used by stakeholders in both Mauritius and Rodrigues and the contents has not been updated since its creation. As there are no NBSAP implementation committee in either Mauritius and Rodrigues, there has not been any follow up. No protocols have been set up to update of the CHM (how information is sent, edited, approval for online publishing is obtained by ministry, the frequency of updates, who will do the update). Lead agency has not been designated to do the follow up. In Rodrigues, there is logistic problem (speed of the internet is the limiting factor.)	EN

Adequacy of monitoring information to support assessment

No monitoring system in place

20. Resource mobilization

2020 - Progress towards target but at an insufficient rate

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

29 Jul 2020

Summary of the assessment of progresses toward the implementation of the selected target

Refer to Section II EN

Indicators and Activities

Indicator(s)used in this assessment

Resource mobilisation Strategy and Action plan developed to fund activities towards reaching the national aichi targets

Implementation of the resource mobilisation strategy EN

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

Adequacy of monitoring information to support assessment

No monitoring system in place

Section IV. Description of national contribution to the achievement of each global Aichi Biodiversity Target

1. Awareness of biodiversity values

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Mauritius Clearing-House Mechanism portal is part of the global information exchange network established by the Convention on Biodiversity (Clearing-House Mechanism – CHM). Its purpose is to provide comprehensive information on biodiversity through effective information services and to facilitate technical and scientific cooperation, knowledge sharing and information exchange. The CHM portal provides information on the implementation of the Convention in Mauritius and brings up-to-date information on events, conferences and other related issues. It contains national biodiversity-related information that is required to assist policy makers and stakeholders to meet the obligations defined by the Convention and to conserve and sustainable use biodiversity.

Many organizations both government and non-government have contributed to increasing biodiversity awareness. Various communication tools are regularly adopted and information is disseminated through media, talks, exhibitions and other programmes. Resource materials such as pamphlets, posters, booklets , flyers and factsheets for the Islets Education Project , roller banners, short clips/films and TV/radio spots are developed. ‘School Endemic Garden Project’ in all primary and secondary schools has already been EN

initiated to sensitize students on native biodiversity. Through training activities, fishermen are empowered to earn a better livelihood and facilitate them to venture into more profitable off lagoon fishing around Fish Aggregating Devices (FADs) by deploying and maintaining a number of these FADs around the island.

Through the project ICZM Mainstreaming, there will make provision of an online platform and knowledge management system to support coastal and marine biodiversity management in the ROM. Spatial data can help to improve co-ordination, support evidence-based decision making and is essential for effectively meeting regulatory requirements. The project will help to make marine and coastal spatial data available to government departments, private institutions and the public free of charge via the Internet. The more detailed guidance on marine and coastal biodiversity protection and management, and finalization and approval of policies on ESAs will allow planners and decision makers to understand where development should be avoided, where it may be permitted subject to management controls, and what the threat mitigation requirements should be.

Development and dissemination to the public of information about marine and coastal ESAs, policies and approaches to their management, and related gender and social and economic issues will be produced by a range of user-friendly communication materials (e.g. website, brochures/leaflets, posters, coastal and marine atlas, training tools and guides) through an inclusive participatory approach, sensitive to the needs of socially, culturally and gender differentiated groups. These will facilitate local community learning and sharing of local experiences, using a human rights-based approach, and inform the broader public, ensuring that the rationale for the protection and management of these ecosystems becomes widely understood.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level

Each year, the Republic of Mauritius celebrates International Days namely World Wetlands Day, International Day of Biodiversity, World Migratory Bird Day, World Environment Day, World Food Day and World Forest Day to highlight the importance of conserving and restoring the ecological connectivity and integrity of ecosystems for the well-being of mankind. Additionally, MWF celebrates International Bat Day (especially in Rodrigues) and International Volunteers Day (in Rodrigues). EN

2. Integration of biodiversity values

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Since Mauritius has become a high-income economic country, natural capital accounting and valuing of ecosystem services are seen as important parts of ensuring that biodiversity is effectively mainstreamed and of demonstrating the economic value of biodiversity to the national economy. Through the project 'Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius', techniques for valuing ecosystem services are still being developed and calculating monetary values for the Environmentally Sensitive Areas (ESAs) is very difficult. Several global studies have been undertaken, which give an idea of 'monetary' importance. ESAs are areas that are rich in biodiversity and that provide essential ecosystem service suffer from growing anthropogenic pressures. This project addresses six coastal and marine ESA types, namely seagrass and algal beds, coral reefs, sand beaches and dunes, intertidal mud flats, coastal wetlands, and mangroves covering just under 41000 hectares, of which about 60% lies in Rodrigues and 40% in Mauritius. EN

For example ecosystem services provided by seagrass beds are rated the third most valuable globally

on a per hectare basis, and Mauritius' ESAs include over 21,000 ha of seagrass and algal beds, 84% of which are in Rodrigues. Experience from the work of the Natural Capital Accounting project, supported by the Indian Ocean Commission islands project and the Mauritius Statistics Bureau, will be used for future implementation. Emphasis must be placed on simple methods and approaches to ensure that replication is feasible, and also on collaborating with other agencies involved in similar work to make best use of existing skills and experience. The results will be disseminated through the communication and awareness raising activity and will be used in other project components.

3. Incentives

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Government of Mauritius has put forward several active measures that underpins subsidies program that foster and ensure safe agricultural practices and contributes to the wellbeing of the Mauritian Nation.

By doing so The Republic of Mauritius also strives to minimise pollution problems and sustain a clean marine and terrestrial environment. Such project include Zero budget natural farming project, Organic Farming, Fruit Protection Scheme, Bad Weather Allowance and Close Season Allowance for fisher community and closure of octopus season.

EN

4. Use of natural resources

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

There has been regulations put in place to protect and conserve the natural resources and ensure sustainable use. Along the coastal areas of the Republic of Mauritius, octopus fishery has a crucial part to play in the livelihoods and way of living for the fisherman community. However unsustainable fishing practices may cause a significant reduction in species abundance which may drive the Octopus to extinction and jeopardize the livelihoods of the local artisanal fishers. The Fisheries and Marine Resources Act was amended in 2016 to make provision for the octopus fishing closure in Mauritius. For Mauritius, close season for octopus fishing starts on 15 August and ends on 15 October each year, whilst in Rodrigues, there are two close seasons; the first period starts on 15 January and ends on 15 March and the second period starts on 15 August and ends on 15 October every year.

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5. Loss of habitats

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Developing strategies and policies through the implementation of the Mainstreaming ICZM project to ensure protection of the ESAs.

In 2016, a project funded through a Global Environment Facility (GEF) grant of USD 4.66 million and with USD 13.39 million in co-financing (USD 9.4 million from the Government of Mauritius, and USD 7.75 million from other sources (NGO, private sector and UNDP) was initiated to mainstream the conservation and sustainable use of biodiversity and ecosystem services into coastal zone

EN

management (CZM) and into the operations and policies of the tourism and physical development sectors through a 'land- and seascape wide' integrated management approach based on the Environmental Sensitive Areas' (ESAs) inventory and assessment. The operational closing date of the project is June 2022. UNDP, as the GEF Implementing Agency was designated to oversee and ensure quality assurance for the use of GEF resources. The Government of Mauritius as the Implementing Partner (IP) has designated the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping as the Lead

Agency for the execution of the project. The aims of the project are to:

• Address threats to biodiversity and ecosystem function by ensuring that 27,000 ha marine and coastal Environmental Sensitive Areas (ESAs) are an integral part of planning and implementation mechanisms relating to coastal development and tourism sector.

• Mitigate the threats to marine and coastal biodiversity and protect fishery resources in at least 20,000 ha of seascapes through the improved management of Marine Protected Areas and no-take zone.

• Control erosion and ecosystem services restoration i.e erosion and soil loss reduction in 200h of erosion prone water sheds; and ecosystem services restoration in 100ha of coastal wetlands.

6. Sustainable fisheries

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Republic of Mauritius has prioritised the development of its Ocean (Blue) Economy as a Key Economic Pillar to boost socio-economic growth of the country whilst conscious of safeguarding its marine natural resources encompassing a wide spectrum of unique but fragile biota. The Marine Spatial Plan builds the roadmap to regulate maritime planning for the Republic in the Exclusive Economic Zone including the lagoon with respect to new economic activities, marine conservation and coordination of the MSP related projects in the region. The Marine Spatial Plan regulates sustainable and judicious use of the marine resources within the EEZ while promoting the sustainable conservation of its ocean resources through collaborative partnership in the Indian Ocean Region.

Furthermore, the MSP focus its actions on the new Economic Activities addressing issues related to aquaculture sites, marina development and tourism and recreational activities; Sustainable Development Goal 14 (SDG14) to achieve Target 14, geared towards conserving 10% of the marine area by 2020 and provide a relevant indicator for measurement; and mainstreaming Biodiversity Project–Establishing an electronic platform depicting geographical database concerning Environmentally Sensitive Areas within the framework of our Ocean Observatory.

EN

In the same vein, Mauritius has embarked on a joint management area project Joint Management Area (JMA) which covers an area of 396,000 sq. km extending seaward to the east beyond the existing exclusive economic zones of both Mauritius and Seychelles. The JMA represents the first cooperatively managed area of Extended Continental Shelf (ECS) to be adopted by the international community and is also the world's largest jointly managed maritime zone. The creation of the JMA thus represents aground-breaking precedent for cooperative management of the ocean, placing the JMA in a 'cutting-edge' position to take the lead in piloting new mechanisms and strategies for future ECS management. The UNDP-JMA Demonstration Project aims at building the technical and management capacities of the Joint Management Commission of Mauritius and Seychelles through the improvement of the Marine SpatialPlanning framework for effective management of the zone. The UNDP-Joint Management Area (JMA) Demonstration Project aims at consolidating existing databases and elaborate further on the framework for data and information management. This project is nationally implemented by Government of Mauritius in partnership with UNDP.

The current progress of the JMA is given as follows:

Marine Spatial Planning (MSP) Framework, Roadmap for MSP completed. Geospatial platform set up using ArcGIS. Key factors for future JMA Scenarios identified such as petroleum exploration and production, exploration and production of seabed minerals, and conservation and exploitation of sedentary marine species. Capacity building in MSP and in Area beyond National Jurisdiction being implemented (2 MSP Training and 1 ABNJ Training completed). Data Management System, Draft Hardware and Software.

7. Areas under sustainable management

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The vision 2020 of the government is to achieve 50 % of vegetables and fruits produced as per bio norms by 2020. This vision is axed/ anchored on achieving food security through adopting proactive policy decisions, legislations and pro-agro biodiversity Practices. In order to promote bio-farming, various incentives and facilities are being provided to potential agri-entrepreneurs complying with specific guidelines. Some of the concrete measures put in place to ascertain safe and judicious food crop production includes organic farming, sustainable agriculture underpinned by MauriGap certification of growers and assessment of CWR for genetic improvement of our local crop varieties. In 2016, the extent of forest cover in Mauritius was estimated to be 47 066 ha, representing about 25% of the total land area. However, the area of good quality native forest is estimated to cover only 2% of the island, making Mauritius as one of the most ecologically devastated places on earth. There are two types of forest ownership in Mauritius: public and private. Privately-owned forest areas were estimated to be some 25 000 ha compared to some 22 066 hectares which are state owned lands. All State Forest land are protected by the Forest and Reserves Act. In contrast, only about 6540 ha of the total private forest lands (including river and mountain reserves) are legally protected by the Act. Besides, the inadequate control for felling of trees on privately owned forest land, there is also a major data gap on forest structure and species composition on these lands. Limited land area and rapid urbanization keep a constant strong pressure on the remaining forest lands, especially on private land. Moreover, because of the rising value of land, private forest owners are more inclined to convert their forests lands to more profitable land uses such as housing, business development and deer ranching. Between 1990 and 2010, Mauritius went through a phase of rapid economic growth and approximately 10 000 ha of forest land has been converted to other uses. Restoration and sustainable management of native forests (including provision of incentives for probiodiversity practices in private forests) form a major part of achieving Aichi Target 7. The 1500 ha target was set up through consultative approach (including stakeholders from the biodiversity, forestry, environment, water resources, agriculture, private sector, etc) during the drafting of the NBSAP. The target is also in line with the objective of the National Forest Policy regarding degradation of native forests.	EN

8. Pollution

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Pollution caused by wide scale application of pesticides and herbicides to control pests, can disrupt natural food chains and negatively impact biodiversity. Widespread use of pesticides is a potential threat to wildlife, marine life, surface waters, ecosystem structure and function, and human health. There are approximately 1100 industrial units in operation in Mauritius. Measures to control pollution exist, but are not always	EN

efficient. Land-based and watercourse pollution are known to impact critical lagoons habitats (e.g. in Vieux Grand Port, but also in the North and South-eastern coasts). Furthermore, marine pollution and the cumulative effect of oil spills from intense boating and shipping is a serious pollution issue in Mauritius. [SOURCE: NBSAP prodoc draft sept 2012].

As a Small Island Developing State, the Republic of Mauritius is particularly vulnerable to the adverse effects of climate change experiencing more frequent and intense tropical cyclone resulting in considerable economic loss, humanitarian stresses, and environmental degradation such as Flash floods.

A pro-biodiversity pollution minimisation strategy, focusing on the restoration of freshwater systems (from mountains / catchment to sea) is instrumental for safeguarding the water shed system of the Island that ensures the Provisioning services of the Island Ecosystem for supply of clean fresh water for human consumption (1,265,000 Population index as at March 2018 Reference; Mauritius Statistic) irrigation of agricultural crops and other industrial uses.

Apart from the provisioning Service, National Target 9 also protects the ecological functions of our wetland resources as an important habitat for fauna (migratory birds, crustaceans, fish species etc) and flora diversity, natural water quality improvement, flood protection, shoreline erosion control, opportunities for recreation and aesthetic appreciation.

The promulgation of the Use of Pesticide Act 2018 regulates, control and monitors the use of pesticides to prevent excessive nutrient discharge in our rivers flowing across the mountain ridge downstream to our coastal wetlands, mangroves forest adjoining the lagoons and into the open sea. The legislation endeavours to curb down pollution, including from excess nutrients, to safe threshold levels that are not detrimental to ecosystem function and biodiversity.

The promulgation of Regulations 2020 (a) Banning of Plastic Bags and (b) Control of Single Use Plastic Products made under section 96 of the Environment Protection Act endeavours to regulate the use of plastic in Mauritius in an endeavour to mitigate plastic pollution in Mauritius and thus make Mauritius a plastic free Island.

Along the same vein, study on micro plastic pollution will also provide an insight on the quantum of marine pollution through micro plastic invasion and the way forward to address such persistent and recurrent environmental problems.

Mauritius submitted its climate action plan to the UN Framework Convention on Climate Change under the Paris Agreement and contributes to the National determined Contributions.

The government as such is promoting the Circular Economy Model. the Budget 2020-2021 is promoting the Reduce, Re-Use, Recycle and Recover strategy. Eco-bins will be made available at strategic places across the island for the collection of plastic waste. The budget also provide for the setting up of a network of Civic Amenity Centres (CAC) (dechetteries) at the five existing waste transfer stations. The Ministry of Environment is encouraging segregation of waste at source. Local Authorities will carry out composting of market waste. Furthermore, a feasibility study will be conducted on he construction and operation of sorting units on a public private partnership.

Albeit, such policy measures and strategic action geared towards combating pollution problems in the Republic also endeavors to contribute to encountering and contributing to pollution emission at the global scale.

9. Invasive Alien Species

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Republic of Mauritius conscious of IAS being as one of the key drivers of biodiversity and habitat loss; negatively impacting our ecosystem and human health and our economic sectors; has prioritized its effort to combat the IAS issue to safeguard its fragile natural resources and in adherence to regional and international commitments. During the past decades, several concrete policies, legislative and administrative measures have been initiated to address the IAS control, prevention and management.	EN

Taking cognizance of the urgent need to review existing NIASSAP and update accordingly , the government committed a co-financing of USD 17,003,000 for urgent response against the negative impacts of IAS on our economy, the environment and society at large. It is perceived that the mainstreaming IAS Control, Prevention and Management GEF funded Project will entail a common roadmap for the ROM that endeavours and inspires for an integrated 'biosecurity approach' so that biological invasions are managed in a systematic manner based on risk analysis. The revised NIASSAP projected up to 2024, underlines strategic measures for *inter alia* robust and improved preventative measures at points of entry into the country and inter-Islands, early detection and rapid response programs to eradicate new incursions; improved capacity to upscale proven methodologies and capacity building programmes for managing IAS on a landscape level and comprehensive knowledge management system.

The island unique biodiversity evolved in the absence of ground-dwelling mammals and other functional groups found in continents thus rendering it extremely vulnerable to IAS. 94% of the country's endemic plants are classified as threatened, making Mauritius one of the most endangered island floras in the world. The island is left with less than 2% of good quality forest which occur primarily in the Black River Gorges National Park harbouring the most unique endemic flora and fauna [11 remaining native bird species of Mauritius] of Mauritius. The National Park was once considered as the last refuge for the highly threatened endemic birds namely the Mauritius Kestrel, Pink Pigeon, Echo Parakeet, Mauritius Fody and Mauritius Olive White-eye saved from the brink of extinction with intensive conservation work implemented since the 1980s. The National Park still remains the most essential habitat for these species.

Another milestone achievement is in regard to IAS control and eradication in our native forest. Since post-independence era, the Republic has been constantly striving to protect its native forest and dedicated a long-term forest restoration programme to safeguard its biodiversity resources. Since 2015, Mauritius has disbursed dedicated capital budget for native forest restoration programmes which is a recurrent activity under the government annual budget programme. The National Parks and Conservation Service mandated for biodiversity conservation under the Native Terrestrial Biodiversity and National Parks Act 2015 has restored approximately 700 ha of native forest for period as to date which involves removal and eradication of IAS most particularly systemic control/eradication of Chinese guava plants using a foliar organic herbicide triclopyr (3,5,6-Trichloro-2-pyridinyloxyacetic acid).

A major output-deliverable of the GEF funded Protected Area Network Project [2017-2026] is Native forest restoration at Black River Gorges and Bras Deau National Parks. The project seeks to restore critical areas of ecological importance and to put in place measures to maintain and improve ecosystem functions most particularly through IAS prevention, control and management though a dedicated management plan, Establishment of Biodiversity Stewardship Program on private lands. The PAN project is also engaging in the restoration of 600 ha of native forests (initial weeding, maintenance weeding & replanting of native plants) in private and state-owned land on mainland and islets (incl. Gunners Quoin).

IAS control has been pivotal in saving the endemic birds subjected to serious predation from rats, feral cats, mangoose and feral monkeys. The National Parks and Conservation Service in collaboration with NGOs and Private Sectors, have been developing intensive IAS predator control techniques to benefit endemic species over decades. Research identified that rats are a major limiting factor for the Critically Endangered Mauritius Olive White-eye. It was determined there was a need for large-scale rat management in the form of a mainland island to ensure Olive White-eye population long-term persistence.

Brise Fer, located in the North of the Black River Gorges National Park, was chosen as the location for the first mainland island in Mauritius as it is an Important Bird Area, is closed to the public, is easily accessible and contains suitable habitat to support a reintroduction release of Olive White-eye.

Initial experiments determined that self-resetting traps (Goodnature® A24), instant killing, was the best method for controlling rats when compared to other traditional approaches, previously used in Mauritius. The mainland island was established in November 2018. The Self- Resetting traps were arranged in a 25 x 25m grid formation (due to the findings of initial experiments) over an area of 5.6 ha in Brise Fer

along with additional predator trapping measures. To date, the mainland island (forest areas whereby self-resetting predator grid were established) has proven to be effective in significantly lowering rat abundance compared to surrounding areas of similar habitat.

Mainland islands were pioneered in New Zealand, there they have been extensively researched, and have proven to be an effective method for protecting native biodiversity over large areas. The challenge facing Mauritius is developing mainland islands that are effective in a tropical environment. Initial results from the mainland island in Brise Fer are very encouraging, for furthering conservation objectives in Mauritius, but also for developing methodologies that can aid conservation efforts in other tropical regions.

Work to restore reptile communities and regular monitoring on the offshore islets of Mauritius in recent years has led to the detection of 34 novel invasion events by 14 invasive predatory species, of which in 22 occasions the invasive species have been eradicated. However, more international support, research and funding are required for the rapid detection and eradication of species, such as Asian house shrews, common tenrecs, house crows, Indian wolf snakes and house geckos etc., that pose a great threat to the unique biodiversity on the islets.

Albeit, several other measures have been adopted and implemented to effectively manage IAS and demonstrate ecosystems restoration, early detection and eradication programme of fruit fly is one of the ongoing pest control programme undertaken by the Ministry of Agro-Industry using insect traps and baits.

The ROM has also made provision Ballast Water Management through National Task Force established at the level of Ministry of Public Infrastructure, Land Transport and Shipping. The country respects the International Maritime Organization *2011 Guidelines for the Control and Management of Ships' Bio-fouling to minimize the Transfer of Invasive Aquatic Species*. The Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping has entered into agreement with the Mauritius Oceanography Institute (MOI) to develop tools to implement the Guidelines. A new Agreement was signed with Mauritius Oceanography Institute in 2016 for extension of the Port Biological Baseline Survey to Port Mathurin, Rodrigues, to detect the presence of any introduced species.

The country holds an ongoing dedicated programme for biosecurity control at port of entry executed by the National Plant Protection Office of the MOAFS for Early Detection and Rapid Response for IAS control, prevention and management. The Ministry also caters for a plant quarantine facility for flora and fauna species.

There is also a high level of awareness of the significance of invasive species, which have in the past been the subject of special awareness campaigns and eradication strategies. These include avian flu, malaria, white grubs and chikungunya. A “White Grub” Sub-committee operates under the “Plant Introduction and Quaran-tine Standing Committee” to protect our sugar cane plantation against white grub (*Hoplochelus marginalis*) introduction and invasion.

However, invasive alien plants and animals continue to enter the territory by accidental or illegal means, and pose a serious threat to health, economy or biodiversity

Last but not least, the Invazile Project coordinated under Commission of Indian Ocean and EU is geared towards addressing the IAS challenges amongst the SIDS countries in the Indian Ocean realm, including project actions in Mauritius and in Rodrigues, in particular on the highly invasive *Acacia nilotica*.

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level

Mauritius as a signatory party to CITES convention has established a CITES Management Authority that regulates the trade of wildlife (prescribed and non prescribed species) in accordance with Native Terrestrial Biodiversity and National Parks Act which has been made compliant to the CITES international Convention. All imports and exports of prescribed (CITES Listed) and non-prescribed species are issued with CITES Import/Export and/or Import Permit for Exotic Wildlife (IPEW) in and/or from the country.	EN

10. Vulnerable ecosystems

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Republic of Mauritius [ROM] is bestowed with an EEZ of 2.3 million km2 treasuring a diverse and rich coral diversity and its associated marine life. Climate change, ocean acidification and anthropogenic pressure arising from intensified nautical activities are listed as the potential threats to our rich but fragile marine ecosystem.

Blue Economy ranked among the primordial economic sector that is still required to be fully exploited and present huge potential for boosting the socio-economic development of the country whilst ensuring sustainable use and conservation of our marine resources.

In an endeavor to protect but encourage the wise use of its marine resources and at the same time gear up the blue economy sector as an income generating sector, the Government as a joint Partner of Seychelles and in collaboration UNDP as the facilitating agency, has launched a regional project to restore coral reefs in both countries.

The six-year “Restoring marine ecosystem services by restoring coral reefs to meet a changing climate future”, project is supported by the Adaptation Fund with the amount of $10,000,000 USD.

The United Nations Development Programme acknowledged that "*Climate change in Mauritius and Seychelles has intensified coral bleaching events and mortality over recent decades. Climate change projections predict that global coral bleaching events will increase in frequency and intensity*"

It is further acknowledged that "*To reduce the impact of climate change on local communities and coral reef-dependent economic sectors, this project aims to increase climate resilience through coral reef restoration using thermal tolerant corals as an adaptation measure to climate change*".

To complement the project's national objectives, the regional restoration efforts have been designed to improve our collective understanding of the use of coral reef restoration as an adaptation measure; and to share the experience and knowledge learned in sustainable coral reef restoration at the national and global level that will contribute to address CBD Global Aitchi Target 10 in relation to coral degradation resulting from the combined effect of climate change or ocean acidification and anthropogenic pressures. The regional activities will also emphasise building capacity for long-term sustainable coral reef restoration; while the national activities will help to develop a sustainable partnership and business approach to reef restoration. This will include establishing coral farming and nursery facilities; and, lead in the restoration of degraded reefs.

The Conservation efforts of the Government of Mauritius is to be highly acknowledged for striving hard to better preserve and sustain our marine biota throughout the EEZ and the within the Mascarene region for the present and future generation. Such effort is evidenced conservation projects (including coral farming and transplantation; research and development, monitoring of microplastic in our marine environment etc) undertaken by the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping, the Marine Oceanograpgic Institute, NGO'S, CSO'S etc. Other marine-coastal rehabilitation projects to further rehabilitate and strengthen the coast line of the Island have also been undertaken during the course. Restoration of reef ecosystem services through rehabilitation of degraded reef sites. Sensitization about the importance of the marine environment thus raising awareness within the public at large for protection and conservation of marine biodiversity.

Indeed, it is to be recalled that the Island Republic is paving the way forward t become the Blue economy hub in the region.

https://www.mu.undp.org/content/mauritius_and_seychelles/en/home/news-centre/announcements/saving-coral-reefs-from-a-changing-climate-future.html)

EN

11. Protected areas

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Even though there is no significant increase in formal areas of protection, our country has endorsed two main (NBSAP and PANES) strategies to drive us through the achievement of the earmarked target (16% for Terrestrial area). Protected Area Network Expansion Strategy 2017-2026 remains a landmark achievement as it sets the trajectory for the expansion of the protected area network. PAN demonstrates the commitment towards the work on Protected Areas, the UN Vision 2030 and the UN Sustainable Development Goals for the protection of the biodiversity. The PAN project has set the vision to protect, conserve, and restore native biodiversity, natural landscape and ecosystem services in Mauritius to benefit present and future generations

With regards to marine areas under the Mainstreaming Biodiversity into the management of coastal zone there is scope to increase marine protected areas. With the new legal instrument, there are scope for incorporation of new private land as special reserve.

There new avenues which have been initiated such as collaboration with international institution to provide guidance and technical know-how on the process ahead.

The Nomination of the Black River Gorges Bel Ombre Biosphere Reserve has allowed an increase of more than 400 hectares of protected land (both state and privately owned).

EN

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level

The Black River Gorges Bel Ombre Biosphere Reserve will now be an active member of the world network of Biosphere Reserve under the UNESCO MAN & BIOSPHERE PROGRAM.

EN

12. Preventing extinctions

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

There has been many success stories with regards to species recovery programme. Several species have been down listed in the IUCN red list.

Many privately owned forest have adopted conservation of endemic species in their business plan.

Several new species of floral species have been discovered in remote location during forest restoration.

All native species of Mauritius and Rodrigues are legally protected.

Species recovery programme especially with regards to avian conservation is an example for the world.

The Good Practice Guide has been easily adapted to small island states.

EN

Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level

Mauritius undertakes the assessment as per IUCN Red List of major native species of flora and fauna including those of Rodrigues.

EN

13. Agricultural biodiversity

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The rising need for crop diversification to mitigate the impacts of climate change on food security urges the exploration of crop wild relatives (CWR) as potential genetic resources for crop improvement. This study aimed at assessing the diversity of CWR of the Indian Ocean islands of Mauritius and Rodrigues and proposing cost-effective conservation measures for their sustainable use. A comprehensive list of the native species was collated from The Mauritius Herbarium and published literature. Each species was assessed for the economic value of its related crop, utilization potential for crop improvement, relative distribution, occurrence status and Red List conservation status, using a standard scoring method for prioritization. The occurrence data of the priority species were collected, verified, geo-referenced and mapped. In Mauritius, the CWR checklist contains 234 genera and 528 species, 131 of which are endemic to Mauritius. The priority CWR species for conservation in Mauritius are those of coffee (*Coffea* 3 species), fonio (*Digitaria* 2 species), fig (*Ficus* 2 species), olive (*Elaeocarpus* 2 species; *Olea* 1 species) and palm (*Acanthophoenix* 1 species; *Dictyosperma* 2 species). The CWR checklist for Rodrigues identifies 116 genera and 142 species, 28 of which are endemic to Rodrigues. The priority CWR species in Rodrigues are aloe (*Aloe* 1 species), asparagus (*Asparagus* 1 species), fig (*Ficus* 2 species), fonio (*Digitaria* 2 species), olive (*Olea* 1 species) and sweet potato (*Ipomoea* 2 species).

A total of 43 crop-related species were identified for both islands and 21 species were prioritized for active conservation. The CWR diversity hotspots in Mauritius included Mondrain, followed by Florin and Le Pouce Mountain. Although a wide diversity of CWR has been recorded on both islands, most do not relate to major economic crops in use, therefore only a few species may be gene donors to economic crops at the regional and global level. For example, coffee, a major global beverage crop, has three wild relatives on Mauritius, which could potentially be of interest for future predictive characterization. Source : Crop wild relative diversity and conservation planning in two isolated oceanic islands of a biodiversity hotspot (Mauritius and Rodrigues)-

The MSIRI has a germplasm collection of 2500 accessions of diverse origin and comprises 167 noble and intra-noble (progenies derived from crosses among noble canes) varieties, 89 sugarcane wild relatives (mainly *Saccharum spontaneum* spp, S. robustum and Erianthus spp.) and more 725 foreign hybrids. This is maintained in the different areas under the control of MSIRI. Hence genetic diversity of cultivated crops is maintained.

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Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level

The Republic Of Mauritius has prioritised the CWR species for conservation mainly for *Coffea* species native to Mauritius (*Coffea* 3 species) which may contribute to the conservation of the world known coffee crop. Studies have found that the *Coffea* species might be caffeine free.

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14. Essential ecosystem services

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Mauritius carried out a pilot study for ecosystem valuation of catchment area from Mare Longue and Mare aux Vacoas which are one of the major reservoir of Mauritius.

The objective of this study was to explore how environmental valuation may be able to inform land use decision-making in the catchments of the Mare Longue (ML) and Mare aux Vacoas (MAV) reservoirs, and investigate how such an approach could be linked to the national environmental accounts. By developing and regularly monitoring precise natural capital / ecosystem accounts, the country will be able to develop

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credible and reliable scenarios of change to explore alternative land use options, the expected costs and benefits for targeted or impacted stakeholders and the associated budget requirements.

However such study should be extended to other marine and terrestrial protected areas.

15. Ecosystem resilience

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Carbon stock enhancement programme through carbon assessment and monitoring in different ecosystems (forest, wetlands, coral reefs, seagrass meadows, mangroves), for different agricultural practices (vegetables, sugar cane, orchards) as well as different sites in Rodrigues and developing guideline and capacity building for ecosystem restoration while minimising carbon loss were highlighted within the NBSAP.

However, to date, limited forest restoration efforts are widely acknowledged. In addition, the challenge also lies in controlling invasive alien species which are often trees and shrubs thereby leading to loss of carbon stocks. The risks and opportunities for various types of protected areas have been considered in an ecosystem-based adaptation study for Protected Area Network. Republic of Mauritius (RoM), 2017. National Biodiversity Strategy and Action Plan (NBSAP)

Under this programme of Carbon Stock Enhancement Programme,.

1. In-situ carbon assessment and monitoring for different Protected Areas for both Mauritius and Rodrigues
2. In-situ carbon assessment and monitoring for different agricultural practices for both Mauritius and Rodrigues
3. In-situ carbon assessment and monitoring for marine ecosystems for both Mauritius and Rodrigues

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Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level

Mauritius submitted its climate action plan to the UN Framework Convention on Climate Change under the Paris Agreement and contributes to the National Determined Contributions.

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16. Nagoya Protocol on ABS

Description of how and to what extent your country has contributed to the achievement of this Aichi Biodiversity Target

The aim of the National Target is to successful implementation of the Nagoya Protocol and develop and adopt a legal framework for its implementation. Although RoM ratified the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits in 2013, a clear mechanism for its implementation has not been put in place.

In the last decade, Mauritius has been progressively involved in new biotechnologies, with various institutions devoted to agricultural research, as well as human and animal health, presently involved in biotechnology. Various institutions are encouraged to participate in the enactment of laws that will ensure appropriate use of genetic resources, so as to ascertain the equitable share of benefits from the use of those resources, and protect the traditional knowledge associated with them.

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Other activities contributing to the achievement of the Aichi Biodiversity Target at the global level

Mauritius has acceded the NAGOYA Protocol in 2013. EN

17. NBSAPs

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

In adherence with obligations of the CBD, Mauritius prepared the NBSAP (2017-2025) in 2017. The NBSAP was prepared for both Mauritius and Rodrigues. The NBSAP was endorsed by the Cabinet of Ministers on Friday 19 May 2017 and it was launched on the occasion of the International Day for Biological Diversity 2017, commemorated on 22 May. Some 500 copies of the NBSAP were published and distributed to various sectors and the general public. An awareness workshop was organized on 22 May 2017 to disseminate the NBSAP to various stakeholders. The implementation of the NBSAP has not been carried out effectively as per proposed recommendation in the said document. For the preparation of Sixth National Report for the CBD, a Steering Committee and Technical Committee was recommended to be put in place. The Steering Committee chaired by Senior Chief Executive of the Ministry of Agro-Industry and Food Security and was held for the first time on 21 January 2020. The Technical Committee, chaired by the Director of the National Park Conservation Service regrouped focal persons from various institutions to: 1. Assist the Chairperson in undertaking of a desk review and situational analysis of implementation of CBD National Biodiversity Strategic Action Plan 2017-2025 and its CBD Aichi Targets. 2. Provide up to date and as far as possible accurate information (publications-databases) pertaining to Biodiversity thematic areas inter alia Terrestrial, Marine and Agro biodiversity as and when necessitated that adheres to the CBD 6th NR manual template for providing information. EN

18. Traditional knowledge

19. Biodiversity knowledge

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

During the reporting period 2015 to 2020 Mauritius has innovated and adopted several means of information and knowledge sharing platforms on biodiversity conservation. Virtual Interactive forums such as: (a) The Government of Mauritius websites (including relevant Ministries, Departments), Private Sector and NGO Websites, (b) Clearing House Mechanism (CHM) and social media platforms/networks commonly used by NGO.

Mauritius had set up a Clearing House Mechanism (CHM) in 2017 .The CHM portal provides information on the implementation of the convention in Mauritius and brings up-to-date information on events/ conferences and other related issues. It contains National Biodiversity related information that is required to assist policy makers and stakeholders to meet the obligation defined by the Convention and to conserve biodiversity and to have the sustainable use of biodiversity. Although the CHM has been setup, the latter is not or partially being used by stakeholders in both Mauritius and Rodrigues and the contents has not been updated since its creation. Currently there are three working groups mainly categorised into terrestrial, agro-biodiversity, marine, coastal and freshwater. In addition there are only two publications available EN

in the CHM namely the Fifth National Report for the Republic of Mauritius and NBSAP for Mauritius 2016-2025.

20. Resource mobilization

Section V. Description of the national contribution to the achievement of the targets of the Global Strategy for Plant Conservation

Mauritius does not have national targets related to the GSPC Targets

Information on any active networks for plant conservation

The Global Strategy for Plant Conservation (GSPC) includes 16 targets for plant conservation to be achieved by 2020. Even though Mauritius has not yet adopted the GSPC at the national level, some measures have been adopted under some of our National Targets, for example,

- A database for all plants inventory in the Mauritian territory has been updated and uploaded online namely the Astiria project in collaboration with Conservatoire botanique national de Brest and Brahms (Mauritius Herbarium database, in collaboration with Oxford University).
- Furthermore, an IUCN Red list for all native plants for Mauritius and Rodrigues is currently been reviewed.
- To promote in -situ and ex-situ conservation of our native plants, six field gene banks and an arboretum comprising of more than 500 native plants have been set up and are closely monitored.
- A Plant Genetic Resources Unit (PGR), under the Ministry of Agro -Industry and Food Security has been mandated to work on a collection of Crop Wild Relative (CWR) of economic importance.
- The promotion of awareness on Biodiversity is being carried out by design and distribution of educative pamphlets, delivering talks to schools and the general public, radio and Television programmes, celebration of International days, creation of interpretation centres in National Parks, donation of native plants and publication of scientific papers in relation to biodiversity conservation.
- Collaboration with International organisations for the conservation of native plants such as Kew Garden, Conservatoire botanique national de Brest, Botanical Gardens Conservation International, Hawaii Botanical Gardens, and Missouri Botanical Garden.

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1. An online flora of all known plants

2. An assessment of the conservation status of all known plant species, as far as possible, to guide conservation action

3. Information, research and associated outputs, and methods necessary to implement the Strategy developed and shared

4. At least 15 per cent of each ecological region or vegetation type secured through effective management and/or restoration

5. At least 75 per cent of the most important areas for plant diversity of each ecological region protected with effective management in place for conserving plants and their genetic diversity

6. At least 75 per cent of production lands in each sector managed sustainably, consistent with the conservation of plant diversity

7. At least 75 per cent of known threatened plant species conserved in situ

8. At least 75 per cent of threatened plant species in ex situ collections, preferably in the country of origin, and at least 20 per cent available for recovery and restoration programmes

9. 70 per cent of the genetic diversity of crops including their wild relatives and other socio-economically valuable plant species conserved, while respecting, preserving and maintaining associated indigenous and local knowledge

10. Effective management plans in place to prevent new biological invasions and to manage important areas for plant diversity that are invaded

11. No species of wild flora endangered by international trade

12. All wild harvested plant-based products sourced sustainably

13. Indigenous and local knowledge innovations and practices associated with plant resources maintained or increased, as appropriate, to support customary use, sustainable livelihoods, local food security and health care

14. The importance of plant diversity and the need for its conservation incorporated into communication, education and public awareness programmes

15. The number of trained people working with appropriate facilities sufficient according to national needs, to achieve the targets of this Strategy

16. Institutions, networks and partnerships for plant conservation established or strengthened at national, regional and international levels to achieve the targets of this Strategy

Section VI. Description of the national contribution to the achievement of the targets of indigenous peoples and local communities

The Aichi Target 18 which specifies “By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels” was not included in the NBSAP (2017-2025) due to reasoning that there are no indigenous people in Mauritius and the population is comprised of descendants of immigrants.
However, Mauritius made considerable progress towards reconciling local community with the native biodiversity and ecosystem. Mauritius made an application for the nomination of Black River Gorges Bel Ombre Biosphere Reserve which will address the issue of local community involvement.
The village of St Martin- Bel Ombre became the first village of Mauritius to be part of the Biosphere Reserve. The support and involvement of the Village Council was the key factor to help the nomination dossier. This contributed for the local community to develop a sense of ownership for the Biosphere Reserve.
The local community were involved in various sustainable projects such Fey Palmis and Plankton.

“Fey palmis” regroups women from the village who exploit palm kernel leaves that are usually shed naturally. The leaves are collected and dried to make plates. The latter are being used in some hotels replacing the plastic ones. The use of palm kernel for manufacture of these plates is a first in Mauritius.
Plankton project is another project that employs people from the community. The project aims at reducing glass waste generated from hotels and the local community by collecting and recycling glass bottles. The glass bottles are processed into six different by-products used in construction and to filter the water of swimming pools.

Tourism related jobs, fishing, farming and sugar estates employees are the major economic activities of the local community. Even today the fisher community use traditional skills, knowledge and techniques transmitted through generations such as net fishing, angling and trap fishing. Furthermore, traditional ways of fishing are still being employed with the use of boats known as “pirog” and sailing boats known as “pirog lavoual”.
The International Co-ordinating Council of UNESCO’s Man and the Biosphere Programme announced and acceded Black River Gorges Bel Ombre Biosphere Reserve as the new Biosphere Reserve for Mauritius.

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Section VII. Updated biodiversity country profile

Biodiversity facts : Status and trends of biodiversity, including benefits from biodiversity and ecosystem services and functions:

Mauritius has been designated by International Union for Conservation of Nature (IUCN) as a “Centre of Plant Diversity” and is included in the Madagascar and Indian Ocean Islands biodiversity hotspot. The country is characterized by a high level of endemism, with 39% of plants, 80% of non-marine birds, 80% of reptiles, and 40% of bat species reported as endemic, as a result of the island’s location, age, isolation and varied topography. Forests harbor, among others, 691 species of indigenous flowering plants, 52 native species of vertebrates and 30 species of land birds. The marine environment constitutes another major ecosystem for the country, comprising 16,840 km2 of territorial sea and 1,700 species (e.g. 786 species of fish, of which about 5% are of commercial value; 17 species of marine mammals; two species of marine turtles, one species of sea snake). However, this unique biodiversity is at risk. At present, only 2% of the island is under native forest (which is classified as having more than 50% of native plant coverage), with remaining native vegetation confined to marginal lands without agriculture. In coastal areas, mangrove cover decreased by 30% (20 km2 to 14 km2) from 1987 to 1994, and wetlands have either disappeared or are under great pressure due to the expansion of tourism. Mauritius has one of the most threatened island floras in the world. Overall, 89% of endemic Mauritian flora is now considered threatened and 61 of the country’s indigenous species are already classified as extinct. In particular, 141 of the flowering Mascarene endemic plant species are classified as critically endangered (89 taxa are represented by 10 or fewer known individuals in the wild and five taxa are represented by only a single known individual); 55 species are endangered and 98 are classified as vulnerable. As for the fauna, 24 native species of vertebrates that were known to have occurred on Mauritius and the adjacent islets are

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now extinct, including the Dodo (*Raphus cucullatus*), Broad-billed Parrot (*Lophopsittacus mauritianus*) and two species of the Giant Tortoise (*Cylindrapsis* sp.). Similarly, of the three species of fruit bat (*Pteropus niger*, *Pteropus subniger*, *Pteropus rodricensis*) known to have occurred, only one – the Mauritian fruit bat (*Pteropus niger*) – remains in Mauritius and is still common locally, however *Pteropus niger* is extinct and *Pteropus rodricensis* occurs only on Rodrigues. Although 12 species of land birds have escaped extinction, nine of these are threatened.

Of the 18 native reptile species known to have once inhabited mainland Mauritius, only 13 remain. Seven of these are restricted to remnant populations on the northern offshore islets and the burrowing boa (*Bolyeria multocarinata*), last seen in 1975, is probably now extinct. Six species of reptiles have been successfully translocated from Round Island, Gunner's Quoin, Flat Island and Ilot Vacoas to other invasive predator-free offshore islets. All five of Rodrigues' described endemic reptiles are now extinct and only one native gecko survives. The marine and coastal environment provides large economic benefits to Mauritian society through activities linked to tourism and fisheries. In 2008, tourism contributed 8.7% to the GDP and represented a source of earning for about 45,000 individuals from direct and indirect employment. Similarly, the fisheries sector contributed 1.3% to the GDP and provided livelihood for about 2,020 registered artisanal fishermen and some 320 fishers working on fishing banks. The export of fish and fish products accounted for US$ 267 million in 2008. Finally, artisanal fishing in Mauritius is marketed but used at subsistence levels in Agalega and Saint Brandon.

Main pressures on and drivers of change to biodiversity (direct and indirect)

The main threats to biodiversity under the various thematic areas are, firstly, potential loss of biodiversity and, secondly, degradation/loss of habitat. Key drivers identified are land clearing for development and others purposes (mainly on privately-owned land), invasive alien species, habitat modification for deer ranching, pollution from land based sources and activities (mainly nonpoint sources), and adverse impacts of climate change. Climate change is gaining prominence as the impacts are increasingly understood.

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Implementation of the NBSAP

The NBSAP (2017-2025) for the Republic Mauritius was completed and approved by the Government of Mauritius through the Cabinet of Ministers on 19 May 2017, and considers relevant Conference of Parties (COP) decisions, the 2010 Biodiversity Target and the Millennium Development Goals. There are five strategic objectives set in the NBSAP, namely: (i) to establish a representative and viable Protected Area Network (PAN); (ii) to manage key biodiversity components; (iii) to enable the sustainable use of biodiversity; (iv) to maintain ecosystem services; (v) to manage biotechnology and its products. The present NBSAP will be reviewed taking into consideration the Aichi Biodiversity Targets.

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Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020

So far, the total area of conserved sites amounts to 221 km2, representing 78% of the legally proclaimed protected areas for biodiversity conservation and comprising at least 57% of all native species (although omitting some of the rarest highly-localized species). Mauritius has proclaimed 3 Ramsar sites of international importance, 6 fishing reserves, 2 marine parks, 8 islet national parks. In Rodrigues, there are 5 fisheries reserved areas, 4 marine reserves and one multiple-use marine protected area and the total sea area covered by the MPAs is 59 km2. There is the possibility of proclaiming 6 additional MPAs under the Western Indian Ocean Marine Eco-Region project. More than 400 ha of invaded forests will be rehabilitated into native forests under the Protected Area Network Project. In addition, 4 nurseries have been established specifically to propagate native species, along with an arboretum where individuals of rare species, contained on the list of the most threatened plant species, are propagated and planted. A seed bank facility for native species and field gene bank also exist. Parallel to this conservation policy, Mauritius has undertaken various specific measures for biodiversity protection through the establishment of a series of plans and programs. In marine and coastal ecosystems, actions taken include: banning of coral sand extraction; coastal rehabilitation; coral reef and lagoonal water quality monitoring; coral reef rehabilitation; marine ranching in the lagoon; control of fishing activities, including fishing/collection of sea cucumber in the lagoon and in the Exclusive Economic Zone. Some critically endangered species have been included in restoration programmes (e.g. Tectiphiala ferox, Trochetia parviflora, Psiadia arguta, Dictyosperma album var. conjugatum, Hibiscus genevii, Gagnebina pterocarpa) and an action plan has been set for invasive species management. Finally, a series of national and sectoral policies and programs to mitigate and adapt to climate change has been initiated, promoting initiatives such as increasing

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the use of renewable energy, energy efficiency and conservation, reforestation programmes to increase carbon dioxide capture, recycling and waste minimization. These various actions have resulted in some positive trends: the monitoring of former sand mining sites has shown recuperation and colonization of the seabed by seagrass; new recruits of corals have been encountered and an increase in fish abundance noted; five endemic bird species (Mauritius Kestrel, Pink Pigeon, Echo Parakeet, Rodrigues Fody and Rodrigues Warbler), one bat, the Rodrigues Fruit Bat, have been saved from the brink of extinction and one species' conservation status improved (Mauritius Fody) , as well as a host of reptiles and plants and lagoonal water quality in certain localized areas has improved with connection to the sewerage network.	

Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming, etc.)

Biodiversity conservation, management and sustainable use have been integrated in most development plans and strategies prepared over the last decades, in sectors such as agriculture, tourism and fisheries. Examples include: the National Environmental Strategies (1998), Climate Change Action Plan (1999), Tourism Development Plan (2002), National Development Strategies (2004), Islets National Park Strategic Plan (2004), National Action Program to Combat Desertification (2004), National Environment Policy (2007), National Environmental Strategies (2008), Environmentally Sensitive Areas Study (2009), National IAS Strategy and Action Plan (2010), Integrated Coastal Zone Management Framework (2010), National Forest Policy (2006), Second National Communication of the Republic of Mauritius under the United Nations Framework Convention on Climate Change (2010), Maurice Ile Durable (MID) Green Paper (2011), MID Working Group Report on Preservation of Biodiversity and Natural Resources (2011), National Climate Change Adaptation Policy Framework (2012) and Mainstreaming Climate Change Adaptation in the Agriculture, Fisheries, Tourism and Water Sector for the Republic of Mauritius (2012). Legislation and regulatory frameworks in relation to biodiversity in various thematic areas have also been developed, such as the Plant Protection Act (2006), Fisheries and Marine Resources (Removal of Corals and Shells) Regulations (2006), Tourism Act (2004), Forest and Reserve Act (1983). In addition, strategies and policy instruments used to serve biodiversity objectives range from public-private partnerships to obligations of other biodiversity-related conventions, such as the UNFCCC. Many institutions have been mandated to deal with biodiversity matters and their coordination is provided for at various levels through the creation of national and statutory committees, such as the Nature Reserve Board and the Environment Coordination Committee. Mauritius has received GEF funding for a number of biodiversity-related projects. Financial and technical assistance was also received under initiatives such as "Darwin, UK", Millennium Seed Bank (UK), Protected Area Network project and from the European Union. Funds, equipment and training were also provided to the Plant Genetic Resources (PGR) Unit of the Ministry of Agro Industry and Food Security by the Southern African Development Community's Genetic Resource Centre (SADC GRC).	EN

Mechanisms for monitoring and reviewing implementation

A Darwin Initiative project grant to set up an information system for biodiversity and conservation management in Mauritius resulted in the development of databases for threatened bird species and plant nursery management, which are both currently in use. There is regular and detailed monitoring of five mainland bird species, the endemic Mauritius Kestrel, Pink Pigeon, Echo Parakeet, Mauritius Fody and Mauritius Olive White-eye. This includes all-year-round population monitoring through re-sightings (facilitated by placing leg rings on all individuals) and monitoring of breeding productivity in the breeding season. Periodic censuses are also conducted on Rodrigues Fody and Rodrigues Warbler. Rodrigues Fruit Bats were also censused thrice a year (in 2020, being censused once annually). Nine species of endemic reptile (Bojer's skink, Bouton's skink, Durrell's night gecko, Günther's gecko, Keel-scaled boa, Lesser night gecko, Orange-tailed skink, Ornate day gecko, Telfair's skink) are monitored annually on eight islets (Gabriel Island, Gunner's Quoin, Ile aux Aigrettes, Ile aux Fouquets, Ile de la Passe, Ilot Marianne, Ilot Vacoas, Round Island). The reptile monitoring on the islets provides data to determine the health and status of resident and translocated populations to guide management of the islet ecosystems and to guide future translocations to restore islet ecosystems. Biosecurity monitoring is also conducted on each of these islets to ensure that new invasion events by non-native plants and animals are detected quickly and where possible removed. Five reptile species, three on Round Island and two on Flat Island, have been monitored to provide baseline information for further translocations. Native seabird populations that provide nutrient transfer from the marine to terrestrial environments are monitored to assess changes in their abundance and guide islet management practices on Round Island, Gunner's Quoin,	EN

Ile aux Aigrettes, Ile de la Passe, Ilot Vacoas, Ile aux Fouquets and Ilot Marianne. In addition, all of the threatened plant species (of which there are approximately 300) are monitored to some extent to aid in species recovery programs. In addition, all of the threatened plant species (of which there are approximately 300) are monitored to some extent to aid in species recovery programs. A database for threatened plants, in line with IUCN criteria, is being established. Other species are monitored over the short term for higher degree projects (e.g. Orange-Tailed Skink, Telfair's Skink) and long-term monitoring systems have been put in place by the Ministry of Environment and National Development Unit under the Environment Information System Project, including monitoring the proportion of native species of birds and higher plants that are threatened.